Social networking sites and other media use, acculturation stress, and psychological well-being among East Asian college students in the United States

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ABSTRACT
It is notable that previous studies often looked at either traditional mass media or new technologies in explaining the effects of media on acculturation. We claim that media effects on acculturation should be investigated by simultaneously considering traditional and new media, as today’s media environment is far from being simple. The present study examined the effects of ethnic social networking site (SNS) and Facebook use (i.e., minutes per week), interpersonal and mass media use, and individual differences on Korean and Chinese college students’ acculturative stress and psychological well-being in the United States. An online survey was conducted in two large universities that were located in cities that were not main ethnic residential enclaves for Korean and Chinese people. The findings indicated that the students who used Facebook only demonstrate a lower degree of acculturative stress and a higher degree of psychological well-being compared to other groups in the study. In addition, the use of ethnic SNS is positively associated with acculturative stress. Also, individual differences—extraversion, years of stay in the U.S., academic achievement stress, and English competence—showed strong explanatory power to account for the students’ acculturative stress and psychological well-being. Theoretical implications and limitations of the study were discussed.

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1. Introduction

International students are a significant population at American universities, totaling 819,644 students in the 2012–2013 academic year (Institute of International Education, 2013). The number of Asian students, in particular, has continuously increased. For instance, compared to the previous academic year, the enrollment rate of the top three nations—China, India, and South Korea—at U.S. colleges, was 28.7%, −3.5%, and −2.3%, respectively, and the number of students from these three countries comprises 49.1% of all international students (Institute of International Education, 2013). These Asian international students may have to overcome some cultural differences between their home country and the United States (U.S.) and adapt themselves in a new environment to successfully manage their school work and lives. The acculturation process through which international students adjust themselves to a new culture by adopting its values, attitudes, and practices, and the factors that affect their acculturation have been an ongoing research topic in the area of intercultural communication (e.g., Kline & Liu, 2005; Smedley, Myers, & Harrell, 1993; Wang & Mallinckrodt, 2006; Wei et al., 2007; Ye, 2005, 2006; Zhou, Jindal-Snape, Topping, & Todman, 2008).

With the help of recent technology advancement, numerous media choices on the top of traditional media are available for international students to connect to their home country. For example, the recent popularity and wide use of social networking sites (SNSs) among college students provide international students with an opportunity to maintain the relationships with friends and family in their home country and to communicate easily with new friends in the host country. SNSs of international students’ countries of origin enable them to easily post writings and photos about their new life in the host country, in turn, staying in touch with their significant others in their home country. Moreover, Facebook,
the most popular SNS among the U.S. universities, may help international students’ acculturation process, given that it can be used to facilitate new relationships thanks partly to the similar functions and features of the SNS to their home country’s counterpart. In fact, Ellison, Steinfield, and Lampe (2007) suggested that Facebook may be used for maintenance of both newly-developed and existing relationships. Facebook also may be used by international students to gather information about classes, schools, and communities, helping them become familiar with new environments sooner. However, research on the effects of using ethnic and host countries’ SNSs on international students’ acculturation is relatively scarce. Considering that past research has indicated that international students’ acculturation is affected by media use and interpersonal communication (Berry, 1980; Kim, 1978, 1988), the role of SNSs in the process of acculturation deserves research attention. Two studies examined the effects of Facebook use on international students’ social capital and adjustment in U.S. colleges; however, they investigated the students’ use of Facebook only, without much focus on ethnic SNSs (Lin, Peng, Kim, Kim, & LaRose, 2012; Phua & Jin, 2011). In contrast, the primary purpose of the present study is to investigate international students’ use of both ethnic SNS and Facebook and its associations with accultur- ation stress and psychological well-being. In addition, it is notable that previous studies often looked at either traditional mass media or new communication technologies in explaining the effects of media on acculturation. We posit that media effects on acculturation should be investigated by simultaneously considering traditional and new media, as today’s media environment is far from being simple. In addition to the use of ethnic SNS and Facebook, international students are likely to use interpersonal and mass media to stay in touch with their friends and family and to adapt themselves to the U.S. culture. That is, SNS use related to acculturation should be studied in the larger context of the media environment. Thus, we attempt to investigate overall media use and its effects on acculturation.

In the current study, we use college students from two East Asian countries—South Korea and China—as a study sample for four reasons. First, the two countries are among the top three countries sending students to U.S. universities. Second, they possess similar collectivistic cultures (Hofstede, 2001), which are directly opposite of the individualistic culture in the U.S. Third, students from South Korea and China may face bigger linguistic challenges than international students from other countries (e.g., European countries) do. Fourth, both countries have their own local social networking sites (i.e., Cyworld in South Korea and Renren [formerly Xiaonei] in China), whose functions and features are similar to those of Facebook. An investigation of the effects of SNS along with other media uses on Korean and Chinese college students’ acculturation stress and psychological well-being will thus contribute to the study of the role of media and computer-mediated communication (CMC) technologies in the process of acculturation.

2. Literature review

2.1. Uses of social networking sites and media and their effects on acculturation

Past studies have demonstrated accumulated evidence supporting the significant association between media use and accultura- tion. Kim (1988) claimed that the use of a host country’s media

facilitates acculturation, while the use of a home country’s media retards acculturation. Other studies have also supported this claim. Jeffres (2000) discovered, through a panel study, that home country media use leads to stronger ethnic identification across time in a multicultural context, while Hwang and Zhou (1999) found that Chinese immigrants who used more English media revealed a higher degree of acculturation than those who relied upon Chinese media. Similarly, Lee and Tse (1994) suggested that the use of a host country’s media is associated positively with immigrants’ acculturation of new social norms. Further evidence has also shown a positive association between the use of host media and acculturation and a negative association between the use of ethnic media and acculturation (e.g., Choi & Tamborini, 1998; Deshpande, Hoyer, & Donthu, 1986; Melkote & Liu, 2000).

The development of the Internet and CMC technologies has shed new light on research of international students’ acculturation (e.g., Cemalcilar, Falbo, & Stapleton, 2005; Ye, 2005, 2006). For instance, Ye (2005) investigated the relationships between acculturative stress of East Asian international students and their use of the Internet, based upon the uses and gratifications perspective. Kline and Liu (2005) explored Chinese students’ use of media and communication practices, including email, phone, and mail, and examined the association between communication practices and the level of stress and acculturation. Cemalcilar et al. (2005) also examined the role of CMC technologies in the early stages of cross-cultural transition for international students in the U.S. These studies as a whole found that the use of CMC technologies to communicate with the culture of the home country is associated positively with the degree of maintenance of ethnic identity, while the use of CMC technologies focusing on communication with the host culture is associated positively with socio-cultural adaptation.

The current study examines international students’ media use—both traditional and new media—and its associations with their acculturative stress and psychological well-being. Acculturation stress is defined as “one kind of stress, that in which the stressors are identified as having their source in the process of acculturation, often resulting in a particular set of stress behaviors that include anxiety, depression, feeling of marginalization and alienation, heightened psychosomatic symptoms, and identity confusion” (Williams & Berry, 1991, p. 634).

Many studies have attempted to explore the relationship between acculturation and mental and physical health (e.g., Berry & Kim, 1988; Pinney, Horenczyk, Liebkind, & Vedder, 2001), and these studies have generally found a positive association. A recent meta-analysis on 184 studies also confirmed that ethnic identity significantly affects psychological well-being and other mental health symptoms (Smith & Silva, 2011). Of note is that previous studies have revealed that acculturation does not cause stress for everyone. The degree to which acculturative stress is experienced may vary, depending on several social (e.g., pluralism of the society) and individual factors (e.g., modes of acculturation, personality). For example, Smith and Silva (2011) found that the association between ethnic identity and personal well-being was stronger among adolescents and young adults than among adults over age 40. In addition, it has been known that experiencing stress is not inevitable if he/she actively seeks social support from his/her home or host country, even when an individual is situated in a new culture (Williams & Berry, 1991). It is largely unclear, however, whether ethnic SNS and Facebook use also affect acculturative stress and psychological well-being. Given that there are only a few studies that examined the relationship between SNS use and acculturation stress and psychological well-being (Lin et al., 2012; Phua & Jin, 2011), the following research question was proposed:

**RQ1:** Is there any difference between the groups of international students who use both ethnic SNS and Facebook, who

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1 Cyworld has been the most popular SNS in South Korea with over 19 million members at its peak in 2006, which was almost all South Korean in their 20s and 25% of the total population (Bowley, 2006; Cameron, 2005). Renren, with a similar format to Facebook, is also the most popular SNS in China with 160 million members as of February 2011 (Hille, 2011).
use Facebook only, who use ethnic SNS only, and who use no SNS in terms of their acculturative stress and psychological well-being?

The current study included email, instant messaging, and phones (landline and mobile phones) as interpersonal media use, and television and newspapers as mass media use. In studying interpersonal media use, it is important to consider to whom international students talk. According to Bochner, McLeod, and Lin (1977), there are three different social networks to which international students belong in the host country: (1) mono-cultural (co-national) network comprised of students who share the same nationality and language, (2) bi-cultural network consisted of international students and host country students, and (3) multi-cultural network comprised of international students from all over the world. With the social network analysis approach, previous studies have found that “good friends” are often from mono-cultural network (Bochner et al., 1977; Furnham & Alibhai, 1985) and most international students choose this network as the first place to seek help for personal problems (Furnham & Alibhai, 1985). Networking with host country students is also important to international students as it can be the main source of school-related help (Furnham & Alibhai, 1985) and of informational help for living in the host country. The multi-cultural network is focused mainly upon entertainment functions such as going out for a movie with other international students, yet it is less cohesive compared to the first two networks (Bochner et al., 1977).

With the help of the development of CMC technologies such as email, instant messenger, and SNS, interpersonal interactions have become more efficient and not as limited by the distance as in the past. With growing use and importance of interpersonal media, recent studies have revealed the role of interpersonal media in acculturation. These studies have shown that talking to family and friends in the home country via interpersonal media plays an important role in the process of acculturation and managing associated stress (Cemalcilar et al., 2005; Kline & Liu, 2005). For example, Cemalcilar et al. (2005) found that interpersonal media use such as emailing and chatting affected psychological, socio-cultural, and academic adaptations. Kline and Liu (2005) also demonstrated that telephone and email use predicted the level of acculturation. The present study separates interpersonal media use into three categories: (1) communication with friends and family in the home country, (2) communication with friends and family from the home country who are staying in the U.S., and (3) communication with American friends or family in the U.S. Interpersonal media use for communication with family and friends in the home country and for communication with the co-national network in the U.S. may help international students keep their ethnic identity and receive instant emotional support. However, spending too much time on connecting with the co-national network may deter acculturation process resulting in increased acculturative stress. Yet, it is unclear whether such communication increases or decreases international students’ psychological well-being because there can be an offset effect between social support felt from interpersonal communication and their stress from acculturation. The same logic may be applied to the use of mass media. Thus, the following research question and hypotheses were suggested:

**RQ2:** What are the associations between international students’ use of interpersonal and mass media and their psychological well-being?

**H1:** International students’ interpersonal media use for communication with friends and family in their home country will be positively associated with acculturative stress.

**H2:** International students’ interpersonal media use for communication with friends and family from their home country who are staying in the U.S. will be positively associated with acculturative stress.

**H3:** International students’ interpersonal media use for communication with American friends and family in the U.S. will be negatively associated with acculturative stress.

**H4:** International students’ ethnic mass media use will be positively associated with acculturative stress.

**H5:** International students’ U.S. mass media use will be negatively associated with acculturative stress.

### 2.2. Individual differences and acculturation

Although international students’ use of interpersonal communication and mass media has influenced their degree of acculturation, individual differences with respect to their personalities, background, and experiences are also likely to affect acculturation. Berry (1980) argues that the degree of acculturative stress experienced by people adapting to new cultures varies, depending upon individual factors such as personal characteristics, education, gender, age, race, and income. The present study focuses on individuals’ personality trait of extraversion, years of stay in the U.S., academic achievement stress, and English competence as the factors of individual differences on acculturation.

Extraversion—one of the Big-Five Factor model of personality traits—has been studied as an integral factor that influences acculturative stress and psychological well-being. For instance, Ryder, Alden, and Paulhus (2000) found that extraversion is significantly associated with acculturation. Also, Ying (2002) discovered that individuals with a high level of extraversion are likely to have more cross-cultural friendships. In addition, Ward, Leong, and Low (2004) found positive associations between extraversion and socio-cultural and psychological adjustment. Further, Gerhuny and Sher (1998) found that a low level of extraversion is related to individuals’ anxiety. Moreover, Van Tilburg, Vingerhoets, and Heck (1999) suggested a positive association between a low level of extraversion and people’s development of homesickness. In short, these studies illustrate that extraversion plays an important role in individuals’ acculturation process and psychological well-being.

**H6:** Extraversion will be (a) negatively associated with international students’ acculturative stress and (b) positively associated with psychological well-being.

In addition, given that people need a reasonable amount of time to become familiar with and adjusted to a new culture, years of stay in the U.S. are expected to be associated negatively with acculturative stress and positively with psychological well-being. One study (Wei et al., 2007) could not find any significant associations between years of stay in the U.S. and acculturative stress and psychological well-being, yet their sample was largely homogenous in terms of years of stay in the U.S. In the current study, we set forth the following research question:

**RQ3:** What are the associations between years of stay in the U.S. and acculturative stress and psychological well-being?

Academic achievement stress is another important factor that affects international students’ acculturation to the U.S. culture and academic environments. Traditionally, countries with Confucian cultures, such as South Korea and China, have highly valued academic success as a way for individuals to promote themselves to upper level societies or to be socially respected. Therefore, not only Korean and Chinese college students themselves, but also their parents and siblings, might urge them to be successful in U.S. universities (Aubrey, 1991; Liberman, 1994). Academic success in the U.S. may be a shortcut to receive good job offers or to be
highly recognized when they go back to their home country. It may be one of the reasons why the number of international students from these two countries accounts for the significant portion of the whole number of international students in the U.S. The self-imposed or social pressure of academic success in turn makes Korean and Chinese college students have different levels of academic aspiration and achievement stress. It is expected that a higher level of academic achievement stress will result in greater acculturative stress and lower psychological well-being.

**H7:** Academic achievement stress will be (a) positively associated with international students’ acculturative stress and (b) negatively associated with psychological well-being.

Past research has investigated the association between second language competence and acculturation. Clement (1986) found that French speaking Canadian students’ levels of acculturation to the Anglo culture in Canada is a function of proficiency in English. Nicoaso, Solomon, Guest, and McCullough (1986) uncovered that English proficiency significantly reduced the impact of acculturative stressors on depression among a sample of Laotian refugees living in the Southeastern U.S., suggesting that language competence and skills help successfully adjust to new cultural environments. In addition, Lanca, Alksnis, Roeze, and Gardner (1994) demonstrated that Portuguese people with poor English proficiency showed a lower level of acculturation and strong ethnic identity. Based upon these discussions, English competence is expected to exhibit a negative association with acculturative stress and a positive association with psychological well-being. Thus, the following hypotheses were proposed:

**H8:** English competence will be (a) negatively associated with international students’ acculturative stress and (b) positively associated with psychological well-being.

To summarize, the current study’s goal is threefold. First, RQ1 investigates SNS use (i.e., both Facebook and ethnic SNS) and its psychological consequences among international students. Second, RQ2 and H1–5 examine international students’ complete picture of media use categorized into two groups, interpersonal and mass media, and tests its effect on acculturative stress and psychological well-being. Third, H6–8 and RQ3 explore the role of individual differences such as personality, years in the U.S., academic achievement stress, and English competence in international students’ psychological health.

### 3. Method

#### 3.1. Sampling and survey administration

To test the hypotheses and answer the research questions, the present study employed online surveys in two large Southwestern universities in the U.S. Those schools were selected because they had sufficient pools of international students, but were located in cities that were not main ethnic residential enclaves for Korean and Chinese people, such as Los Angeles or San Francisco. The surveys were posted at both universities on the websites of Korean and Chinese student associations, which the majority of Korean and Chinese students visit regularly. The survey questions were posted with a hyperlink to the questionnaire on SurveyMonkey (http://www.surveymonkey.com). The study was reviewed by the Institutional Review Board (IRB) and confirmed that neither the study process nor the questionnaire has any problems with human rights. Participants were asked to provide accurate information and assured that their information would be collected without any identifying information and used only for the research purposes. They were also instructed that they could stop participating in the study if they have any concerns about the study. The number of participants who started the survey was 396, with 283 completing it. Of the 283 participants, 189 were Korean and 94 were Chinese. Participants who completed the survey were compensated with a $5 credit to their on-campus spending account or with a $5 Starbucks coffee gift card.

#### 3.2. Measures

**Acculturative stress** was measured with twelve statements modified from Sandhu and Asradadi’s (1994) acculturation stress scale for international students. The statements included “I feel intimidated to participate in social activities,” and “It hurts when people don’t understand my cultural values.” Participants were asked to indicate their level of agreement to the statements with a 7-point Likert-type scale ranging from “strongly disagree (1)” to “strongly agree (7)” (all statements for other variables were also anchored by the same scale, unless otherwise indicated) (Cronbach’s alpha = .88).

**Psychological well-being** was measured by the MHI5, a five-item version of The RAND Mental Health Inventory (Stewart, Ware, Sherbourne, & Wells, 1992). Participants were asked to use a 6-point Likert-type scale ranging from (1) “All of the time (or Always)” to (6) “None of the time (or Never).” The measure included statements such as “How much of the time, during the last month, have you been very nervous?” and “How much of the time, during the last month, have you been a happy person?” (reverse-coded) (Cronbach’s alpha = .77).

**Extraversion** was measured by a modified eight-item version of the extraversion scale developed by John, Naumann, and Soto (2008), which included statements such as “I see myself as someone who is talkative” and “I see myself as someone who has an assertive personality” (Cronbach’s alpha = .74). **Years of stay in the U.S.** was measured with the number of years and months for participants to have stayed in the U.S. at the time of the survey.

**Academic achievement stress** was composed of two statements suggested by Rohrlich and Martin (1991): “I have doubts about my ability to succeed in school” and “I feel less intelligent or less capable than others” (Cronbach’s alpha = .85). **English competence** was measured by the following three statements: (1) “I feel comfortable speaking English,” (2) “I have no difficulty in speaking and writing English for my study in the U.S.,” and (3) “I am afraid of talking to American people because of my poor English” (reverse coded) (Cronbach’s alpha = .78).

Both ethnic SNS use (Cyworld for Korean and Renren for Chinese students) and Facebook use were measured with the number of hours and minutes spent per week on each SNS. **Other media use** was composed of the following five parts: (1) interpersonal media use (email, instant messaging, and landline and mobile phones) for communication with Korean or Chinese friends and family in participants’ home countries, (2) interpersonal media use for communication with Korean or Chinese friends and family staying in the U.S., (3) interpersonal media use for communication with American friends and family in the U.S., (4) home country mass media use including television programs and newspapers; and (5) American mass media use including television programs and newspapers. **Newspaper reading** consists of reading paper and online articles. All of these media uses were measured with the number of hours and minutes per week. Since these media use variables had high skewness or kurtosis, they were log-transformed to achieve normality. Finally, age, gender, and amount of Internet use with the number of hours and minutes spent per day were measured as control variables. The measure of Internet use was also log-transformed.
Table 1
Descriptive statistics.

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<th>M</th>
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<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Males</td>
<td>26.83</td>
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<td>47% (n = 133)</td>
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<td>Females</td>
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<td>51.6% (n = 146)</td>
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<tr>
<td>Age</td>
<td>26.83</td>
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<tr>
<td>Internet use</td>
<td>330.40</td>
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<td>Facebook use</td>
<td>140.93</td>
<td>219.23</td>
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<tr>
<td>Facebook use history</td>
<td>189.69</td>
<td>229.46</td>
<td>61.1% (n = 124) had been using Facebook for more than one year</td>
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<td>Ethnic SNS use</td>
<td>189.69</td>
<td>229.46</td>
<td>90.2% (n = 175) had used an ethnic SNS for more than one year</td>
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<td>Ethnic SNS use history</td>
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Note: Figures for Internet use, Facebook use, and ethnic SNS use are based on minutes per week.

4. Results
4.1. Descriptive statistics

Of the final 283 participants including both Korean and Chinese students, 133 were male students (47.0%) and 146 were female students (51.6%), while four did not indicate sex (see Table 1). The average age of the participants was 26.83 (SD = 5.35). Twelve participants did not provide their age. More specifically, of the 189 Korean participants, 83 were male students (43.9%) and 103 were female students (54.5%), while three did not indicate sex. The average age was 27.29 (SD = 5.63), while five participants did not provide their age. Of the 94 Chinese participants, 50 were male students (53.2%) and 43 were female students (45.7%), while one did not indicate sex. The average age was 25.84 (SD = 4.59), while seven participants did not provide their age.

Participants, including both Korean and Chinese students, spent approximately 6.5 h per day on average online (M = 330.40, SD = 240.61, Median = 300 in minutes). With respect to SNS use, 141 participants (49.8%) used both an ethnic SNS (Cyworld or Renren) and Facebook, 62 (21.9%) used Facebook only, 52 (18.4%) used Cyworld or Renren only, and 28 (9.8%) used neither. Facebook users (n = 203) spent more than two hours per week on average (M = 140.93, SD = 219.23, Median = 60 in minutes) in the SNS. In terms of experience of using Facebook, 61.1% had been using Facebook for more than one year (124 participants). Ethnic SNS users (n = 193) spent more than three hours per week on average (M = 189.69, SD = 229.46, Median = 120 in minutes) on Cyworld or Renren. In terms of experience of using either Cyworld or Renren, 90.2% had used one of the ethnic SNSs for more than one year (175 participants).

Table 2
Zero-order correlations, means and standard deviations.

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<td>1. Acculturation stress</td>
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<td>9. US mass media use</td>
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<td>11. Years of stay in the US</td>
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<td>12. Achievement stress</td>
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<tr>
<td>SD</td>
<td>1.08</td>
<td>0.79</td>
<td>1.01</td>
<td>1.09</td>
<td>0.56</td>
<td>0.45</td>
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<td>0.83</td>
<td>4.88</td>
<td>1.44</td>
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*p < .05 (2-tailed).

4.2. Test of hypotheses

Prior to hypotheses testing, we conducted correlation analyses with all the variables. Table 2 shows the correlation matrix. The highest correlation coefficients among the variables were .63 (the association between communication with friends and family in the home country and communication with friends and family from the home country who are staying in the U.S.) and .62 (the association between communication with friends and family from the home country who are staying in the U.S. and communication with American friends and family in the U.S.). These high correlations were smaller than the recommended threshold of .70 (Tabachnik & Fidell, 2001), suggesting that the variables in the present study do not exhibit severe multicollinearity problems.

To answer RQ1, we conducted four-group comparison one-way ANOVA tests (both ethnic SNS and Facebook vs. Facebook only vs. ethnic SNS only vs. none). Tukey HSD post hoc pairwise comparison tests indicate that, with respect to acculturative stress, there was a significant difference between the students who used both ethnic SNS and Facebook (n = 141, M = 3.68, SD = 1.08) and those who used Facebook only (n = 62, M = 3.19, SD = 1.17) at the 95% significance level. In addition, there was also a significant difference between the students who used ethnic SNS only (n = 52, M = 3.79, SD = .97) and those who used Facebook only (M = 3.19, SD = 1.17) at the 95% significance level. A marginal significance (p = .05) was found between the students who used Facebook only (M = 3.19, SD = 1.17) and those who did not use any SNS (n = 28, M = 3.81, SD = .84). These findings demonstrated that, as shown in Fig. 1, the students who used Facebook only had the lowest acculturative stress, whereas those who did not use any SNS had the highest acculturative stress. However, there was no significant...
difference among the three groups—those who used both ethnic SNS and Facebook, those who used ethnic SNS only, and those who used no SNS. Moreover, the significant correlation coefficient ($r = .20, p < .01$) between acculturative stress and ethnic SNS use, measured by the amount of time used, confirms that as the students’ use of ethnic SNS increases, acculturative stress also increases.

In the case of psychological well-being, a similar yet slightly different pattern was found. Tukey HSD post hoc pairwise comparison tests indicate that there was a significant difference between the students who used Facebook only ($M = 4.56, SD = .78$) and those who did not use any SNS ($M = 4.46, SD = .15$). These findings demonstrated that, as shown in Fig. 2, the students who used Facebook only had the highest psychological well-being, whereas those who did not use any SNS had the lowest psychological well-being. However, there was no significant difference among the three groups—those who used both ethnic SNS and Facebook, those who used ethnic SNS only, and those who used no SNS. In addition, no significant correlation between psychological well-being and SNS use was found.

To test the hypotheses and to answer RQ2, hierarchical regression analyses were conducted. As described above, the purpose of the present study is to examine the role of ethnic SNS and Facebook in explaining Korean and Chinese college students’ acculturation stress and psychological well-being. Thus, the block of SNS use was entered first after the block of control variables. Then, the block of interpersonal and mass media use variables was entered second, followed by the block of individual differences. We conducted hierarchical regression analyses with different orders of entry, but the results did not have any significant differences. The results are presented in Table 3. Hypotheses 1–5 are about the effects of the students’ interpersonal and mass media use on acculturative stress. Among the media use variables, only the communication with friends and family in the home country was significantly associated with acculturative stress ($\beta = .20, p < .05$), supporting H1. RQ2 dealt with the association between the students’ interpersonal and mass media use and psychological well-being. Only the communication with friends and family from the home country who are staying in the U.S. was marginally significant with a negative direction ($\beta = -.16, p < .10$).

H6 examined the associations between extraversion and acculturative stress (H6a) and psychological well-being (H6b). Extraversion was negatively associated with acculturative stress ($\beta = -.19, p < .01$) and positively associated with psychological well-being ($\beta = .22, p < .01$), supporting both H6a and H6b.

RQ3 dealt with the associations between years of stay in the U.S. and acculturative stress and psychological well-being. Years of stay in the U.S. was negatively associated with acculturative stress ($\beta = -.26, p < .001$), but not significantly associated with psychological well-being.

### Table 3
The results of hierarchical regression for DVs.

<table>
<thead>
<tr>
<th>Step</th>
<th>IV</th>
<th>Acculturative stress</th>
<th>Psychological well-being</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$R^2$</td>
<td>$\Delta R^2$</td>
</tr>
<tr>
<td>1</td>
<td>Age</td>
<td>.04</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>Gender (Female: 0, Male: 1)</td>
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<td>-.01</td>
</tr>
<tr>
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<td>Internet use</td>
<td></td>
<td>-.01</td>
</tr>
<tr>
<td>2</td>
<td>Ethnic SNS use</td>
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<td>.09</td>
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<tr>
<td></td>
<td>Facebook use</td>
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<td>-.09</td>
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<tr>
<td>3</td>
<td>Ethnic interpersonal media use (Home)</td>
<td>.06</td>
<td>.05***</td>
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<tr>
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<td>Ethnic interpersonal media use (US)</td>
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<td>Host interpersonal media use (US)</td>
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<td>Ethnic mass media use</td>
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<td>US mass media use</td>
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</tr>
<tr>
<td>4</td>
<td>Extraversion</td>
<td>.08</td>
<td>.03</td>
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<tr>
<td></td>
<td>Years of stay in the US</td>
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<tr>
<td></td>
<td>Academic achievement stress</td>
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<td>.25***</td>
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<td>English competence</td>
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</tbody>
</table>

* $p < .10$.
** $p < .05$.
*** $p < .01$.
**** $p < .001$.
H7 investigated the associations between academic achievement stress and acculturative stress (H7a) and psychological well-being (H7b). Academic achievement stress was positively associated with acculturative stress ($\beta = .25$, $p < .001$) and negatively associated with psychological well-being ($\beta = -.26$, $p < .001$), supporting H7a and H7b. H8 was about the associations between English competence and acculturative stress (H8a) and psychological well-being (H8b). English competence was positively associated with psychological well-being ($\beta = .17, p < .05$), whereas it was not significantly associated with acculturative stress, supporting H8b only. Table 4 summarizes the results of hypothesis testing.

### 5. Discussion

The present study examined the role of ethnic SNSs and Facebook in Korean and Chinese college students’ acculturative stress and psychological well-being. The findings indicate that Facebook use helps Korean and Chinese students adjust to the U.S. culture and feel psychological comfort. It is notable, however, that individual differences—represented by the personality trait of extraversion, years of stay in the U.S., academic achievement stress, and English competence—are more influential in explaining these international students’ acculturative stress and psychological well-being. Below we discuss the findings in greater detail.

Past research on international students or immigrants’ acculturation suggests that the process of acculturation is related to lower degrees of ethnic identity (Cemalcilar et al., 2005; Smith & Khawaja, 2011; Ye, 2005, 2006). In line with this proposition, the findings from the present study (RQ1) demonstrate that Korean and Chinese college students who used Facebook only felt less acculturative stress compared to the other three groups that used both ethnic SNS and Facebook, ethnic SNS only, or none of the SNSs. Moreover, the amount of time spent using an ethnic SNS contributed to higher acculturative stress (see Table 3). A similar pattern was found when the effect of SNS use on psychological well-being was examined. Overall, the students who used Facebook only exhibited a higher level of psychological well-being compared to the other three groups of students. It can be interpreted that, for Korean and Chinese college students, using Facebook, rather than communicating with friends and family via their ethnic SNS, is more helpful to have a healthy mental status during their academic life and stay in the U.S. This finding is in line with previous studies showing that host country media use facilitates acculturation process while ethnic media use hinders it (Jeffres, 2000; Kim, 1988). Yet, this explanation should come with some caution, given that Korean people’s use of Facebook is rapidly increasing, while their use of the ethnic SNS, Cyworld, is gradually declining in recent years. However, it is notable that, for Korean and Chinese college students who study in the U.S. in general, more use of Facebook is more likely to enhance the chance to be exposed to the U.S. culture and to communicate with American friends, compared to the use of their ethnic SNS. A plausible explanation for this finding is that, unlike traditional mass media, SNSs are more engaging with a variety of features and functions, and thus more use of an ethnic SNS makes it difficult for international students to maintain balanced perspectives and practices between their home country and American cultures.

The findings from Korean and Chinese college students’ interpersonal media use are also interesting (RQ2 and H1–5). As previous studies have found (Cemalcilar et al., 2005; Kline & Liu, 2005), communication with friends and family in the home country was associated positively with acculturative stress, while it did not have a significant association with psychological well-being. This finding is parallel with the aforementioned finding that the use of an ethnic SNS was not significantly associated with psychological well-being. In other words, neither ethnic SNS use nor interpersonal communication with their friends and family in their home country contributes to Korean or Chinese college students’ psychological well-being. A more interesting finding is that communication with friends and family from the home country who are staying in the U.S. is associated negatively with psychological well-being with a marginal significance. This result suggests that communicating with friends from the same culture might become a hurdle to get accustomed to the new culture in general, although it might provide immediate and temporary emotional support. However, more research is needed to support this explanation.

It is also notable that, unlike previous studies’ findings (Jeffres, 2000; Kim, 1988), neither ethnic mass media use nor U.S. mass media use was significantly associated with acculturative stress and psychological well-being, when controlling for interpersonal media use. This finding is important in that decades of acculturation studies, since first suggested by the Chicago school (Kim, 1988), have consistently demonstrated that mainstream media facilitate acculturation while ethnic media hinder it. We found that this premise could still apply to interpersonal media but not to mass media use. Given that today’s young students do not necessarily rely on traditional mass media such as television or newspapers for their information seeking or entertainment, the nonsignificant effect of mass media on acculturative stress and psychological well-being is understandable. Thus, this finding highlights the importance of interpersonal media in studying acculturation in order to better understand the current acculturation process pattern by accurately accessing the changing media environment.

The present study employed four individual difference variables to account for Korean and Chinese college students’ acculturative stress and psychological well-being (RQ3 and H6–8). The personality trait of extraversion had a negative association with acculturative stress and a positive association with psychological well-being. Academic achievement stress had a positive association with acculturative stress and a negative association with psychological well-being. In addition, years of stay in the U.S. was negatively associated with acculturative stress, but not with psychological well-being, while English competence was positively associated with psychological well-being, but not with acculturative stress. The aggregate explanatory power of these individual difference variables, represented by change in $R^2$, was greater than that of other variables (see Table 3). These findings provide an important implication. Although the current study found that Korean and Chinese college students’ use of Facebook relieves their acculturative stress in the U.S. culture, the effect size is minimal at best. Instead, the effect of individual differences is more important to explain acculturative stress and psychological well-being. Supporting Berry’s (1980) argument, it suggests that, as living in a new culture can be a daunting experience for international students, many factors other than media use, such as years of stay...
in the U.S. or personality trait of extraversion, certainly play an important role in the big picture. Further research is needed to test whether there would be different results from different populations such as older people or immigrants with lower education or income levels. As college students in general have good skills and knowledge in using new media and technologies compared to other populations, it is possible that the effects of media use on acculturative stress and psychological well-being might be different for other populations.

Limitations of the present study include the following. First, the current study’s samples may not be able to properly represent the population of Korean and Chinese students in the given universities. We solicited participation in this study by posting a link to the survey questionnaire on the Korean and Chinese student associations’ websites. A random sampling method with the whole student population of Korean and Chinese students would produce more generalizable findings. Second, although the present study investigated the effects of SNS use, interpersonal and mass media uses, and individual differences on acculturative stress and psychological well-being with a cross-sectional study, acculturative stress and psychological well-being can be developed for a certain period of time. Thus, a longitudinal study will better capture the associations found in the present study.

In conclusion, the present study examined the effects of ethnic SNS and Facebook use, interpersonal and mass media use, and individual differences on Korean and Chinese college students’ acculturative stress and psychological well-being. The findings indicate that students who used Facebook only demonstrate a lower degree of acculturative stress and a higher degree of psychological well-being, while the use of ethnic SNS is associated positively with acculturative stress. In addition, individual differences showed strong explanatory power to account for international students’ acculturative stress and psychological well-being. More studies are needed to validate and refine the findings discovered in the current study.

References


