

# The Influence of Communication Applications on the Formation and Sustainability of Intercultural Friendships

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## ABSTRACT

The use of new social media is common across the world regardless of gender, age group, race, and ethnicity. It plays a significant role in fostering the interconnectedness and development of intercultural relationships as it is not constrained by geographical barriers and is able to promote instant communication between groups or individuals. Communication applications (e.g., WhatsApp) are crucial in enhancing intimacy among individuals residing in different regions. In reflection of the university context, domestic students usually maintain contact with the exchange or international students through digital platforms as they might not have many opportunities for face-to-face interactions upon the completion of the sojourn periods. Therefore, there is discussion on whether social networks and communication applications could help to form and maintain intercultural friendships, and how the relationships might change throughout different stages from the short term to the long run. With the support of prior empirical research, this literature review paper will discuss how communication applications could promote the formation and sustainability of intercultural friendships among college peers in the light of Maslow's Hierarchy of Needs, the functional model of friendship networks, Social Exchange Theory, and the Contact Hypothesis. It is found that communication applications are significant in forming intercultural relationships as it serves as a way of virtual connection which satisfies the love and belonging needs of Maslow's Hierarchy and communication with host nationals give better functions on academic and professional aspirations. Yet, the sustainability of relationships depends more on how people weigh the rewards and costs, and the way they utilize the devices to maintain contact over time, hence resulting in the net worth and outcome of a relationship.

## 1. Introduction

Under the rapid development of the function and variety of social media, the number of users across gender, age group, race and ethnicity has been increasing spontaneously over years. Social media and networking contribute to fostering intercultural connectivity as individuals can switch from predominant face-to-face interactions to instant virtual communication

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regardless of geopolitical barriers, time, or spatial constraints (Shuter, 2012), individuals from different parts of the world are able to join and share their latest experiences through the social platforms in the format of graphic, audio, textual and video content. For instance, the 'Reels' and 'Story' functions on Instagram allow people to share their instant thoughts and situations to their followers in the format of photo or video while communication applications like WhatsApp can share texts, emojis and stickers, audios, and online links with one another. Shiau (2016) claimed that texting and messaging on social media gradually enhances the frequency of communication in terms of depth and breadth which promote the growth of interpersonal relationships. Yet, computer-mediated communication (CMC) does not equal face-to-face interactions due to the absence of nonverbal clues (Mas' udah, 2017) which are essential in addressing attitudinal ambiguities. People may not understand the meaning of text messages thoroughly without other non-verbal clues like facial expression, tone intonation or referring to other situational factors. Some scholars then commented that simply relying on CMC may hinder relationship building (Mas' udah, 2017) among cross-border individuals because the communication only relies on the partial and subjective interpretation based on the written text, and lack further clarification or negotiation of meaning. Hence, there are possibilities for misinterpretation and may result in conflicts.

Most universities prioritize the development of global mindset and international connectivity among the students, school units including the Diversity and Inclusion Office, Language Centre and Student Affairs Department have taken up the role of initiator and facilitator to organize intercultural activities for students. It aims to promote the formation of friendships between native and international students and encourage the maintenance of networks after the activities. Given that the students may not have frequent opportunities for face-to-face interactions upon their completion of the sojourn time, they keep in contact by using digital platforms. Hence, this paper aims to discuss:

- (1) whether communicative applications could facilitate the formation of intercultural friendships; and
- (2) whether communication applications could facilitate the sustainability of intercultural friendships.

This paper will conduct a literature review to suggest how communication applications facilitate the formation of friendships by satisfying psychological needs as referred to in Maslow's Hierarchy of Needs, followed by the instrumental facilitation of academic aspirations derived from the functional model of the friendship networks. Then, it will touch upon the discussion of intercultural friendship sustainability in reflection on the cost of friendship maintenance and quality of friendship centred on the Social Exchange Theory and the Contact Hypothesis.

## **2. Methodologies**

A systematic search was conducted to collect relevant articles relating to intercultural communication and relationship building under the mediation of technological devices and filter the results by referring to the criteria listed on the CRAAP framework (Meriam Library, California State University Chico, 2010). CRAAP test includes five assessment criteria (i.e., Currency, Relevance, Authority, Accuracy, Purpose) that can be used to evaluate the collected journal articles and materials. First of all, 'Currency' refers to the timeliness of the sourced information, as the current research is targeting the friendship formation and sustainability of college students in reflection to the contemporary context, more updated information should be collected. The selected publications are preferred to be within ten years' time. Hence, we have narrowed the time frame of publication to 2012 till the present and prioritized those

published on or after 2016. Another criterion is ‘Relevance’ and ‘Purpose’ that explains the significance of the information for the intended needs and the reasons for having the materials included or selected (Meriam Library, California State University Chico, 2010), that is, whether the articles can address the subject matters or concerns of the discussion topic. In this research, we only select articles that specify intercultural communication between adolescents or college students, those which do not specify the target participants as young adults or school context have been filtered. Furthermore, the selected articles should have relevant mentions of communication applications and media platforms e.g., WhatsApp, WeChat which are the centrality of discussion. Regarding the ‘Authority’ and ‘Accuracy’ of materials that relate to the truthfulness and reliability of the source of information (Meriam Library, California State University Chico, 2010), the literature was searched from legitimate journals in the fields of intercultural communication, cultural studies, technology communication and social relationship, which includes ‘*Journal of Social and Personal Relationships*’, ‘*International journal of educational telecommunications*’, ‘*International Journal of Humanities and Cultural Studies*’, ‘*Journal of Intercultural Communication Research*’ and ‘*Journal of Computer-Mediated Communication*’. The search keywords will be combined with the use of Boolean operators such as ‘AND’ or ‘OR’. The advanced search will combine keywords, for instance, ‘intercultural communication’, ‘intercultural friendship/relationship development’, ‘interpersonal communication/relationship building’ AND ‘social media’, ‘communication applications’ and ‘Computer-Mediated Communication’. Finally, ten articles have been selected for review, and this paper will examine how intercultural friendship can be facilitated under the mediation of social media with the support of empirical research and theoretical framework.

### **3. Formation of intercultural friendships**

In general, researchers interpreted the effectiveness of social networks in the formation of intercultural friendships based on two underlying principles: Maslow’s Hierarchy of Needs and the functional model of friendship networks. Communication applications serve as a means to satisfy the love and belonging needs and could facilitate the sojourners’ academic aspirations that motivate them to develop intercultural friendships.

#### **3.1. Satisfaction of psychological needs based on Maslow’s Hierarchy of needs**

Forming social groups in communication applications is a cost-effective means to join individuals with similar backgrounds, interests and orientations together, which fosters the development of intercultural friendships among like-minded peers. According to the Needs Hierarchy Theory suggested by Abraham Maslow, there are seven layers of needs: (1) physiological need, (2) safety need, (3) love and belonging needs, (4) esteem and prestige needs, (5) self-actualization (6) understanding need and (7) aesthetic need. whereas having social affiliations are categorized under the level of ‘love and belonging needs’ (Aruma & Hanachor, 2017). The love and belonging needs are associated with human interactivity and connections like family, romantic and friendship bondings, which can be demonstrated by having memberships in the social communities and sharing identities as part of the groups. The need for love and belonging creates motivation for individuals to engage in social groupings to build a sense of belonging toward specific identities (Aruma & Hanachor, 2017) as they are eager to seek peer recognition and conformity. Forming an online community helps the sojourners to avoid being lonely in the host country which is novel to them. As the sojourners have left their home countries or city, and are rather detached from their familiar social networks. It is likely for these mobile students to feel anxious or marginalized in a novel country if they do not have social bondings with the locals or other sojourners.

The sojourners usually meet host national friends on campus, for instance, during class time, extracurricular activities or the intercultural buddy scheme coordinated by the universities, they know each other in groups. Therefore, creating WhatsApp groups become one of the most common ways to stay in contact. In Turistiati (2020)'s research, she studied how WhatsApp group (WAG) could nurture intercultural friendships by interviewing twenty informants who were alumni of the Southeast Asian and Japanese Youth Program (a youth exchange program that took place in Japan for 2.5 months) and analysing their views towards friendship growth with WAG. It is found that there were 80 out of 245 (30%) alumni who joined the WAG (Turistiati, 2020) and the group interaction remained active in the first half-year.

The interviewees supported that WhatsApp enhanced friendship formation because of the instantcy of text messaging (Turistiati, 2020) and the availability of media sharing, members can give swift replies once receiving any messages and share various types of media, or as simple as an emoji or sticker. WAG suppresses traditional devices (e.g. email) due to the informality and immediacy of engagement on a larger group scale. In addition, the alumni formed WAG instead of virtual committees on other social media platforms like Instagram, Twitter and Facebook due to the speciality in text messaging and gives a sense of a 'closed' community as WhatsApp requires the exchange of contact. Yet, the media-sharing platforms usually have self-exploratory functions based on the searching algorithm, hence, the personal profiles are more open to the public so individuals may feel less secure sharing their private lives online. Furthermore, the informants mentioned that there were daily messages in the group chat and the group title was usually the date for the upcoming reunion (e.g., Tokyo21-24Nov2019). The name of the WAG reminded them of the previous fellowship and the nostalgic memories during the Southeast Asian and Japanese Youth Program (SSEAYP) (Turistiati, 2020), it also promotes a sense of belonging through frequent online interaction and links the onshore contact to offshore event organizing. By having regular updates within the WAG and also holding gatherings from time to time, the members can keep track of each other's lives and know more about the major events happened in their daily communities. Therefore, WAG helps to build an inclusive virtual community between sojourners during and after the sojourn period by linking the online and offshore activities.

### **3.2. Academic orientations in regard to the functional model of friendship networks**

From the perspective of sojourners, they usually regard the co-nationals as unanimous friends with common origins while the networks with host nationals serve more practical functions as academic and professional oriented. Bochner et al (1997) conducted an experiment to observe the friendship patterns of 30 exchange students at the University of Hawaii, then proposed a threefold functional model of the social networks: (a) a conational network carrying the function to affirm and express the culture of origin, (b) a network with host nationals, whose function is the instrumental facilitate of academic and professional aspirations and (c) a multi-national network for recreational purposes. The subjects' cultural backgrounds were rather diverse, their origins included Japan, Korea, the Philippines, Taiwan and Thailand. They were asked to identify a best friend and one they spent most of the time with (i.e., associate), and selected a preferred companion on fifteen situational circumstances, for example, doing sports, cooking, attending concerts and going to the library. They also completed the 'best friend' and 'associate' checklists to portray the cultural features, commonalities and expectations they had towards the partners. Sample questions include whether they had been living in the same dorm, nationality, gender, academic department and attachment to interest clubs.

Most respondents indicated the preference of having a companion on all occasions, this result obeys Maslow's Hierarchy of Needs that friendship is necessary to satisfy love and belonging

needs. Yet, 44% and 47% of the subjects chose a conational best friend and associate. The subjects prefer choosing conational partners for leisure activities like cooking and attending culture-related activities while having the host national friends for academic-correlated activities like going to the library. The majority of subjects commented that they had intercultural friends in the immediate social environment including off-campus and university groups, and they also made friends with the host universities in order to improve their language proficiency and academic studies if they are within the same department or relevant major (Bochner et al, 1997). Likewise, Milroy (1987) categorized the social networks of mobile students into conational, host national and international networks, he also supported that the relationships with host nationals could facilitate language and cultural learning. The motivation of improving academic performance is one of the crucial factors leading to the formation of intercultural relationships which the instancy of communication applications provides a functional platform for opinion exchange, discussion and negotiation. Current research like Montalvo et al (2020) and Nyembe et al (2021) reviewed the effectiveness and accessibility of WhatsApp in fostering collaborative learning in intercultural settings and affirmed the claim that learning efficacy could be enhanced by increasing the frequency of intercultural discussion and interaction. Under the assumption that intercultural friendships could improve academic performances and language proficiency, both sojourners and local students are motivated to make friends with each other by using communication applications as discussion platforms.

In short, communication applications facilitate intercultural friendship formation because of the sojourners' eagerness to seek love and belonging while avoiding marginalization, and the motivations for academic and professional improvements for both stakeholders, whilst communication applications are the tools to bridge instant communications.

#### **4. Sustainability of intercultural friendships**

Regarding friendship sustainability, two underlying beliefs are discussed in this paper. One concerns the 'worthiness' of friendships hinged on the evaluation of the net profit or loss of the relationships that determine the continuation or termination of friendships while another concerns the opportunities for interaction elicited from the Contact Hypothesis and the affordance theory on the perception of social media functions in friendship maintenance in long run.

##### **4.1. Cost for friendship maintenance in reflection on Social Exchange Theory**

The sustainability of intercultural friendships could be determined by the overall net worth of a relationship, positive value is likely to result in a lasting relationship and vice versa. Wood (2004) proposed an equation for the calculation of the value of relationships:

$$\text{Net outcome of relationship (O)} = \text{Rewards (R)} - \text{Cost (C)}$$

The author suggested that the rewards could refer to the sense of acceptance, support and companionship while the cost can be portrayed as money, effort and time involved to run the relationships. The Social Exchange Theory (SET) presented that stakeholders would calculate the overall profit or loss of a relationship, a positive number indicates a positive relationship, which reflects that it is worthwhile for individuals to continue. In contrast, people are likely to terminate a negative relationship with a negative number (Shahsavarani et al, 2016). In Turistiati (2020)'s research regarding the use of WhatsApp groups in maintaining intercultural friendships, the author discovered that the reasons the interviewees left the group chat after three to six months were that they did not want to spend so much time responding or looking at the latest news sent by other groupmates, and they had many other group chats already so

they did not want to manage the unnecessary groups. They also commented that the discussion topics were not fascinating to them, and their messages were not always responded to. For the respondents who were not living in the same country as the majority of the groupmates, they expressed feeling isolated because they were not likely to join their reunion and could find little relevance to the message content. In this case, it is observed that members consider discontinuing the affiliation when the perceived cost outweighs the rewards.

On the contrary, respondents who remained active in the group mentioned that they wanted to communicate with their peers and learn more about their updates. They also considered the WhatsApp group as a medium to receive novel knowledge, broaden their social networks, share nostalgic memories and some of them enjoyed the feeling of connecting with overseas friends. Those who could find groupmates from similar professions claimed that it was beneficial to keep in contact with peers of similar majors or career interests as they may potentially seek opportunities or insider information in the future. This proves intercultural friendships are enduring if there is a positive net outcome of the relationship.

Yet, it is rather difficult to predict the friendship potential and its sustainability based on the equation as the rewards and cost are hard to quantify and measure. Individuals of diversified orientations may define the rewards and cost in different ways, some portray 'rewards' as practical profits, while some regard them as a sense of intercultural community, spiritual support or interconnectedness. Likewise, people weigh the 'cost' distinctively, for instance, spending one hour to read and reply the group messages may cause a burden to people with long working hours and those without the habit of surfing the applications regularly, while it may not cause much impact to the heavy mobile users or those who enjoy chatting around. Time spent could be an objective measurement, yet individuals can cognitively perceive it differently. Also, the equation alone could not evaluate the transformation of individuals' perception of the value of cost and rewards, which would be difficult to observe the changes in attitude as a continuum. Therefore, it is worth investigating some measurable indicators that could quantify the perception of cost and rewards and conducting more longitudinal studies to derive the pattern from initial friendship formation to the breakdown or maintenance after a certain period.

#### **4.2. Quality of friendship assumed from the Contact Hypothesis**

The intensity of the usage of communication applications correlated with the quality of friendship as it could address the difficulties in sustaining positive contact effects and mutual reliance. The Contact Hypothesis purported that we could reduce prejudice towards out-group and improve inter-group relations if inter-group contact increases (Allport, 1954), which promotes communication and relationships between stakeholders over time. Communication applications are virtual platforms that provide a common space for peers located in diversified regions to interact among themselves, which is more feasible than face-to-face contact. In reflection on the investigation conducted by Pang (2018), the author surveyed 508 college students to study the associations between WeChat utilization and variables like self-disclosure, friendship quality and psychological well-being. The findings demonstrated a strong link between the intensity of usage and the quality of friendship.

Respondents who reported a relatively larger amount of time spent on WeChat on a typical day and gave high ratings to the assessment questions like 'WeChat has become part of my daily routine' or 'I usually communicate about myself for fairly long periods at a time with those I meet online' also perceived better quality of friendship. They were more likely to agree with the evaluation questions on the meaningfulness of friendships e.g. 'my friends help me to understand myself better'. It is easier to nurture mutual understanding, trust and support by

having continuous and intensified virtual communication. The interactants could share their daily encounters, emotions and hardships anytime and anywhere through digital media, which echoes Valkenburg and Peter (2007)'s research which confirmed that social media interaction has a positive correlation with the quality of existing friendships and Ishii (2017) who discovered that the active social media users in Japan tend to have broader social networks with more offline and onshore intercultural friends, as well as closer relationships. The research arrived at the conclusion that interaction opportunities and frequency impact friendship quality.

However, the intuitive Contact Hypothesis is not fully valid as simply providing contact opportunities may not be able to guarantee sustainable intercultural friendships, interpersonal skills and attitudes are fairly crucial in facilitating friendship intimacy in the digital community. Communication applications only serve as a medium with a lower barrier in terms of time and financial cost but the core of friendship maintenance rests upon the attitudes of members and the quality of interaction. Li et al (2017) investigated the communication behaviour among the alumni group on WeChat. They proposed 'social presence' as one of the most outstanding factors influencing friendship development. It refers to the degree to which one feels real about others when communicating through media (Gunawardena, 1995). Realistic communication can be achieved when text messages and shared media are swift and able to meet personalized needs. Individualized messages are usually more heart-warming compared to general canned responses. This could promote a sense of emotional connectivity in which every single member in the group shares the feeling of being concerned instead of just being part of the collective. If the individuals feel that their needs and comments are always being addressed and responded to, they are more likely to nurture community loyalty. It is easier to build a sense of attachment and boost the willingness to recognize the membership identity.

Similarly, Abeele et al (2017) adopted the affordance approach and suggested that mobile messaging only plays a mediating role in promoting friendship maintenance. The authors interpreted that individuals have subjective perceptions of the digital object's utility that arise out of its objective qualities, which indicates that communication applications alone do not cause an impact on friendship building without endowment. Affordances like anytime-anyplace connectivity, private connectivity and connectivity with greater controllability are meaningful to friendship growth only when people intentionally use the devices to convey emotional support and companionship effectively. It is derived that friendship quality is associated with friendship maintenance which relies on both the opportunities of interactions and reciprocal attitudes in the virtual context, in which the Contact Hypothesis itself cannot entirely infer whether communication applications can promote friendship sustainability, but other right conditions such as the positive attitudes towards intercultural friendships, the common goal of building a supportive community and the perceptions towards the properties of mobile applications are equally important for intercultural friendships in the virtual context.

In essence, the researchers somewhat agreed that communication applications could facilitate friendship sustainability through frequent interactions. Nonetheless, long-term sustainability depends on the interpersonal skills and attitudes of both sides in weighing the cost and rewards bought by the relationships.

## **5. Limitations and Further Research**

Most of the research discussed are conducted on a relatively smaller scale with less than 30 informants. The research findings could only represent a limited scope of individuals and the data collected is not adequate to reveal any patterns or generalize into prototypical theories. High financial and time costs for recruitment are the reasons that create a tendency for the researchers to focus on small-group case studies. However, given that the scope of participants

is important in enhancing the credibility of the findings and claims, future researchers may consider having joint university collaboration by inviting scholars from peer colleges to co-construct the research. Each collaborator would perform the same procedures (e.g. interview, survey) in small group sizes (e.g. 15 to 20 participants) in their affiliated universities. After they have collected the data, they could gather the information as a whole for more in-depth analysis. Therefore, the sample size would be more representative given that the data embrace a greater diversity of participants.

For larger-scale research, Pang (2018) surveyed 508 college students on their online behaviours and attitudes towards the use of WeChat in friendship development. The author only mentioned the gender distribution and lacked the portrayal of individual differences based on other parameters (e.g. year of study, major, personality trait). In order to provide a more comprehensive overview, it is recommended to include the categorization of other parameters so that the potential correlations between different variables could be investigated. To supplement the quantitative analysis, the researchers may select several outstanding participants to attend a follow-up interview to collect data regarding individual claims, the interviewees could provide detailed explanations regarding their choices or concerns, so the quantitative data can be better justified.

## **6. Conclusion**

In sum, this paper investigates the research questions based on several relevant principles proposed and adopted by scholars. It is believed that communicative applications could facilitate the formation of intercultural friendships because the sojourners are ambitious in seeking attachments in the host country to satisfy the love and belonging needs based on Maslow's Hierarchy. Moreover, both sojourners and host nationals are motivated to have intercultural friendships in relation to the academic and professional orientations according to the functional model of the social networks (Milroy, 1987), whereas the instancy and availability of larger group engagement of communication applications could foster the development of intercultural friendships in the preliminary stage. Yet, communication applications could somewhat promote the sustainability of intercultural friendships in long run noting that the frequency of interaction is not the only determining factor for relationship maintenance but also depends on the stakeholders' positive attitudes and perceptions towards the essentiality of relationships.

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