

Effects of Social Networking Sites Usage on Chinese Students' Life Satisfaction in Malaysia: Cultural Identity as a Mediator

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ABSTRACT

Social networking sites (SNSs) serve as a powerful tool for international students to adapt to the host country and improve life satisfaction. However, the use of SNSs also brings negative influences on their life satisfaction. Additionally, the mechanisms by which this occurs are still unclear. This study employed an online cross-sectional survey of 267 Chinese students in Malaysia to explore the relationship between SNSs usage (usage engagement and acculturation usage) and life satisfaction by considering the mediating effect of host cultural identity and ethnic cultural identity. Data analysis relied on Statistical Package for the Social Sciences and AMOS software. The findings showed that SNSs usage engagement and two cultural identities helped to improve life satisfaction. Moreover, two cultural identities can explain how SNSs usage engagement influences life satisfaction. Contrary to expectations, acculturation usage had a non-significant influence on life satisfaction. However, under the mediating effect of host cultural identity, acculturation usage positively predicted life satisfaction. The research can provide references for the Malaysian government and educational institutions when introducing relevant policies to promote the life satisfaction of international students. The shortcomings and possibilities for future research are also discussed.

Keywords: acculturation usage, cultural identity, life satisfaction, social networking sites

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INTRODUCTION

Pursuing education in foreign countries has become a prevalent trend in accelerated globalization. According to the Economic Co-operation and Development [OECD] (2022), international students studying abroad surpassed 6.4 million in 2020. For international students, life satisfaction

reflects their general life evaluation in the host country. Entering a new environment, international students may face increased stress and decreased happiness (Mikal et al., 2013), leading to negative consequences (Shafaei & Razak, 2015). Studying abroad is difficult and frustrating (Xie & Chao, 2022). Common problems international students encounter include stress, depression, and anxiety (Brunsting et al., 2018). Moreover, some students give up halfway because they cannot adapt to the new environment. The high dropout rate of international students has also become a major challenge for international education development in some countries (Pusztai et al., 2019). Thus, with the increasing number of overseas students, more research is necessary to improve international students' life satisfaction in the host country (Li & Ma, 2018).

Rehman and Wu (2020) emphasized that using SNSs plays a pivotal role for international students in their new environments. For instance, SNSs enable these students to communicate with their families and friends back in their home countries while also facilitating the establishment of new friendships within the host country (Rui & Wang, 2015), which is a benefit to life satisfaction. Numerous studies have demonstrated a positive association between the usage of SNSs and life satisfaction (Chen et al., 2020; Gaia et al., 2021; Liu et al., 2018). On the contrary, some scholars have proposed that social media usage is negatively related to life satisfaction (Abdellatif, 2022) since using social media may bring about negative

outcomes, such as loneliness (Raman & Harwood, 2016), influence physical and psychological health (Bae, 2020), and declining academic performance (Lau, 2017).

The inconsistent results on the relationship between social media usage and life satisfaction can be attributed to the diverse measurement approaches for social media usage. Most studies explore the relationship between SNSs usage and life satisfaction in terms of quantitative use behaviors, such as the time spent on SNSs (Pang, 2018). A handful of studies have examined the role of SNSs usage purposes, such as entertainment and socialization (Raza, Qazi, Shah, et al., 2020), self-disclosure (Lee et al., 2013), and information-seeking (Forbush & Foucault-Welles, 2016).

However, there is little research on acculturation usage, which involves gaining cultural knowledge and values about the host country. Acculturation motivations might be salient among international students when facing an unfamiliar environment (Wang & Sun, 2009) since they need to search for relevant cultural information on social media to solve their confusion about unfamiliar cultures (Li & Peng, 2019). Therefore, exploring the relationship between acculturation usage and life satisfaction in a cross-cultural setting is necessary.

Another reason for the inconsistent conclusions is that social media does not directly influence life satisfaction but relies on some intermediary mechanisms, such as

social support (Huang et al., 2022; Pang, 2018). An online survey of university students in Pakistan found that SNSs have no direct effect on life satisfaction but work through social overload and social benefits (Raza, Qazi, Umar et al., 2020). However, few studies focused on cultural identity. Existing studies have found that social media can influence the cultural identity of international students (Yang, 2018). Furthermore, culture can influence an individual's beliefs and values, consequently influencing their assessment of life quality (Kjell & Diener, 2021). Nonetheless, there are inconsistent conclusions on the influence of two cultural identities on the life satisfaction of international students. Thus, more research is needed to identify whether both cultural identities can explain how social media use influences life satisfaction.

Being an emerging education center in Asia, Malaysia has increasingly attracted Chinese students as one of their preferred study-abroad destinations (Shafaei et al., 2016). Official statistics from Education Malaysia Global Services (EMGS) revealed that the number of Chinese students studying in Malaysia exceeded 8,000 in 2020. Remarkably, despite the challenges posed by the COVID-19 pandemic, this figure surged to 19,000 in 2021, representing a remarkable increase of 46% (EMGS, 2021). Chinese students have emerged as the largest group of international students in Malaysia (Ministry of Higher Education Malaysia, 2021). However, most previous research in this area has been conducted mainly in Western societies (Pang, 2018).

There is a lack of empirical research on the relationship between SNSs usage and life satisfaction among Chinese students in Malaysia.

This study aims to examine the mediating role of cultural identity in the relationship between SNSs usage and life satisfaction among Chinese students in Malaysia to address the research gaps mentioned earlier. SNSs usage encompasses both SNSs usage engagement and acculturation usage, while cultural identity comprises ethnic cultural identity and host cultural identity. The results of this study contribute to the body of knowledge on SNSs usage and provide insights for Malaysian higher education practitioners and policymakers to introduce relevant policies to promote the life satisfaction of international students.

LITERATURE REVIEW

Social Networking Sites

According to Kuss and Griffiths (2011), SNSs are “virtual communities where users can create individual public profiles, interact with real-life friends, and meet other people based on shared interests.” (p. 3529). SNSs provide a convenient way for people to interact with each other (Singh et al., 2020). The importance of SNSs has become more prominent, especially during the pandemic (Cauberghe et al., 2021; Drouin et al., 2020). The earliest SNS was SixDegrees, launched in the late 1990s (Heidemann et al., 2012). Currently, Facebook, WhatsApp, WeChat, and Twitter are widely used.

Cultural Identity

Cultural identity involves an individual's association with a particular culture, encompassing belonging to specific cultural groups and the emotions tied to their membership (Phinney et al., 2001). When one possesses a clear cultural identity, it signifies a profound subjective awareness and comprehension of the values, norms, and attributes of the cultural group (Taylor & Usborne, 2010).

Acculturation Theory

Acculturation is commonly defined as the changes that occur when an individual is exposed to two or more different cultures (Sam & Berry, 2016). It involves acquiring, maintaining, and modifying cultural behaviors, values, and identities associated with ethnic and host cultures (Ward & Geeraert, 2016). Cultural identity becomes a key consideration when two cultures come into contact, particularly in how individuals perceive their ethnic and host cultures (Chao & Yen, 2018). Berry (2005) proposed a bi-dimensional model, suggesting that maintaining both host and ethnic cultural identities is possible during the acculturation process (Pastor et al., 2022). In this study, "host cultural identity" refers to Malaysian cultural identity, while "ethnic cultural identity" refers to Chinese cultural identity.

Furthermore, acculturation theory posits that cultural identity influences adaptation outcomes (Sam & Berry, 2016), such as life satisfaction. Based on the acculturation theory, Pekerti et al. (2020) found that some personal or social factors

would affect international students' cultural orientation. Furthermore, previous research has indicated that social media usage predicts cultural identity (Li & Tsai, 2015; Yu et al., 2019). Ward and Geeraert (2016) highlighted the importance of considering the role of media in future acculturation studies. Thus, this study suggests that SNSs usage influences cultural identity, which subsequently influences the life satisfaction of Chinese students in Malaysia. Therefore, cultural identity can be considered a mediating mechanism in the relationship between SNSs usage and psychological adaptation.

SNSs Usage and Life Satisfaction

Scholars have reached different conclusions regarding the effects of SNSs usage. Many studies have demonstrated that SNSs usage can improve life satisfaction (Doğan, 2016; Gaia et al., 2021). Life satisfaction is an important indicator of an individual's quality of life (Chen et al., 2020). A study of 459 Turkish high school students indicated that SNSs usage positively predicted life satisfaction (Doğan, 2016). Similarly, Wheatley and Buglass (2019) found that SNSs usage positively influenced life satisfaction among people in the United Kingdom. More recently, Gaia et al. (2021) demonstrated a positive link between the utilization of SNSs and life satisfaction among older individuals in Europe. These studies demonstrated the relationship between SNSs usage engagement and life satisfaction, but they did not focus on international students in a cross-cultural environment.

A web-based survey of Chinese students in the United States found that WeChat usage engagement was positively associated with life satisfaction (Pang, 2018). Notably, most of the above research focuses on quantitative usage behavior, and few studies have explored the relationship between usage purpose and life satisfaction. However, some studies can provide meaningful insights into this topic. Angelini et al. (2015) proposed that higher identification with the host culture is associated with higher life satisfaction. By using SNSs, individuals can access information about the values and norms of the host community immediately, which allows them to have a good experience in the host country (Liu et al., 2018). In other words, using social media to learn more about the host culture, namely acculturation usage, is positively associated with life satisfaction. Thus, the current study proposes the following hypotheses:

H1: SNSs usage engagement is positively associated with life satisfaction.

H2: SNSs acculturation usage is positively associated with life satisfaction.

SNSs Usage and Cultural Identity

The media dependence theory suggests that an individual's dependence on certain media determines how often they use it. Moreover, the frequency of media usage directly relates to the strength of its impact on an individual's cognition, emotion, and behavior (Baran & Davis, 2000). However,

there are limited studies on the influence of SNSs usage engagement on cultural identity. Based on cultural learning models, a study revealed that social media usage, particularly host social media platforms, influenced cultural cognition and enhanced language skills, thereby impacting identification with the host culture (Ellison et al., 2007). A comparative study of Facebook and RenRen (a Chinese SNS) found that high usage of Facebook enhanced host language proficiency and host culture comprehension, thus helping to form host cultural identity (Li, 2014). This conclusion was confirmed in an online study of Chinese students in the US, which suggests that the frequency of using Facebook and Twitter contributed to identification with American culture (Yang, 2018). Nonetheless, most current research has emphasized the relationship between social media use and host cultural identity, neglecting the comprehensive investigation of the influence of SNSs usage engagement on ethnic cultural identity.

Some scholars have focused on the influence of different SNSs usage purposes on cultural identity. For example, Du and Lin (2019) suggested that using SNSs to connect with local people can increase identification with the host culture. Wang and Sun (2009) claimed that acculturation usage predicts host cultural identity significantly. Liu et al. (2018) further explained that SNSs provide users with a convenient and extensive channel to increase their access to cultural knowledge about the host country to understand better the values, norms, practices, and other relevant cultural

information. However, the relationship between SNSs acculturation usage and ethnic cultural identity has not been sufficiently studied. An early study indicated an opportunity to compare the ethnic culture with other cultures when entering a new cultural environment so that individuals can realize their cultural uniqueness (Kashima & Loh, 2006). Likewise, based on in-depth interviews with 17 Chinese students in Germany, Maeder-Qian (2018) found that the participants may feel prouder about their Chinese identity after gaining a more comprehensive understanding of different cultures. Murdock (2017) also provided support for the idea that cultural contact can lead to reflection and increased salience of ethnic cultural identity. Thus, this study proposes the following hypotheses:

H3: SNSs usage engagement is positively associated with host cultural identity.

H4: SNSs usage engagement is positively associated with ethnic cultural identity.

H5: SNSs acculturation usage is positively associated with host cultural identity.

H6: SNSs acculturation usage is positively associated with ethnic cultural identity.

Cultural Identity and Life Satisfaction

The correlation between cultural identity and life satisfaction remains inconclusive.

Some earlier studies have indicated a positive link between the two. For example, A longitudinal survey of German immigrants found that cultural identification with Germany predicted higher levels of life satisfaction (Angelini et al., 2015). Parker et al. (2005) reported that a strong identification with the host culture was associated with reduced levels of depression. Likewise, Asvat and Malcarne (2008) suggested that the stronger the identification with the ethnic culture, the lower the degree of depression. Since depression is an important factor that negatively affects life satisfaction (Gigantesco et al., 2019), these findings suggest a potential positive influence of cultural identity on life satisfaction.

Ngo and Li (2016) found that the host cultural identity of Chinese immigrants in Hong Kong helped to improve life satisfaction, but their ethnic cultural identity reduced life satisfaction. Similarly, based on an online survey of 319 international students in the Netherlands, Taušová et al. (2019) found that ethnic cultural identity may increase the stress of dealing with two cultures and reduce life satisfaction for international students. Differently, Du and Lin (2019) indicated that ethnic cultural identity helps to increase happiness. Reder (2014) also supported the positive influences of ethnic cultural identity on life satisfaction, as it can improve self-esteem. Schotte et al. (2018) reported that a high level of host and ethnic cultural identity both contributes to increased life satisfaction; the following hypotheses are thus proposed:

H7: Host cultural identity is positively associated with life satisfaction.

H8: Ethnic cultural identity is positively associated with life satisfaction.

The Mediating Role of Cultural Identity

Previous studies have demonstrated that the impact of SNSs usage on life satisfaction is indirect but plays a role through some intermediary mechanisms, such as social support (Huang et al., 2022). This study suggests that the usage of SNSs by Chinese students in Malaysia can enhance both ethnic and host cultural identities, thus improving their life satisfaction. By examining the mediating role of cultural identity, it is posited that ethnic and host cultural identities can explain how SNSs usage influences life satisfaction. The following hypotheses are thus proposed:

H9: Host cultural identity mediates the relationship between SNSs usage engagement and life satisfaction.

H10: Ethnic cultural identity mediates the relationship between SNSs usage engagement and life satisfaction.

H11: Host cultural identity mediates the relationship between SNSs acculturation usage and life satisfaction.

H12: Ethnic cultural identity mediates the relationship between SNSs acculturation usage and life satisfaction.

METHODOLOGY

Research Framework

The research framework is illustrated in Figure 1. The framework indicates that SNSs usage is significantly associated with the cultural identity of Chinese students studying in Malaysia, influencing their life satisfaction.

Respondents

All the respondents were Chinese international students pursuing undergraduate or postgraduate degrees at higher education institutions in Malaysia.

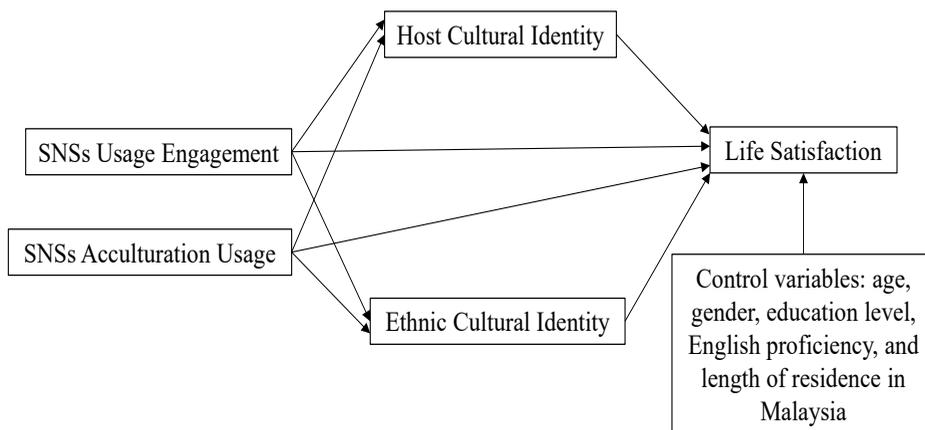


Figure 1. Research framework

Due to the COVID-19 pandemic, data were collected through an online questionnaire. Specifically, the questionnaire links were distributed on SNSs platforms, especially WeChat, a popular platform among Chinese students. This method ensured that all respondents were SNSs users. The sampling frame is unavailable since Chinese students are distributed in different higher institutions and involve a large geographical area in Malaysia. Thus, simple random sampling is not suitable for the study. Instead, purposive sampling was adopted. Besides, respondents had to have lived in Malaysia for at least six months when completing the survey (Chan et al., 2021). Invalid questionnaires (e.g., respondents in Malaysia for fewer than six months) were eliminated. In the end, 267 students participated in the study.

Measures

SNSs Usage. SNSs usage includes two dimensions, namely, SNSs usage engagement and acculturation. The SNSs usage engagement scale, consisting of seven items, was primarily adapted from previous studies by Ellison et al. (2007) and Ni et al. (2020). Among these items, the first five were drawn from Ellison et al. (2007), and their reliability and validity were confirmed in various prior studies (Jiang & Bruijn, 2014; Wang et al., 2019). The remaining two items were adapted from Ni et al. (2020). This study replaced the term “Facebook” with “SNSs” to encompass a broader range of platforms. Respondents rated their level of connection to SNSs on a 5-point Likert scale, with 1 indicating “Strongly disagree”

and 5 indicating “Strongly agree.” The Cronbach’s alpha coefficient for this scale was 0.905. A higher score on this scale signifies a greater emotional attachment to SNSs. The acculturation usage scale with four items was adapted from Yang et al. (2004), who investigated the motivation to learn the host culture and language or to integrate into the host country through media. Respondents rated their responses on a 5-point Likert scale, with 1 indicating “Strongly disagree” and 5 indicating “Strongly agree.” The Cronbach’s alpha coefficient for this scale was 0.857.

Ethnic Cultural Identity and Host Cultural Identity.

Two scales assessing ethnic cultural identity, and host cultural identity were adopted from previous studies conducted by Mezzich et al. (2009) and Ryder et al. (2000). These scales captured various aspects, including language use, holiday celebrations, and social interaction of the respondents. Considering the purpose of this study, minor adjustments were made to the scales. For example, some questions, such as “How important would it be to you for your children to have (ethnic minority) friends” and “How important is it you to raise your children with mainstream American values?” were dropped as they may not be relevant to university students who the respondents in this study were. Both scales included eight items. In this study, ethnic cultural identity refers to Chinese cultural identity, and host cultural identity refers to Malaysian cultural identity. Respondents were required to rate their responses using a

5-point Likert scale, ranging from “Strongly disagree” (1) to “Strongly agree” (5). The Cronbach’s alpha coefficients for ethnic and host cultural identities were 0.910 and 0.894, respectively.

Life Satisfaction. The life satisfaction scale was adapted from Diener et al. (1985). Participants were requested to rate five statements using a 5-point Likert scale, where 1 indicated “Strongly disagree” and 5 denoted “Strongly agree.” For example, “In most ways, my life is close to what I want it to be.” Cronbach’s alpha was 0.857.

Demographic Information. This study’s control variables are the respondent’s age, gender, education level, English proficiency, and length of residence in Malaysia. Previous research has indicated that these variables significantly predict life satisfaction (Chen et al., 2020; Huang et al., 2022; Park & Noh, 2018). English proficiency was assessed by self-reported abilities in writing, speaking, reading, listening, and conversation on a 5-point scale, with 1 indicating “very poor” and 5 denoting “very good.” The Cronbach’s alpha for this scale was 0.917. Length of residence in Malaysia was measured by the number of months respondents had spent there. Additionally, SNSs usage patterns were investigated, such as the time spent on SNSs and the frequency of usage.

Statistical Analysis

This study utilized SPSS and Structural Equation Modeling (SEM) for data analysis, including descriptive and inferential analysis. Descriptive analysis was applied to

analyze demographic information about the respondents and their SNSs usage patterns. Besides, the correlation among variables was examined. A confirmatory factor analysis (CFA) was conducted to assess the validity and reliability of the instruments. Finally, the hypothesis was tested using SEM with AMOS 26 software.

RESULTS

Preliminary Analysis

The main aim of this study was to explore the association between SNSs usage, cultural identity, and life satisfaction. Table 1 displays the correlations of the variables. The findings revealed that SNSs usage engagement, ethnic cultural identity, and host cultural identity were significantly correlated with life satisfaction. However, no significant relationship was observed between acculturation usage and life satisfaction ($r = .072, p = .243$). Among the control variables, length of residence in Malaysia and English proficiency were significantly related to life satisfaction ($r = .151, p < .05$; $r = .208, p < .01$, respectively). Thus, the subsequent analysis incorporated length of residence in Malaysia and English proficiency as the control variables.

Before proceeding with further analysis, it is necessary to assess the skewness and kurtosis of the variables to determine if the assumption of normal distribution is satisfied (Hair et al., 2017). According to Kline (2011), data is considered to be normally distributed if the absolute value of skewness is lower than 3 and the absolute value of kurtosis does not exceed 10. In

this study, all the variables demonstrated skewness and kurtosis values below the cut-off values (Table 1); hence, normal distribution was not a concern.

Table 1
Correlation matrix of the variables (n = 267)

| Variables | SUE | SAU | ECI | HCI | LS | Skewness | Kurtosis |
|---------------------|--------|---------|--------|--------|--------|----------|----------|
| SUE | .762 | | | | | -0.775 | 0.149 |
| SAU | .206** | .776 | | | | -0.579 | 0.355 |
| ECI | .295** | .147* | .747 | | | -1.166 | 1.558 |
| HCI | .289** | .363** | .192** | .723 | | -0.456 | -0.437 |
| LS | .269** | .072 | .225** | .302** | .746 | -0.114 | -0.712 |
| Gender | -.027 | -.034 | .078 | -.010 | .033 | -0.488 | -1.775 |
| Marital status | -.029 | .084 | .008 | .113 | -.001 | -0.194 | -0.097 |
| Education level | .050 | -.202** | -.107 | -.130* | -.069 | 0.124 | -1.689 |
| Age | .060 | -.109 | -.121* | -.064 | -.060 | 0.525 | 0.744 |
| Length of residence | .013 | -.157* | -.082 | -.006 | .151* | 2.275 | 5.461 |
| English proficiency | .175** | .156* | .163** | .214** | .208** | -0.604 | 0.201 |

Note. (1) SUE = SNSs Usage Engagement, SAU = SNSs Acculturation Usage, ECI = Ethnic Cultural Identity, HCI = Host Cultural Identity, LS = Life Satisfaction. (2) The square roots of AVE for every construct are in bold in the table. (3) The off-diagonal numbers are the correlations among the variables. * $p < .05$; ** $p < .01$

Measurement Model Analysis

The results of CFA are shown in Figure 2. The five latent variables in the model were SNSs usage engagement, SNSs acculturation usage, ethnic cultural identity, host cultural identity, and life satisfaction. According to the threshold value suggested by Byrne (2010), the structural equation modeling results suggest a good model fit with the data. Specifically, $\chi^2/df = 1.911$, which is smaller than the accepted value of 3; CFI = .910 and TLI = .902, both of which are larger than the accepted value of .90;

RMSEA = .059, which is smaller than the cut-off points of .08.

As displayed in Table 2, all variables had an average variance extracted (AVE) exceeded 0.5, and their composite reliability (CR) and Cronbach’s alpha were greater than 0.8. Additionally, the square root of AVE exceeded the correlation coefficient among the variables, demonstrating that discriminant validity was achieved.

Moreover, Henseler et al. (2015) recommended employing the Heterotrait-Monotrait Ratio of Correlations (HTMT)

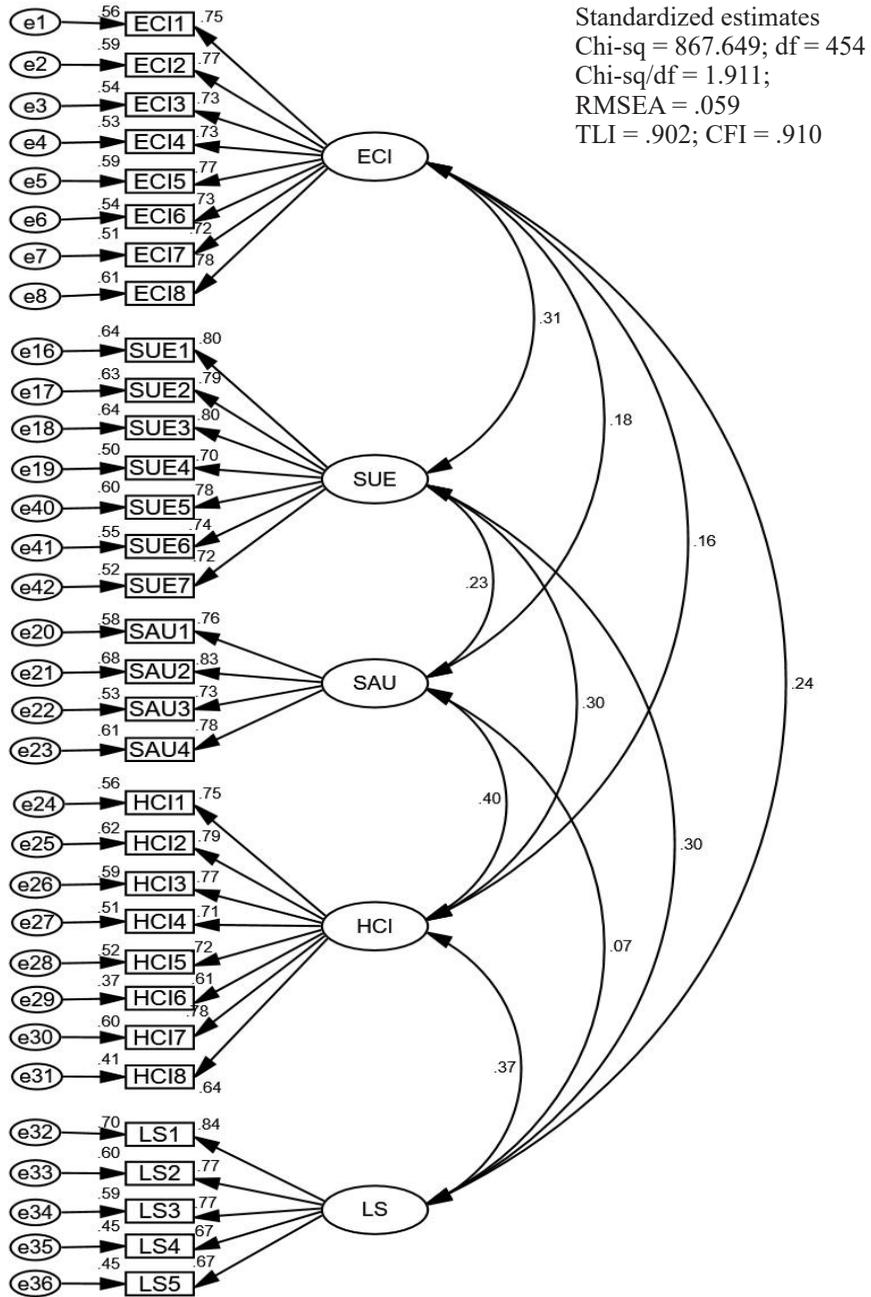


Figure 2. Measurement model with standardized estimates

Note. SUE = SNSs Usage Engagement, ECI = Ethnic Cultural Identity, HCI = Host Cultural Identity, LS = Life Satisfaction, SAU = SNSs Acculturation Usage.

Table 2
Reliability and validity of variables (n = 267)

| Constructs | Items | Loadings | CR | Cronbach's alpha | AVE |
|--------------------------|-------|-------------|-------|------------------|-------|
| SNSs usage engagement | 7 | 0.705-0.798 | 0.906 | 0.905 | 0.580 |
| SNSs acculturation usage | 4 | 0.727-0.827 | 0.858 | 0.857 | 0.602 |
| Ethnic cultural identity | 8 | 0.717-0.778 | 0.910 | 0.910 | 0.558 |
| Host cultural identity | 8 | 0.612-0.787 | 0.897 | 0.894 | 0.523 |
| Life satisfaction | 5 | 0.667-0.835 | 0.862 | 0.857 | 0.557 |

method to evaluate discriminant validity in SEM. Teo et al. (2008) indicated that the HTMT value should be lower than 0.90. As shown in Table 3, HIMT values are all less than 0.90, and discriminant validity is not an issue in this study.

The Harman single-factor test was employed to address potential common method bias resulting from self-reported items in cross-sectional studies. All 32 items from the five variables were subjected to an exploratory factor analysis with unrotated principal components factor analysis in this test. The results revealed that only 25.10% of the variance was extracted, indicating that a single factor did not account for the majority of the common variance (Conway & Lance, 2010).

Descriptive Characteristics of the Demographic Information

According to Table 4, among the 267 respondents, 38.2% were male and 61.8% were female. Most of the respondents were unmarried (67.8%, n = 181). 41.6% of the respondents were pursuing a bachelor's degree (n = 111), followed by students pursuing master's degrees (n = 94) and doctoral degrees (n = 62). The respondents'

Table 3
Assessment of Discriminant Validity using Heterotrait Monotrait (HTMT) (n = 267)

| | SUE | SAU | ECI | HCI | LS |
|-----|-------|-------|-------|-------|----|
| SUE | - | | | | |
| SAU | 0.234 | - | | | |
| ECI | 0.314 | 0.178 | - | | |
| HCI | 0.300 | 0.407 | 0.140 | - | |
| LS | 0.301 | 0.075 | 0.245 | 0.363 | - |

Note. SUE = SNSs Usage Engagement, SAU = SNSs Acculturation Usage, ECI = Ethnic Cultural Identity, HCI = Host Cultural Identity, LS = Life Satisfaction.

ages ranged from 18 to 43 years, with a mean age of 26.67. Length of residence in Malaysia ranged from 6 to 80 months, with an average length of 15.70 months.

Patterns of Social Networking Sites Usage. As shown in Table 5, among 267 respondents, WeChat was the most frequently used SNSs (n = 110), followed by WhatsApp (n = 89) and Facebook (n = 24). It is consistent with Chen et al. (2018), who found that WeChat is the most popular SNS among Chinese migrants. As Facebook and WhatsApp are unavailable in China, the results indicate that some Chinese students are trying to use new SNSs in Malaysia.

Table 4
Descriptive statistics of respondents (n = 267)

| Variables | Categories | n | Percentage | |
|---|-------------------|-----|------------|-------|
| Gender | Male | 102 | 38.2 | |
| | Female | 165 | 61.8 | |
| Marital status | Married | 72 | 27.0 | |
| | Not married | 181 | 67.8 | |
| | Widowed | 14 | 5.2 | |
| Education level | Bachelor's degree | 111 | 41.6 | |
| | Master's degree | 94 | 35.2 | |
| | Doctoral degree | 62 | 23.2 | |
| Variables | Min | Max | Mean | SD |
| Age | 18 | 43 | 26.67 | 5.91 |
| Length of residence in Malaysian (months) | 6 | 80 | 15.70 | 13.60 |

Accordingly, most respondents had three SNSs accounts ($n = 188$) and used SNSs more than 6 times daily ($n = 130$). In terms of spending time on such sites, 29.6% of Chinese students spent 1–2 hours on SNSs per day ($n = 79$), and 26.6% spent 3–4 hours ($n = 71$). In terms of the duration of SNSs usage, over half of the respondents had been using SNSs for more than 6 years ($n = 138$). Lastly, the number of friends on SNSs varied among the respondents. 26.6% of the respondents had fewer than 100 friends on SNSs, and 20.6% had more than 400 friends.

Table 5
SNSs usage patterns of respondents (N = 267)

| Variables | Categories | n | Percentage |
|------------------------------|------------|-----|------------|
| The most frequently used SNS | Facebook | 24 | 9.0 |
| | WeChat | 110 | 41.2 |
| | WhatsApp | 89 | 33.3 |
| | Twitter | 11 | 4.1 |
| | QQ | 3 | 1.1 |
| | Instagram | 19 | 7.1 |
| | LinkedIn | 5 | 1.9 |

Table 5 (Continue)

| Variables | Categories | n | Percentage |
|-------------------------------------|-----------------------|-----|------------|
| The most frequently used SNS | Sina Weibo | 5 | 1.9 |
| | Others | 1 | 0.4 |
| The number of SNSs used actively | One | 8 | 3.0 |
| | Two | 15 | 5.6 |
| | Three | 188 | 70.4 |
| | Four | 36 | 13.5 |
| | More than four | 20 | 7.5 |
| | | | |
| The frequency of using SNSs per day | not every day | 16 | 6.0 |
| | 1-2times | 42 | 15.7 |
| | 3-4times | 49 | 18.4 |
| | 5-6times | 30 | 11.2 |
| | More than 6 times | 130 | 48.7 |
| Time spent on SNSs per day | Less than 1 hour | 30 | 11.2 |
| | 1-2 hours | 79 | 29.6 |
| | 3-4 hours | 71 | 26.6 |
| | 5-6 hours | 44 | 16.5 |
| | More than 6 hours | 43 | 16.1 |
| Duration of SNSs usage | Less than 1 year | 23 | 8.6 |
| | 1-2 years | 38 | 14.2 |
| | 3-4 years | 38 | 14.2 |
| | 5-6 years | 30 | 11.2 |
| | More than 6 years | 138 | 51.7 |
| The number of friends on SNSs | Less than 100 friends | 71 | 26.6 |
| | 101-200 friends | 53 | 19.9 |
| | 201-300 friends | 51 | 19.1 |
| | 301-400 friends | 37 | 13.9 |
| | More than 400 friends | 55 | 20.6 |

Hypotheses Testing. The results of the direct effects among the variables are shown in Table 6. The findings show that SNSs usage engagement positively and significantly influences life satisfaction ($\beta = .146, p = .040$), host cultural identity ($\beta = .224, p < .001$), and ethnic cultural identity ($\beta = .285, p < .001$). H1, H3, and H4 are thus supported. However, acculturation usage is not significantly related to life satisfaction ($\beta = -.137, p = .067$) and ethnic and cultural identity ($\beta = .124, p = .070$); H2 and H6 are rejected. Differently, acculturation

usage significantly influences host cultural identity ($\beta = .350, p < .001$), supporting H5. Similarly, host cultural identity is positively associated with life satisfaction ($\beta = .343, p < .001$), and ethnic cultural identity also significantly predicts life satisfaction ($\beta = .172, p = .011$). Moreover, the findings reveal that host cultural identity contributes more to life satisfaction. Hence, H7 and H8 are supported. Furthermore, the study confirms that the length of residence in Malaysia significantly influences life satisfaction ($\beta = .167, p = .006$).

Table 6
Results of direct effects

| Hypotheses path | Estimate | S.E. | C.R. | <i>p</i> | Results |
|--|----------|------|--------|----------|-----------|
| H1 SNSs usage engagement→Life satisfaction | .146 | .068 | 2.058 | .040 | Supported |
| H2 SNSs acculturation usage→Life satisfaction | -.137 | .069 | -1.832 | .067 | Rejected |
| H3 SNSs usage engagement→Host cultural identity | .224 | .062 | 3.396 | *** | Supported |
| H4 SNSs usage engagement→Ethnic cultural identity | .285 | .063 | 4.119 | *** | Supported |
| H5 SNSs acculturation usage→Host cultural identity | .350 | .064 | 4.933 | *** | Supported |
| H6 SNSs acculturation usage→Ethnic cultural identity | .124 | .061 | 1.810 | .070 | Rejected |
| H7 Host cultural identity→Life satisfaction | .343 | .077 | 4.556 | *** | Supported |
| H8 Ethnic cultural identity→Life satisfaction | .172 | .071 | 2.558 | .011 | Supported |
| Control Variable Test | | | | | |
| English proficiency | .092 | .064 | 1.497 | .134 | |
| Length of residence in Malaysia | .167 | .049 | 2.736 | .006 | |

As for mediating effect analysis, bootstrap estimates of 5,000 samples were used, with 95% confidence intervals (CI) excluding zero, indicating significance (Cheung & Lau, 2007). As shown in Table 7, the indirect effect of SNSs usage engagement on life satisfaction is significant ($\beta = .077$, 95% CI [.024, .159], $p = .001$). Thus, host

cultural identity mediates the relationship between SNSs usage engagement and life satisfaction. Similarly, the analysis shows that ethnic cultural identity also mediates the relationship between SNSs usage engagement and life satisfaction ($\beta = .049$, 95% CI [.008, .128], $p = .020$). Thus, H9 and H10 are supported.

Table 7
Results of indirect effects

| Hypotheses path | Estimate | Std Error | T-Statistic | p-Value | 95% Confidence Interval | | Results |
|---|----------|-----------|-------------|---------|-------------------------|-------|-----------|
| | | | | | Lower | Upper | |
| H9 SNSs usage engagement→Host cultural identity →Life satisfaction | .077 | .027 | 2.806 | .001 | .024 | .159 | Supported |
| H10 SNSs usage engagement→Ethnic Cultural identity →Life satisfaction | .049 | .023 | 2.136 | .020 | .008 | .128 | Supported |
| H11 SNSs acculturation usage→Host cultural identity →Life satisfaction | .120 | .035 | 3.453 | *** | .049 | .233 | Supported |
| H12 SNSs acculturation usage→Ethnic cultural identity→Life satisfaction | .021 | .014 | 1.557 | .095 | -.001 | .083 | Rejected |

Similarly, the indirect effect of acculturation usage on life satisfaction is significant when controlling host cultural identity ($\beta = .120$, 95% CI [.049,

.233], $p < .001$). Therefore, host cultural identity mediates the relationship between acculturation usage and life satisfaction, supporting H11. Differently, when

ethnic cultural identity is incorporated as a mediator, the indirect effect of SNSs acculturation usage on life satisfaction is insignificant ($\beta = .021$, 95% CI [-.001, .083], $p = .095$). H12 is rejected. Figure 3 presents the results of the structural model analysis.

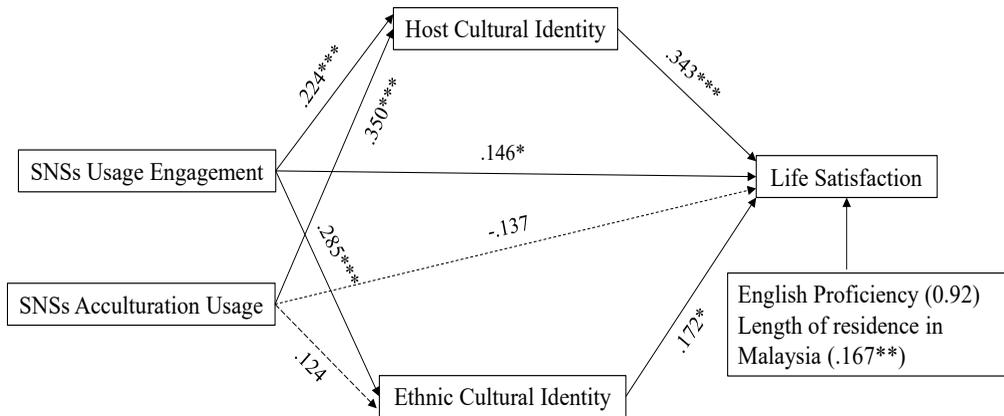


Figure 3. The structural model with standardized estimates (n = 267)

Note. * $p < .05$; ** $p < .01$; *** $p < .001$, Model Fit: $\chi^2(df) = 1.87$, CFI = .91, TLI = .90, RMSEA = .06

DISCUSSION

This study explores the influence of SNSs usage on Chinese international students' life satisfaction in Malaysia through the host and ethnic cultural identity. The data results supported nine hypotheses and rejected three.

The study found that WeChat is the most frequently used SNS among Chinese students in Malaysia, which is consistent with the results of Chen et al. (2018), who found that WeChat is the most popular SNS among Chinese migrants. Lee and Padilla (2014) suggested that students, especially Chinese ones, mainly maintain relationships with peers from their country. However, other studies have shown that SNSs can help students maintain connections with their home countries (Chen & Yang, 2015) as well as their host countries (Forbush

& Foucault-Welles, 2016). Furthermore, there is considerable information about China on host countries' SNSs, such as Facebook and Twitter, which means that SNSs can transcend the boundaries of ethnic communication and host communication (Ju et al., 2021).

H1 and H2 demonstrate the influence of SNSs usage on life satisfaction. SNSs usage engagement contributes to a high level of life satisfaction. Diffidently, acculturation usage has a non-significant and negative influence on life satisfaction. Although the relationship did not reach statistical significance, it is worth noting that using social media to learn about the knowledge of the host culture may reduce the life satisfaction of overseas students, supporting Morrison and Mason's (2013) research, which found that learning about American

culture among respondents who were not born in the United States reduces their life satisfaction. One possible explanation for this evidence is that respondents feel isolated from ethnic culture and come under pressure to conform to the local culture, leading to unhappiness (Morrison & Mason, 2013).

H3, H4, H5, and H6 demonstrate the influence of SNSs usage on cultural identity. In contrast to previous studies that focus on the effect of host SNSs usage on host cultural identity (Dalisy, 2012; Yang, 2018), this study considers SNSs to enrich the literature on the impact of SNSs usage on ethnic cultural identity. Specifically, confirming previous studies, SNSs usage engagement contributes to a high level of host cultural identity and ethnic cultural identity. It is consistent with Li (2014), who indicated that the greater use of Facebook could improve the host cultural identity. Moreover, SNSs usage engagement had a greater influence on ethnic cultural identity than on host cultural identity because most respondents use Chinese social media (e.g., WeChat), so they often use the Chinese language and access information from China.

Differently, acculturation usage predicts host cultural identity but not ethnic cultural identity. Firstly, the use of social media for cultural learning helps enhance Malaysian cultural identity. It is consistent with Zaw (2018), who held that learning cultural knowledge can change international students' stereotypes and prejudices about the host country. On the

contrary, acculturation usage cannot help international students develop their ethnic cultural identity. The result is contrary to Murdock (2017), who indicated that offline cultural contact might lead to reflection and greater awareness of ethnic cultural identity because cultural learning on social media does not necessarily lead to offline cultural contact. Another possible explanation is that the difference between Chinese and Malaysian culture is small. There may not be many cultural comparisons when learning Malaysian culture. However, more research is needed to understand this relationship better.

H7 and H8 prove that both host cultural identity and ethnic cultural identity contribute to life satisfaction. Moreover, the host cultural identity had a greater influence on life satisfaction. This finding is consistent with Du and Lin (2019), who suggested that the host cultural identity is more conducive to happiness than ethnic cultural identity, which may be because international students with high host cultural identities would encounter less value conflict (Pekerti et al., 2020). While confirming the existing literature concerning the positive influence of host cultural identity on life satisfaction (Angelini et al., 2015), this study proposes that ethnic cultural identity also contributes to improving life satisfaction. Individuals with strong ethnic cultural identity tend to have a sense of belonging to a group tend to increase their well-being (Du & Lin, 2019) and self-esteem (Reder, 2014). Therefore, to have a positive overseas cultural experience, international students are encouraged

to enhance their recognition of the host country's culture and maintain connections with their ethnic culture.

Hypotheses 9 and 10 demonstrate that cultural identity can explain how SNS usage engagement influences life satisfaction, suggesting that the influence of SNSs usage engagement on life satisfaction is not always direct but happens through some intermediate mechanism. Thus, social media usage engagement increased Chinese students' host and ethnic cultural identity, thereby improving their life satisfaction. Hypotheses 11 and 12 identify the mediating role of cultural identity in the relationship between acculturation usage and life satisfaction. Interestingly, acculturation usage has a non-significant influence on life satisfaction. However, the more respondents use SNSs to learn the host culture, the more likely they are to identify with it, thus improving their life satisfaction in the host country. In other words, acculturation usage cannot predict life satisfaction directly but can influence life satisfaction indirectly through host cultural identity. Ethnic cultural identity cannot mediate the relationship between acculturation usage and life satisfaction.

CONCLUSION

This study has several major limitations that must be addressed. First, the non-probability sampling method was adopted in this study. Respondents were recruited through SNSs platforms using an online questionnaire. Thus, the sample hardly represents all Chinese international students

in Malaysia. Furthermore, the sample tends to be demographically homogeneous. Nearly half of the respondents were undergraduates, and 64.4% had lived in Malaysia for a year or less. Therefore, the results of this study do not cover the whole research object. More representative samples need to be studied to obtain more generalizable findings.

Second, the study uses a cross-sectional design and only surveys the participants at a certain time. Cross-sectional designs make it difficult to determine causal relationships among variables (Setia, 2016). Because cross-sectional surveys collect data only once, risk factors and outcomes are assessed simultaneously, and there is no evidence to infer a causation relationship between influencing factors and outcomes. Therefore, only association, not causation, can be inferred from cross-sectional studies (Sedgwick, 2014). Thus, more effective conclusions can be drawn through longitudinal analysis.

Third, this study demonstrates the positive relationship between SNSs usage and life satisfaction. However, the measurement of SNSs usage is relatively simple, and the focus is on SNSs usage engagement and acculturation usage. It should not be ignored that international students use SNSs for various purposes, such as seeking information and social interaction. It is thus necessary to explore whether different SNSs usage purposes influence life satisfaction differently. Furthermore, the study found that Chinese students in Malaysia use both Chinese SNSs (e.g., WeChat) and other SNSs frequently used by Malaysians (e.g.,

WhatsApp and Facebook). Since SNSs have no geographical boundaries, this study treats SNSs in different countries. Future research could examine whether the host country's social media and the home country's social media have different influences.

This study also has three main implications. The results of this study carry significant implications for the advancement of acculturation theory. This research confirms a positive relationship between cultural identity and life satisfaction. Additionally, this study provides further support for previous acculturation research that social media is a key factor influencing cultural identity, thereby supporting the applicability of this theory within international student groups. Furthermore, by applying the theory to a new context, this study contributes to the existing knowledge.

Second, the study found that SNSs usage helps to improve cultural identity and thus enhances life satisfaction, which reminds Chinese international students that they can use SNSs to improve their identification with Malaysian culture and Chinese culture to have a good cross-cultural experience. With the substantial number of Chinese students in Malaysia, this research also makes a noteworthy contribution to the country's economic, cultural, and educational development.

Third, this study found that cultural identity plays an important role in the relationship between SNSs usage and life satisfaction, especially host cultural identity. Thus, relevant government departments and educators in Malaysia should pay

more attention to the importance of SNSs in disseminating cultural knowledge, strengthening communication with international students, and improving their understanding of Malaysian culture. Specifically, international student communities can be built on social media to provide diversified cultural learning, such as producing short videos on Malaysian culture and providing a quick and convenient channel for cultural exchange between international students and the locals. Online communication facilitates interaction and builds an understanding of different viewpoints and perspectives, and people can learn about other people's cultures (Alamri, 2018). Also, relevant departments and universities should set up their pages on social media and ensure that information related to cultural knowledge is updated daily (Raza, Qazi, Shah et al., 2020).

In summary, this study explores the relationship between SNSs usage and life satisfaction. The respondents were Chinese students studying in Malaysia. While scholars have extensively studied Chinese international students, this particular group has received relatively limited attention in Malaysia. The study's findings show that SNSs usage engagement contributes to life satisfaction, while acculturation usage has a negative and non-significant effect on life satisfaction. However, under the mediating effect of host cultural identity, acculturation usage positively predicts life satisfaction. Considering the increasing prevalence of SNSs usage and the growing number of international students worldwide, more

research should be conducted to explore the relationship between SNSs usage, cultural identity, and life satisfaction in a cross-cultural context.

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