

International Students' Direct and Parasocial Contact and Attitudes Toward American Host Nationals: The Mediating Role of Cultural Identification

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Guided by the theoretical intersections of acculturation and intergroup contact, this study explores the associations between international students' direct contact with American host nationals and parasocial interaction with their favorite American character on mass media, identification with the U.S. culture, and attitudes toward Americans. The results indicated that international students' communication frequency and communication quality with their most frequent American contact, parasocial interaction with their favorite American movie/TV drama character had significant positive indirect effects on their affective and behavioral attitudes toward Americans through identification with the U.S. culture. In addition, communication quality had a significant positive direct effect on behavioral attitudes. These findings contribute to studies about international students in the United States by highlighting the importance of cultural identification with the U.S. culture as a mediator of the relationships between international students' direct and parasocial interactions with American host nationals and their attitudes toward Americans.

Keywords: international students, cultural identification, communication frequency and quality, parasocial interaction, intergroup contact and attitudes

Internationalization of higher education is a continuing trend in the United States. By attracting more than 1 million international students from all around the world, universities and colleges in the United States provide many on- and off-campus opportunities for intercultural interactions and cultural exchange, which are beneficial to both international and domestic students (Liu & Zhang, 2020). For example, prior research confirms that interactions with host nationals can reduce international students' feelings of homesickness and enhance their life satisfaction (Hendrickson, Rosen, & Aune, 2011), academic success, and intercultural competence (Jing, Ghosh, Sun, & Liu, 2020). For domestic students, interactions with

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international students are positively associated with less intercultural communication apprehension, being open-minded, and appreciation for diversity (Williams & Johnson, 2011).

Previous research on international students employs two main approaches. One line of research focuses on international students' sociocultural and psychological adaptation (Jing et al., 2020) to the host culture and emphasizes individual members' adaptation and acculturation as outcomes. The other approach investigates the association between international students' interactions with host nationals and attitudes toward the host culture from an intergroup perspective (Imamura, Zhang, & Harwood, 2011; Ristić, Zhang, & Liu, 2019) considering both host acculturation orientation and intergroup attitudes and relations as outcomes. Either way, intercultural communication with host nationals is closely related to international students' acculturation process in the new cultural environment from which cultural adaptation and identification with host culture are developed.

Empirical studies conducted in various cultures demonstrate that contact with host nationals enhances international students' cultural adaptation (Demes & Geeraert, 2015) and their positive attitudes toward host nationals (Ristić et al., 2019). These studies indicate the critical role played by intercultural communication, such as communication frequency and quality, in the reduction of intergroup anxiety and facilitation of friendship building with host nationals, which subsequently lead to better intergroup attitudes and the reductions of biases. However, most prior intercultural contact research has focused on the effects of direct contact, and more scholarly attention should be paid to mediated contact (Gomes, 2015). Additionally, research on intergroup contact processes in the intercultural context primarily focuses on how specific contact reduces intergroup prejudice through decreased intergroup anxiety and threat, which are negative mechanisms. More positive explaining mechanisms, such as identification with host culture, should be explored (Pettigrew, 1998; Voci, 2006).

Building on previous literature on the international student population in the United States, this study examines the effects of international students' different types of contact with specific host nationals on their attitudes toward American host nationals as a whole and explores the mediating role of identification with the host culture. Specifically, this study investigates whether international students' direct communication (frequency and quality) with their most familiar American host national contact and parasocial interaction with their favorite American media character enhances their identification with the U.S. culture and whether international students' identification with the host culture leads to better attitudes toward the host nationals in general.

International Students' Direct Contact With American Host Nationals

Guided by the cross-cultural adaptation (Kim, 2001) and acculturation (Berry, 2003) framework, empirical studies on the international student population indicate that interactions with host nationals help reduce uncertainty perceived by international students and further lead to better cross-cultural adaptation (Rui & Wang, 2015). The social support received from the host nationals help international students better adapt to the host culture as well as better adopt host cultural practices (Demes & Geeraert, 2015). Recent research from social network approach shows that the presence of host nationals in the social network of international students (or sojourners in general) or the diversity of their network predicts international students' (and other sojourners') perceived social support (Shu, Ahmed, Pickett, Ayman, & McAbee, 2020), social capital building (Rienties, Johan, & Jindal-Snape, 2015), and life satisfaction (Hendrickson et al., 2011).

In addition to individual-level adaptation and well-being of international students, previous intergroup contact studies also explore the intergroup outcomes of intercultural communication between international students and the host nationals. Allport's (1954) contact hypothesis states that intergroup contact under optimal conditions (i.e., equal status of participating parties, institutional support, intergroup cooperation, and common goal) can effectively reduce prejudice and lead to more positive intergroup attitudes. Thus, international students' contact with host nationals not only benefits themselves with better adaptation and enhanced host acculturation but also improves their intergroup attitudes toward host nationals.

Prior research examines contact between international students and host nationals in the new cultural environment from both international student's perspectives (Liu, Zhang, & Wiebe, 2017) and host nationals' perspectives (Imamura, Zhang, & Shim, 2012). Both contact quantity (the amount and frequency of contact) and contact quality (valence of contact) are shown to improve intergroup attitudes (Zhang, Li, & Harwood, 2021). Empirical studies on international students show that international students' direct contact with host nationals significantly increases their affective attitudes toward host nationals (Geeraert, Demoulin, & Demes, 2014). Additionally, research indicates that international students' positive contact experiences with host nationals (e.g., communication accommodation from host nationals) are positively associated with relational solidarity with host nationals, which in turn leads to better attitudes toward the host nationals (Imamura et al., 2011).

Connecting the theoretical perspectives of adaptation, acculturation, and intergroup contact, this study argues that host cultural identification, as a major component of acculturation (Zhou, Jindal-Snape, Topping, & Todman, 2008), serves as a positive explaining mechanism or mediator between international students' contact frequency and quality with specific American host nationals and their attitudes toward American host nationals as a whole. Cultural identification (i.e., a sense of belonging to certain cultural groups) has received attention in contact research in the cross-national context (Voci, 2006). International students' acculturation is essentially a process of building relationships with the host environment and host nationals, including the development of cultural identification with the host culture. The acculturation process of immigrants and sojourners operates on two dimensions—identification with their ethnic ingroup and identification with the host society (Berry, 2003). Zhou et al. (2008) categorize developing social identification with the host culture as the cognitive component of acculturation process. Verkuyten and Martinovic (2012) argue that immigrants' emotional identification with the host society is the last step in the integration process. Previous research indicates that frequent and positive intergroup contact fosters a stronger sense of identification with outgroup members (Paolini, Hewstone, Cairns, & Voci, 2004).

Additionally, inclusion of the other in the self explains an individual's "sense of interpersonal interconnectedness" (Aron, Aron, & Smollan, 1992, p. 597). When an individual includes the other in the self, they tend to "have empathy with their problems, take pride in their successes, and generally see them in a positive light." (Turner, Hewstone, Voci, & Vonofakou, 2008, p. 845). This concept has been expanded from interpersonal relationships to intergroup relations (inclusion of the outgroup in the self; Turner et al., 2008). Findings from intergroup contact literature show that inclusion of the outgroup in the self is a significant mediator of the association between intergroup contact and attitudes toward the target outgroup (Cadieux, Chasteen, & Packer, 2019).

To study international students' contact with host nationals, the current study focuses on the American person they have the most frequent contact rather than host national contact in general. In other words, we examine the intercultural contact effects from concrete aspects of the contact situation (frequency and quality) through international students' cultural identification to attitudes toward U.S. Americans more broadly. This approach is in line with intergroup contact theory positing that cumulated/frequent contact with a specific outgroup member reduces intergroup biases in optimal conditions (Allport, 1954; Pettigrew, 1998). Although general contact is an important indicator of international students' interaction with host nationals, not all international students have adequate and meaningful communication with Americans in general or have many American friends because of linguistic and cultural barriers (Williams & Johnson, 2011). The definition and relational boundary of friend also vary among different cultures (Hendrickson et al., 2011). When contact with the target outgroup in general is rare, limited, or negative, communication with the closest outgroup friend (Shim, Zhang, & Harwood, 2012) or the most frequent outgroup contact may play a more critical role in the reduction of intergroup biases (Harwood, Hewstone, Paolini, & Voci, 2005; Zhang, Paik, Xing, & Harwood, 2018).

Findings in intergroup contact research reveal that frequent intergroup contact and long-term and close personal relationships with outgroup members typically yield strong positive outcomes (Paolini et al., 2004; Pettigrew, 1998). Prior contact research indicates that "frequent contact is essential to developing close relationships, including those between grandchildren and grandparents" (Zhang et al., 2018, p. 470) and between sojourners and host nationals (Ristić et al., 2019). Hence, many prior contact studies in the cross-national context focused on communication with a specific host national contact (e.g., the most frequent contact; Imamura et al., 2011; Ristić et al., 2019). According to these scholars, communication with their most frequent American contact, with whom international students also likely have a close (if not closest) relationship (Imamura et al., 2011), affects their learning about American host culture and American host nationals as well (Ristić et al., 2019).

Prior research indicates that cross-group friendship enhances individuals' inclusion of close other's group in the self (Page-Gould, Mendoza-Denton, Alegre, & Siy, 2010). This study argues that international students' interaction with their most frequent American contact increases their inclusion of American host nationals in the self, leading to stronger identification with the host culture. Findings in Ristić et al.'s study (2019) show that stronger identification with host culture developed out of intercultural contact with host nationals enhances the adjusting individuals' affective and behavioral attitudes toward the host cultural group in general. In line with recent contact literature in cross-cultural context, the current study examines international students' communication frequency and quality with their most frequent American contact in explicating their identification with host culture, and their affective and behavioral attitudes toward Americans. The following hypotheses are proposed:

- H1: International students' communication frequency with their most frequent American contact is positively associated with their identification with American culture, which is further positively associated with their attitudes toward Americans.*
- H2: International students' communication quality with their most frequent American contact is positively associated with their identification with American culture, which is further positively associated with their attitudes toward Americans.*

International Students' Parasocial Interaction With American Host Nationals

In the new cultural environment, media constitute a major source for international students to access the host culture by providing a "media equation" of real-life experiences (Reeves & Nass, 1996). In addition to direct contact, mediated contact between different social groups plays a critical role in improving intergroup attitudes as well, especially when direct contact is limited (Ortiz & Harwood, 2007). Prior research indicates that many international students are not able to or are not willing to build friendships with American host nationals or integrate into the host culture because of language barriers, cultural distance, and discrimination (Rienties & Nolan, 2014). When the chance of face-to-face contact is limited, indirect contact through media shows similar effects on reducing prejudice and enhancing positive attitudes (Shim et al., 2012).

Although the importance of mass media on sojourners' adaptation has been discussed (Kim, 2001), it has not been adequately examined in empirical studies, especially in the context of international students. An exploratory study from Yang, Wu, Zhu, Brian, and Southwell (2004) shows that Chinese international students report a significant increase in their consumption of U.S. mass media such as movies, books, magazines, and newspapers after their arrival; Chinese international students' acculturation need is positively associated with their motivation to use U.S. mass media, cultural learning, and interactions with host nationals. Gomes's (2015) in-depth interviews with Asian international students in Australia reveal that in addition to their home culture media, Asian international students often consume popular entertainment content from the United States and other East Asian countries. Contributing to prior literature on international students' media use in the new cultural environment, this study focuses on international students' parasocial interaction with their favorite American character on TV or movie. Guided by the parasocial contact hypothesis, this study explores the role of international students' parasocial interaction with their favorite U.S. character in media on their attitudes toward American host nationals.

Horton and Wohl (1956) define parasocial interaction as the interaction between the performer and the audience member. In parasocial interactions, viewers form perceptions, beliefs, and attitudes about real or fictional characters on media and react to mediated characters as they would do to real people (Schiappa, Gregg, & Hewes, 2006). Parasocial interaction is shown to function similarly with direct intergroup contact by following the notion of attraction, liking, perceived similarity or homophily, and empathy (B. H. Cohen, 2014). In the intergroup communication context, the parasocial contact hypothesis proposes that parasocial interaction with an outgroup character in mass media has the same potential as direct contact on enhancing intergroup attitudes (Schiappa, Gregg, & Hewes, 2005). Parasocial intergroup contact happens when an individual is exposed to, cares about, and thus, builds a connection with an outgroup media character or media personality just like a real-life friend in a direct contact (Schiappa et al., 2005).

Compared with direct personal contact, viewing TV shows and having parasocial contact with televised outgroup characters are more accessible and involve less linguistic barriers (e.g., with closed caption and subtitles) and less intergroup anxiety (Ortiz & Harwood, 2007). Parasocial contact has a stronger effect on enhancing intergroup relations when direct personal contact is limited (Shim et al., 2012). Importantly, the relationship between parasocial contact and outgroup attitudes remains significant after

controlling for the effect of direct contact with outgroup members (Ortiz & Harwood, 2007). International students' parasocial interaction with American characters in mass media may enhance their learning about the host culture and improve their attitudes toward the host nationals. Furthermore, international students may have parasocial interaction before their arrival in the United States, which provides a foundation for pre-acculturation affecting their future interactions with and attitudes toward the host nationals.

Previous studies indicate empirical support for the parasocial contact hypothesis. Parasocial interaction is shown to effectively reduce prejudice toward outgroup members (Chen & Zhang, 2022) and increase individuals' perceived outgroup variability (Voci & Hewstone, 2003). In an intercultural communication context, a study conducted by Shim et al. (2012) tested Koreans' direct and mediated contact, and parasocial interactions with Americans and the influences on their attitudes toward Americans. Their findings indicate that intergroup anxiety mediates Koreans' direct contact and parasocial interaction with U.S. Americans and their attitudes toward Americans.

Following similar procedures used in Shim and colleagues' (2012), the current study features international students in the United States and tests their identification with the U.S. culture as a new mediator between their direct and parasocial interaction with Americans and their attitudes toward Americans. Previous studies confirm that identification with characters in mass media mediates the effect of parasocial interaction on intergroup attitudes (Vezzali, Stathi, Giovannini, Capozza, & Trifiletti, 2015). When viewers have parasocial interaction with their favorite character, they tend to adopt the character's identity, take the character's perspective, and follow the character's values, feelings, thoughts, and behaviors (B. H. Cohen, 2014). In the context of international students in the United States, parasocial interaction with their favorite American character in mass media may increase their liking of the outgroup media character and enhance international students' identification with the character. Their identification with the American character may translate to identification with American culture, which may further affect their attitudes toward Americans in general.

Essentially, we argue that international students' parasocial interaction with their favorite U.S. media character forms a parasocial relationship through the process of inclusion of the outgroup in the self, which leads to identification with the U.S. culture, and consequently more positive attitudes toward Americans as a whole (see Capozza, Falvo, Trifiletti, & Pagani, 2014). Based on prior literature and the parasocial contact hypothesis, this study proposes the following hypothesis:

H3: International students' parasocial interaction with their favorite American character from a U.S. TV show or movie is positively associated with their identification with the U.S. culture, which is further positively associated with their attitudes toward Americans after controlling for direct personal contact.

Method

Participants and Procedures

This study recruited 263 international students from 59 countries of origin studying in the United States through CloudResearch. CloudResearch is a popular national research platform in the United

States. Participants ($n = 8$) who are U.S. citizens were excluded from the analysis as this study focuses on international students. The final sample includes 255 participants (56.9% of them are female). Participants' age ranged from 18 to 50 with a mean of 24.85 ($SD = 5.66$). Both undergraduate students (74.5%) and graduate students (23.53%) were included in the sample (three participants reported as non-degree seeking, and 2 participants did not report). Participants' formal years of education received ranged from 11 to 25 years ($M = 14.64$, $SD = 2.11$). Participants' reported length of stay in the U.S. ranged from 1 month to 14 years ($M = 29.55$ months, $SD = 31.79$). Participants' self-reported level of comfort in using English was measured using four 7-point items (speaking, reading, listening, and writing in English; 1 = not comfortable at all, 7 = extremely comfortable; $M = 5.45$, $SD = 1.24$; $\alpha = .94$).

Participants first answered questions related to their demographics such as age, sex, and education, and background information such as their comfort with English language, length of stay in the United States, and the number of host national friends they have. These variables were considered as covariates in the current study (Cao, Zhu, & Meng, 2017). Participant age, education, length of stay in the United States, and number of host national friends were all positively skewed, hence we used log transformation to correct the skewed variables (J. Cohen, 2008) before they were entered as covariates in the main analyses. Participants also reported the number of host national friends as a measure of international students' general contact with host nationals ($M = 5.65$, $SD = 7.74$, skewness = 2.86; 23.2% of the participants reported having zero American friends). In addition to questions related to participants' demographic and background information, the current study measured the following major variables using 7-point Likert scales (7-point semantic differential scale for affective attitudes). Higher numbers indicated more frequency, better quality, more positive parasocial interaction, and better affective and behavioral attitudes.

Major Measurements

Communication Frequency

Participants were asked to identify one American person that they have the most contact with and answer questions related to their communication with this person. International students' *communication frequency* ($M = 4.80$, $SD = 1.15$; $\alpha = .83$) with their most frequent American contact was measured using a scale adapted from Harwood et al., (2005). The scale includes three items: "How often do you talk and engage in informal conversation with this person?" "How often do you study or work together with this person?" and "How often do you do things socially with this person, such as eating out, or going to the movies?"

Communication Quality

International students' *communication quality* ($M = 5.42$, $SD = 1.06$; $\alpha = .92$) with their most frequent American contact was measured using a scale adapted from Ortiz and Harwood (2007). The scale includes three items: "I value the time I have spent with this person," "My communication with this person has been pleasant," and "My contact with this person has been friendly."

Parasocial Interaction

Participants were instructed to list their favorite U.S. American character from a U.S. TV show or movie and answer questions when thinking of this particular character. International students' *parasocial interaction* ($M = 4.80, SD = .93; \alpha = .82$) was measured using a scale adapted from the Parasocial Interaction Scale (Rubin, Perse, & Powell, 1985). Following Shim and colleagues (2012), six items from the scale were used including "The character makes me feel comfortable as if I am with a friend," and "I'd like to meet the character in person."

Identification with the U.S. Culture

International students' *identification with the U.S. culture* ($M = 5.03, SD = 1.06; \alpha = .87$) was measured with five adapted items ("I feel like a member of American culture," "I am proud of being a part of U.S. American culture," "U.S. American culture is important to me," "I like the lifestyle of U.S. American culture," and "I appreciate American culture.") from Cadinu and Reggiori (2002). In the process of modifying the original scale to fit our study's context of examining international students' identification with the U.S. culture (e.g., changing "psychologists" in the original scale to "American culture" or "U.S. culture"), we also referenced Imamura and Zhang (2014) who primarily cited Cadinu and Reggiori (2002). Other modifications included changing "I feel close" to "I appreciate" and "I often think of myself as" to "I like the lifestyle of" to better fit the context of the current study.

Intergroup Attitudes

International students' *affective attitudes toward American host nationals* ($M = 5.34, SD = 1.07; \alpha = .95$) were measured using a scale with 6 items ("Cold-Warm"; "Hostile-Friendly") adapted from General Evaluation Scale (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Their *behavioral attitudes toward host nationals* ($M = 5.22, SD = .94; \alpha = .89$) were measured using a 7-item scale (e.g., "I am willing to work directly with an American person in the same office or on a class project.") adapted from Cooke (1978) and Tropp (2003). The correlations among the primary variables were shown in Table 1.

Table 1. Means, Standard Deviations, and Correlations Among Primary Variables.

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Communication Frequency	4.80	1.15					
2. Communication Quality	5.42	1.06	.55*				
3. Parasocial Interaction	4.80	.93	.38*	.28*			
4. Identification with the U.S. Culture	5.03	1.06	.46*	.58*	.35*		
5. Affective Attitudes toward Americans	5.34	1.07	.34*	.38*	.27*	.48*	
6. Behavioral Attitudes toward Americans	5.22	.94	.44*	.60*	.28*	.60*	.46*

* $p < .01$

Results

Before testing the hypotheses, log transformations were conducted to some highly skewed demographic variables: age (skewness = 1.67, $M_{\text{age}} = 1.38$, $SD_{\text{age}} = .09$, skewness_{age} = 1.05), years of education (skewness = 1.57, $M_{\text{edulog}} = 1.16$, $SD_{\text{edulog}} = .06$, skewness_{edulog} = 1.04), and length of stay in the United States (skewness = 1.94, $M_{\text{lengthlog}} = 1.23$, $SD_{\text{lengthlog}} = .50$, skewness_{lengthlog} = -.27). Number of host national friends was also skewed (skewness = 2.86, $M_{\text{numberoffriends}} = 5.65$, $SD_{\text{numberoffriends}} = 7.74$). Hence, a log transformation was conducted ($M_{\text{friendlog}} = .53$, $SD_{\text{friendlog}} = .44$, skewness_{friendlog} = .41).

To test the hypotheses, bootstrap analyses with 5,000 iterations were conducted using PROCESS for SPSS (Model 4, version 3.5; Hayes, 2018). International students' communication frequency, communication quality, or parasocial interaction was entered as the *X* variable, while controlling for the other two, respectively. International students' affective attitudes and behavioral attitudes toward American host nationals were entered as the *Y* variable, respectively. Identification with the U.S. culture was entered as the *M* variable (the mediator variable). Age, sex, years of education, length of stay in the United States, English language comfort, and number of American friends were entered as covariates.

Results indicated that international students' communication frequency, communication quality with their most frequent American contact, and parasocial interaction with their favorite American character in the TV show or movie had significant positive indirect effects on their affective attitudes and behavioral attitudes toward American host nationals through identification with U.S. culture. Hence, H1, H2, and H3 were supported (see Figure 1 and Tables 2 and 3).

Table 2. Direct, Indirect (Through Identification With the U.S. Culture), and Total Effects of Communication Frequency, Communication Quality, Parasocial Interaction on Affective Attitudes Toward Americans.

X Variables	Direct Effect on Y		Indirect Effect Through <i>M</i> (Identification) on Y		Total Effect	
	Effect [CI]	SE	Effect [CI]	SE	Effect [CI]	SE
Communication	.06	.07	.04*	.02	.10	.07
Frequency	[-.066, .190]		[.002, .089]		[-.032, .234]	
Communication	.08	.07	.16***	.05	.24***	.07
Quality	[-.064, .229]		[.062, .263]		[.101, .378]	
Parasocial	.08	.07	.07*	.04	.15*	.07
Interaction	[-.058, .217]		[.010, .151]		[.005, .287]	

Note. Numbers in brackets are 95% confidence intervals (i.e., CI). * $p < .05$. ** $p < .01$. *** $p < .001$.

In addition, international students' communication quality showed a significant direct effect ($b = .28$, $SE = .05$, $p < .001$) on their behavioral attitudes toward Americans (see Figure 1 and Table 3). Among the covariates, international students' English language comfort (i.e., how comfortable participants felt in

using English in reading, listening, speaking, and writing) was the only significant predictor of the behavioral attitudes toward American host nationals ($b = .15, SE = .04, p < .001$).¹

Table 3. Direct, Indirect (Through Identification With the U.S. Culture), and Total Effects of Communication Frequency, Communication Quality, Parasocial Interaction on Behavioral Attitudes Toward Americans.

X Variables	Direct Effect on Y		Indirect Effect Through M (Identification) on Y		Total Effect	
	Effect	SE	Effect	SE	Effect	SE
Communication Frequency	.03	.05	.04*	.02	.06	.05
Communication Quality	[-.064, .123]		[.001, .086]		[-.036, .162]	
Parasocial Interaction	.28***	.05	.14***	.04	.41***	.05
	[.172, .385]		[.062, .219]		[.312, .517]	
	-.01	.05	.06*	.03	.05	.05
	[-.106, .094]		[.011, .121]		[-.053, .156]	

Note. Numbers in brackets are 95% confidence intervals (i.e., CI). * $p < .05$. ** $p < .01$. *** $p < .001$.

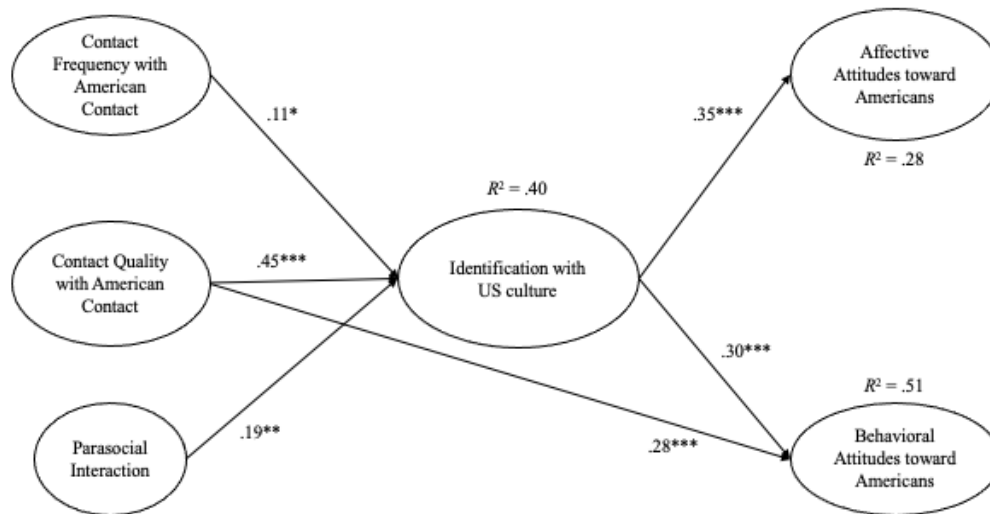


Figure 1. Direct and indirect effects of communication frequency, communication quality, and parasocial interaction on affective and behavioral attitudes.
* $p < .05$. ** $p < .01$. *** $p < .001$.

¹ We also further explored our data by testing the potential moderating effects of the participants' demographic and background variables such as age, sex, education (years of education), length of stay, and comfort with English on the predicted associations using Model 7 in PROCESS for SPSS, respectively. Results indicated neither one of these variables was a significant moderator of the predicted associations.

Discussion

Results of this study show that international students' communication frequency and communication quality with their most frequent American contact and parasocial interaction with their favorite American character on mass media are associated with their identification with the U.S. culture, which is further associated with more positive affective and behavioral attitudes toward American host nationals. In addition, communication quality is a significant positive predictor to international students' behavioral attitudes toward Americans. The findings have both theoretical and practical contributions to understand international students' interaction with American host national and acculturation to American host culture.

Theoretical Contributions

This study explores the intersection of acculturation and intergroup contact research in the context of international students by examining the influences of direct personal contact and parasocial interaction and the mediating role of identification between the two different types of contact and attitudes (affective and behavioral attitudes). The results of this study are consistent with the previous research about the challenges that international students have in building friendship with Americans. About one quarter of the participants in this study reported not having any American friends. While there's a robust body of research showing the positive effects for international students to have more host national contacts (Geeraert et al., 2014; Hendrickson et al., 2011), it should be acknowledged that it is not easily feasible for all the international students. However, findings in the current study indicate that communication with a specific outgroup contact, such as the most frequent contact, plays a critical role in improving intergroup attitudes. For international students, frequent and positive communication with their most frequent American contact is associated with stronger identification with the host culture; cultural identification further predicts better attitudes toward American host nationals.

The findings of this study emphasize the importance of identification as a mediator between international students' contact and positive attitudes toward Americans. Identification is an important aspect reflecting international students' adaptation and acculturation to the host culture. By having more frequent and positive contact with their most frequent American contact, international students are more likely to link themselves with the host culture and see themselves as part of the host culture. Identification also affects international students' attitudes toward American host nationals, which signals more positive feelings about Americans and willingness for future interaction with Americans. The findings contribute to the intergroup contact literature by adding cultural identification as a strong explaining mechanism between international students' contact with Americans on their attitudes toward Americans.

The current study also highlights the influences of mass media for international students to have parasocial interactions with the host nationals and the host environment. Contributing to the previous literature measuring the frequency of parasocial intergroup contact, this study measured quality of international students' parasocial interaction with their favorite American character on mass media. The focus of this study on parasocial interaction calls for more research on international students' media use and its effect on enhancing international students' acculturation to the host culture and attitudes toward American host nationals.

Practical Implications

The findings have practical implications on understanding interactions between international students and the host nationals and other intergroup communication contexts. This study indicates that international students' direct and parasocial communication with American host nationals through face-to-face contact and mass media are associated with positive attitudes toward Americans. The findings could be used to better understand and support international students' interactions with American host nationals and the host environment (including the closest American person they communicate with, their identification with host culture, and their intergroup attitudes to Americans in general) and their exposure to and parasocial interaction with American characters on local, national, and international media. In addition to international students' coursework completion and participation on campus and community activities (Perez-Encinas & Ammigan, 2016), international students' communication with host nationals and use of mass media and social media may alleviate their communication anxiety associated with their English competence because parasocial interaction with characters in mass media does not require an immediate response, and supportive technologies (e.g., subtitles) could be used to facilitate their comprehension.

In intercultural communication between international students and host nationals, language, which takes time to improve, is typically a major barrier. Many international students from non-English-speaking countries dread communicating with American host nationals directly not because they are reluctant to do so but because they have a high level of anxiety associated with not being able to speak fluent English. Parasocial interaction, in this case, is beneficial and feasible for the international students since it is more accessible and less challenging linguistically. The low-hanging fruit of parasocial interaction could provide more intergroup contact opportunities and enhance international students' willingness of future direct intergroup contact with host nationals (behavioral attitudes toward American host nationals).

On the other hand, the pandemic has largely reduced the opportunities of face-to-face interactions that people used to have. International travel has been restricted during the pandemic and may continue to be impacted in the post pandemic era. Therefore, mass media and social media may be major channels for intergroup contact in various intergroup contexts. Although media comprise both positive and negative information related to intergroup contact scenarios, findings of this study show the potential positive media influences of parasocial interaction on enhancing intergroup and intercultural communication.

Limitations, Future Research, and Conclusion

One limitation of the current study is the variability within the sample of international students. The current study examined a group of international students (recruited from CloudResearch) who were studying in various U.S. institutions. Our sample involved international students from different demographic background including age, length of stay, and country of origin. In the mediation analyses, we controlled for the possible influences of participants' demographic and background variables on the mediator and the dependent variables by entering them in the model as covariates. Although these variables did not affect the patterns of findings, generalization of the results to other cultural contexts with different groups of international students should be cautious as international student group and cultural receptivity vary (Jing et al., 2020; Rienties & Nolan, 2014). Recruiting a large sample with adequate number of participants in

each subgroup is a typical challenge to studies of rare, underrepresented, or marginalized populations. Future studies with large samples for major subgroups (e.g., graduate international students, nontraditional international students, international students who studied abroad for short/mid/long term, international students from a specific country of origin), could conduct systematic analyses by comparing different groups of international students about their acculturation patterns, outgroup friendship, and intergroup attitudes.

In this study, we measured quality of international students' parasocial interaction with American host nationals, which is a contribution to previous literature that mainly measured the amount of parasocial interaction. Future research on parasocial interaction could explore factors such as media production (e.g., media platform, genre, content) as well as audience's psychological reactions (e.g., cognition, emotion). Furthermore, longitudinal studies will be necessary to understand the effects of both direct contact and parasocial interaction given the correlational and cross-sectional nature of the current study. For example, it would be meaningful to understand international students' exposure to host culture media before and after their arrival in the new culture.

Last, the data in this research was collected before the COVID-19 pandemic. Future research should explore how the recent politicized and polarized macrolevel atmosphere may affect international students' sojourn experiences and their attitudes toward American host nationals. For example, during the COVID-19 pandemic, U.S. Immigration and Customs Enforcement (2020) initially announced in summer 2020 (but later retracted) that international students who were enrolled in the U.S. universities then were not allowed to stay in the United States if their universities provided fully online courses. The severe and unstable situation may sabotage international students' sojourn experiences, sense of belonging to the host country, and attitudes toward the host nationals.

From a perspective of international students, findings in the current study demonstrate the positive roles played by communication frequency and quality with a most frequently contacted host national and parasocial interaction with their favorite American movie/TV character in enhancing cultural identification and intergroup attitudes. This study thus expands acculturation and intergroup contact literature and highlights some practical implications of direct intercultural contact and parasocial interaction through mass media for international students in managing intercultural relationships.

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