Identifying Tensions that Arise in Cross-cultural Online Communication*

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Abstract

This study investigates the complexities of cross-cultural communication in online environments, drawing on interviews with 28 individuals who have either lived or are currently living abroad within the past two years. Employing inductive qualitative coding, this research identifies pivotal themes indicating cultural communication differences, including the dominant use of WhatsApp, variations in expressing respect, differences in directness during communication, diverse norms regarding digital privacy, and the dynamics of digital invitations. Furthermore, this study examines the potential correlations between these themes and Hofstede's cultural dimensions, analyzing differences in the country index values and the average value of these differences. Finally, the paper discusses limitations and future research directions. By highlighting common conflicts in cross-cultural online communication, this research aims to contribute to the development of social media systems that could reduce the misunderstandings that occur in cross-cultural conversations.

Keywords

Cross-cultural communication, conflicts, hofstede's cultural dimensions, Personalized social media systems

1. Introduction

In today's interconnected world, individuals increasingly turn to social media and various digital platforms as tools to connect with local and global communities. While digital technology has made communicating across different countries easier, challenges persist in how people from diverse cultures interact and understand each other [1]. For instance, Gupta et al. [2] conducted a study and found that social media platforms like Facebook, Instagram, and Twitter employ automated machine translation to render posts in languages familiar to their audiences. This is done with the intention of enhancing user engagement and connectivity on social media. However, multilingual users expressed concerns about the potential mistranslation of their posts, particularly those with connotative meanings, which could result in misinterpretations and conflicts. This suggests a need to incorporate more cultural-specific contextual information

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when trying to understand each other. Without a deeper understanding of other cultures, these cultural discrepancies may escalate into relationship friction, stereotypes, racism, and even physical danger [3, 4].

While several studies suggest that understanding others' cultures and practicing attentive observation can mitigate conflicts arising from dissimilar cultural norms, acquiring these skills can be difficult, requiring time and experience to adapt to new ways of interacting within a different cultural environment. [3, 5]. This leaves individuals from outside cultures more vulnerable to misunderstanding and experiencing or inadvertently causing friction. For example, research shows that immigrants face unique challenges in online communication as they live in a new environment, frequently becoming targets of scammers who exploit their limited English proficiency or unfamiliarity with local norms [6].

Therefore, given the complexity of online interactions among diverse cultural backgrounds, our research explores the challenges that emerge in these communications. This study aims to identify key points of friction in cross-cultural communication. We focus on the following two research questions:

RQ 1: What are the different types of conflicts that arise during online cross-cultural communication?

RQ 2: How do cultural factors correlate with these conflicts?

This work gives us a preliminary indication of the types of friction that can occur in technology-mediated cross-cultural communications. Better understanding these frictions can help us develop solutions to reduce conflicts and mitigate misunderstandings online.

2. Background and Theoretical Framework

Past studies have identified cultural variations in social media usage preferences, which shows that there is a variation in what people expect when communicating online. For instance, studies have correlated social media usage differences with Hofstede's individualism and collectivism dimensions [7]. Some studies indicate that in individualistic cultures, people tend to prefer direct communication and low-context speech, leading to a preference for communicating via text messaging or emails [8],[9]. Conversely, in collectivist cultures, there is a preference for indirect, high-context communication; hence, synchronous media that allows for the interpretation of body language are favored [8, 9]. This dichotomy in communication styles underscores the need for a nuanced approach in designing technology platforms, ensuring they are adaptable to diverse cultural communication norms and preferences.

In the meanwhile, there has been a body of work focused on methods for mitigating cross-cultural barriers and conflicts in in-person communication. For example, studies have highlighted the effectiveness of strategies such as actively recognizing and respecting cultural differences, practicing meticulous observation, striving for an empathetic understanding of others' viewpoints, and actively working to minimize personal biases. These techniques are documented as instrumental in preventing misunderstandings and fostering positive communication dynamics in a group working environment [3, 5].

Furthermore, Gupta et al. also investigate existing tools designed to facilitate cross-cultural communication. For instance, Gupta et al. [2] discovered in their study that multilingual users

are concerned about automatic machine translation (MT) on social media incorrectly translating their posts, especially those with connotative meanings, which could lead to potential conflicts. The study also observed that users knowledgeable about MT's limitations tend to post more cautiously and selectively. This observation might indicate that tools aiding in understanding others' words could potentially heighten posters' awareness of how their messages are interpreted. Meanwhile, the study by Qie and Rau [10] delves into the integration of cultural information in online cross-cultural communication (OCCC) systems, examining the effects of offering individual-level versus national-level cultural information. The findings show that providing individual-level cultural information enhances communication effectiveness and reduces misunderstandings stemming from cultural differences.

However, while these previous researches have provided insights on how one could reduce barriers when communicating with someone from a different culture, the effectiveness of this approach depends on the individual's cross-cultural communication skills and their ability to contextualize messages. Thus, challenges may persist for users who are not familiar with the other culture. As a result, this paper presents the preliminary findings of our interview study that sought to identify frictions and conflicts in cross-cultural communication online (RQ1). These interviews explore the experiences of individuals who have lived in a foreign country for three or more months, focusing on their encounters with cross-cultural conflicts, technology usage, and communication variations. We also identified connections between these conflicts and Hofstede's cultural dimensions (RQ2). Hofstede's model was selected because it is widely used in cross-cultural research, despite the existence of other models developed over the years [11]. Hofstede's five 'Cultural Dimensions' are summarized below [7].

- Power Distance (PDI): This dimension measures society's tolerance for unequal power distribution, recognized more by individuals with less power. In cultures exhibiting high power distance, a well-defined hierarchical structure is prevalent, and societal status holds significant importance.
- Individualism/Collectivism (IND): This aspect distinguishes between cultures that prioritize individual and immediate family needs (individualism) and those that view themselves as part of cohesive groups ensuring mutual care (collectivism). Individualistic societies emphasize personal achievement and the concept of 'I', while collectivist societies prioritize group harmony and the avoidance of shame.
- Masculinity/Femininity (MAS): This dimension contrasts societies valuing competitiveness and achievement (masculine) with those valuing compassion and life quality (feminine). Masculine cultures focus on performance and success demonstration, whereas feminine cultures emphasize collaborative roles and familial duties.
- Uncertainty Avoidance (UAI): This characteristic evaluates the extent to which individuals are uncomfortable with uncertainty and strive to avoid such conditions. Cultures with high uncertainty avoidance prefer structured environments and are resistant to change, emphasizing cleanliness in health matters. Conversely, cultures with low uncertainty avoidance are more adaptable and proactive in health management.
- Long-Term vs. Short-Term Orientation (LTO): This dimension signifies whether a culture prioritizes future outcomes (long-term) or holds a present or past-centric view (short-term). Cultures with a long-term orientation value diligence, economical resource

- management, and hierarchical respect, whereas those with a short-term orientation cherish personal consistency and adherence to tradition.
- Indulgence vs. Self-Restraint (IVR): In 2011, Hofstede added a sixth dimension to the model [12]. This dimension measures a society's tendency towards allowing gratification of desires (Indulgence) or suppressing and controlling them (Restraint). Indulgent cultures emphasize leisure, freedom of expression, and enjoying life. In contrast, restrained cultures focus on strict social norms to control desires, leading to more restrained emotional expression and a perception that life is controlled by external factors, not personal desires.

3. Methodology

To identify conflicts in cross-cultural communication caused by in-congruent cultural norms, we conducted an interview study and analyzed the transcripts using inductive qualitative coding.

Table 1Participant Demographics

Participant	Country of Origin	Continent of Country of Origin	Country Lived
P1	Pakistan	Asia	United States
P2	United States	North America	Chile
P3	Costa Rica	South America	Mexico
P4	United States	North America	Russia
P5	Pakistan	Asia	United States
P6	Pakistan	Asia	United States
P7	United States	North America	China
P8	United Kingdom	Europe	Hong Kong
P9	United States	North America	Peru
P10	Nigeria	Africa	United States
P11	Israel	Asia	United States
P12	United States	North America	Uruguay
P13	United States	North America	Mexico
P14	Germany	Europe	Slovakia
P15	United States	North America	Germany
P16	Taiwan	Asia	United States
P17	South Korea	Asia	United States
P18	United States	North America	Italy
P19	United States	North America	Israel
P20	United States	North America	Mexico
P21	Peru	South America	United States
P22	United States	North America	Jerusalem
P23	South Korea	Asia	United States
P24	Nepal	Asia	United States
P25	Georgia	Asia	United States
P26	Ecuador	South America	United States
P27	United States	North America	Dominican Republic
P28	United States	North America	Dominican Republic

3.1. Participants

For our study, we recruited participants by posting flyers in common areas on campus. Participants for this study were individuals aged 18 or older who have resided in a country different from their home country for a period equal to or exceeding three months. All of our participants relocated to (or returned from living in) a foreign country within the past 2 years. This study was approved by the last author's Institutional Review Board (IRB). Participants were chosen via a screening survey designed to identify individuals with experience living in a foreign country. This survey inquired about their history of residing abroad, including the duration of their stay and their current country of residence. Once qualified based on the survey responses, participants were invited to engage in a more detailed interview session. The average interview duration was 12 minutes and 54 seconds, with the shortest interview lasting 8 minutes and 33 seconds and the longest interview lasting 29 minutes and 50 seconds. Upon study completion, each participant was compensated with a \$25 Amazon gift card. In total, there were 28 participants with 9 from Asia, 14 from North America, 2 from Europe, 1 from Africa, and 2 from South America. Table 1 lists the participant numbers, their countries and continents of origin, and the other country that they recently lived in.

3.2. Semi-Structured Interviews

Before the interview, participants were asked to look through their digital traces from their time living in the new country (e.g., journals, message logs, social media) and bring examples of cultural misunderstandings that occurred. Each participant read and signed a consent form which included an agreement to have their interview recorded. The interviews were carried out either in person or via Zoom by one or two trained researchers, employing a semi-structured interview approach. This format enabled a balance between directed inquiries and the opportunity for participants to offer open-ended responses. The first portion of the interview included questions that helped researchers gather background information on the participants, such as their country of origin and their reasons for relocating. Following the background questions, the interview questions probed on:

- Conflicts arising from communicating with others through technology
- Variations in platform usage
- Differences in communication methods
- · Any other conflicts experienced by participants that are related to technology

3.3. Data Analysis

The audio recordings of the interviews were automatically transcribed and uploaded to Dovetail to perform analysis [13]. An inductive qualitative coding approach was used to identify emergent themes from the interviews. Four research assistants who are from different cultural backgrounds (Asia, South America, and North America) worked in pairs to code the first 13 transcripts, meeting regularly to discuss their codes and discuss discrepancies until reaching consensus. Then the researchers independently finished coding the rest of the interviews, continuing to meet throughout the process and coming to an agreement on all of the coding.

Based on this analysis, the researchers identified the most common themes, which we present in the results section of this paper.

4. Results

This study identifies the five most prevalent conflicts in cross-cultural online communication. Sometimes participants described offline incidents as a way to demonstrate why an online interaction was problematic.

- Dominance of Whatsapp Use: Out of 28 participants, 20 reported adapting to WhatsApp when communicating in various countries, highlighting the need to adjust to preferred communication technologies when living in a different country. For example, a U.S. participant in Chile noted, 'Messaging in Chile was all WhatsApp. Like, if you texted someone just [on] a regular texting app, that was kind of weird. Yeah. And people wouldn't respond and like, you just wouldn't get those [messages].' (P2) While 14 incidents pointed to Whatsapp's cultural preference, 3 participants emphasized its cost-effectiveness as the reason for using Whatsapp: 'And you know, with WhatsApp, you don't really need a SIM card to communicate with people. You just need Wi-Fi...it's not as accessible to some people that don't have the money to provide for that.' (P18) On the other hand, 7 participants preferred WhatsApp for its convenience, as one from Peru living in the U.S. explained: 'Because it's more convenient...with WhatsApp, you can send audios you can send pictures and it's fast and with text messages, it just takes forever to upload pictures or audio.' (P21) These insights reveal a significant trend toward the adoption of WhatsApp for its cultural relevance, cost-effectiveness, and superior functionality.
- Cultural Variance in Expressions of Respect: 16 participants explored the varied expectations of respect across different countries and cultures. An American participant who has lived in China highlighted, '[Chinese students], they were really respectful of teachers almost to a fault. Like, I would ask them questions, and they wouldn't want to answer for fear of being wrong.' (P7) This behavior reflects a cultural norm where questioning the teacher is seen as disrespectful. Similarly, while in the United States, addressing an adult by their first name is standard practice, in Nigerian culture, such informality is viewed as disrespectful, as one participant noted: 'You don't call adults by name in Africa...Everybody in Nigeria is an auntie or an uncle' (P10). These instances underscore how cultural norms shape interactions and perceptions of politeness and respect. Without prior knowledge, actions deemed appropriate in one culture may be misconstrued as rude or offensive in another.
- Variations in Directness in Communication: 13 interviewees highlighted differences in communication directness across cultures. Specifically, they noted that in countries like Germany, Slovakia, Nepal, Israel, and the United States, individuals tend to express their opinions more directly, which can sometimes be perceived as impolite (P15, P14, P24, P19, P16). One participant shared "People in Slovakia communicate a lot more directly...And they just like say more...[you will know] what they are thinking" (P14). Conversely,

in cultures such as Taiwan, China, and Jerusalem, communication often involves more indirect methods. For example, a participant from Taiwan, who has lived in the United States, shared, 'People here, sometimes I feel they are a little bit more direct...whenever I grew up, like when I create something, if I reject someone, I will, like, see in a nicer way, just like oh, it's I will not just say no, but it's like, I'm like, Oh, it's okay. Or like it's like kind of softer way of rejecting people. (16)"

- Varied Cultural Privacy Norms in Digital Interactions: 11 participants reflected on the diversity of online privacy awareness across different cultures. In the Dominican Republic and Mexico, for instance, there is a notable trend of posting content online that others might find inappropriate, such as graphic images related to accidents or dead animals, as highlighted by participants from these regions (P27, P3). Moreover, in cultures like Nepal, Nigeria, Chile, the United Kingdom, and Jerusalem, it's common to share highly personal information on social media, which might be considered risky or unusual elsewhere. One participant illustrated this by saying, 'Sometimes it's just a story that they even show you like, their bank account, like how much money in there [on their social media].' (P8) Conversely, discussions indicated that in the United States, Peru, and Hong Kong, there is a more pronounced awareness of personal privacy. Examples include hesitance to use personal photos as avatars and caution about sharing personal identity online (P9, P8). Additionally, three instances highlighted concerns over posting information without consent, leading to discomfort or misunderstandings. A participant shared their experience: 'At the end of the semester, I wrote my, one of my teachers a note and gave her like a chocolate. And then the next day, she tagged me on Facebook with like, a picture of my whole note that I wrote her...It wasn't like anything super personal, but I was like a little bit jarred.' (P4)
- Digital Invitation Dynamics: 6 participants shed light on the misunderstandings that arise from differing cultural norms regarding invitations. An illustrative example comes from a participant originally from Iran, now living in the United States, who observed a distinct approach to invitations in their home country compared to the U.S.: 'So in my country, for example, when you want to invite the person to your home, you say, hey, come to my house. And you repeat this a lot of times...But in the US, it's not like this. Your friend tells you hey, come to my house. And that's it. You go or you don't go that's up to you...So sometimes this can be like confusing because if this happens in my country, I feel like this guy doesn't like me to go to his house.' (P11) This contrast highlights how, in some cultures, repeated invitations are necessary to convey genuine interest in hosting someone, whereas, in the United States, a single invitation is considered sufficient. Additionally, the norms around extending invitations to newly acquainted individuals vary significantly across cultures. For instance, another participant remarked on the openness they encountered abroad: 'I think most often, people would just invite us into their house, just as we were talking to them on the street...They didn't really care, like, if they knew you very well or not, they would always invite you in. (P28)' This openness contrasts with other cultures where inviting someone to one's home requires a deeper level of acquaintance.

5. Discussion

The relationship between cultural dimensions and conflicts was examined through the application of Hofstede's framework, focusing on the differences in cultural dimension scores between participants' countries of origin and the other countries. To illustrate the patterns between these dimensions and the identified conflicts, heat maps for each type of conflict were developed. The discussion will highlight the most significant insights derived from the analysis, emphasizing the connections and trends observed using the averaged value of the differences by each conflict. Figure 5 displays the average difference in values for each participant by type of conflict.

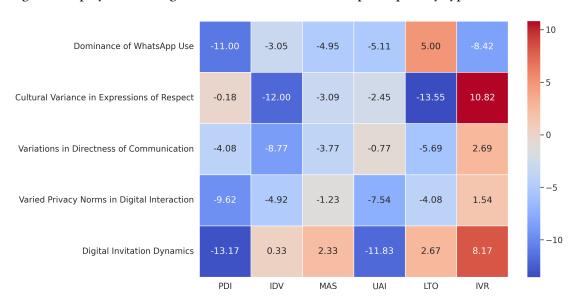


Figure 1: Averaged Difference in Dimension Scores Between Country of Origin and New Country By Conflict

- Dominance of Whatsapp Use: An average score of -11 in the PDI among participants suggests that individuals moving from countries with lower power distance to those with higher power distance may notice these differences. This pattern indicates that people from low PDI countries, who are typically accustomed to more egalitarian communication styles, might frequently interact with individuals from high PDI countries, where hierarchical structures are more emphasized. Such cultural differences could potentially lead to conflicts in WhatsApp conversations.
- Cultural Variance in Expressions of Respect: An average Indulgence versus Restraint (IVR) score of 10.82 signifies a modest propensity for participants to have moved from more indulgent societies to less indulgent, or more restrained, ones. The average value suggests that participants might originate from cultures that typically permit a greater degree of gratification of desires, leisure, and free expression of emotions, but they find themselves in environments where such behaviors are constrained by social norms. This

shift could have practical implications for expressions of respect. In more indulgent societies, respect might be expressed through open and informal interactions, as the cultural context allows for greater emotional expression and informality. However, in more restrained cultures, expressions of respect are likely more subdued and formal. For instance, the expectation in American culture to address elders or authority figures by their first names, indicative of an indulgent society, would be a breach of etiquette in more restrained cultures, where titles and formal address signify respect. This is mirrored in the participant's experience from Nigeria (P10), where the use of honorifics like 'auntie' or 'uncle' is a norm — a practice that would be out of place in the more indulgent American context. An average LTO value of -13.55 indicates a general trend of participants moving from cultures with less long-term orientation to those with a more pronounced longterm orientation. This suggests that participants may initially come from societies that prioritize short-term achievements and quick results over sustained efforts and traditions. In the context of cultural variance in expressions of respect, this shift to a more long-term oriented perspective could result in conflicts. Participants may encounter new norms where respect is tied to long-term commitments, perseverance, and respecting the sanctity of traditional and established practices. For instance, the American participant in China (P7) who observed students' reluctance to speak up may be experiencing a cultural context where respect for teachers involves a long-term investment in learning and a fear of jeopardizing that relationship with incorrect answers. Similarly, the Nigerian perspective on addressing elders (P10) reflects a long-term view of societal hierarchy, where respect is shown by acknowledging one's enduring social status with titles, contrasting with the American short-term approach of casual first-name address.

• Variations in Directness in Communication: An average Individualism (IDV) score of -8.77 suggests a moderate shift among participants from less individualistic to more individualistic cultures. In cultures with higher individualism, direct communication is preferred, contrasting with the participants' origin cultures that may prioritize indirect communication to maintain social harmony and avoid discomfort. This discrepancy can cause discomfort or offense among those unaccustomed to the directness of high IDV cultures, challenging their norms of polite discourse. Consequently, participants may find adjusting to the explicit and candid communication expected in their new cultural environment challenging. Such a cultural misalignment can lead to misunderstandings and conflicts, as behaviors deemed polite in one context may be viewed as rude or insensitive in another, underscoring the importance of cultural sensitivity in communication. An average Power Distance Index (PDI) score of -4.08 indicates a trend where participants are moving from lower to higher PDI cultures. This shift suggests a transition from egalitarian societies, where indirect communication is common, to environments that favor clearer hierarchies and more direct communication. This negative PDI value implies that participants might be more familiar with a subtle and harmony-oriented communication style, typical of low PDI settings. In contrast, high PDI cultures value straightforward communication as a sign of honesty, which could be perceived as overly blunt by those from low PDI backgrounds, potentially leading to feelings of discomfort and perceptions of rudeness.

- Varied Cultural Privacy Norms in Digital Interaction: A negative average PDI value of -9.62 indicates that participants generally come from countries with lower power distance to countries with higher power distance. In terms of digital privacy, this could mean that participants from more egalitarian societies (low PDI), where there is an expectation of equal rights to privacy, are moving to societies where hierarchies are more pronounced (high PDI) and where privacy norms may differ. For example, in higher PDI countries, there may be a greater acceptance of surveillance or less questioning of authority figures' access to personal information. Therefore, participants may encounter conflicts when their expectations of privacy are not met in these new environments. They may also be surprised by the openness with which some individuals in higher PDI cultures share personal information, reflecting a different balance between privacy and authority. The negative average IDV value of -4.92 suggests a shift from less individualistic (collectivist) to more individualistic societies. In collectivist societies, community and family often have precedence over the individual, which might extend to a shared sense of privacy. Moving to more individualistic societies could lead to conflicts for participants who are not used to the high degree of personal sharing online that is common in individualistic cultures. They might find the norms around posting personal information, graphic content, or the willingness to connect with strangers online to be disconcerting or inappropriate. Conversely, they may come from a background where such openness is not the norm and find themselves uncomfortable with the level of personal disclosure expected of them.
- Digital Invitation Dynamics: A negative average value of -11.83 in UAI suggests a general trend of participants moving from cultures with lower uncertainty avoidance to those with higher uncertainty avoidance. This implies a transition from societies where there is a higher tolerance for ambiguity and less structured social rules to societies where rules and protocols are more defined and strictly followed. In terms of digital invitations, this could mean that participants from low UAI cultures may be used to more spontaneous and informal invitations, such as messaging a newly met acquaintance for a casual dinner without much preamble. However, in high UAI cultures, such directness may be perceived as too forward, and there might be an expectation for a gradual build-up of the relationship through multiple interactions before extending or accepting an invitation. This discrepancy can lead to misunderstandings in digital interactions, where participants may either feel overburdened by perceived formalities or find the direct approaches of others too intrusive. The positive IDV average value of 0.33, albeit small, indicates a subtle shift from more individualistic to slightly less individualistic (or more collectivist) cultures. In individualistic cultures, people often exercise a high degree of autonomy in social relationships, including the freedom to extend invitations without much concern for group dynamics. On the other hand, collectivist cultures emphasize interdependence, and social invitations tend to reflect group consensus or familial approval. Participants moving towards more collectivist environments might encounter expectations to involve or consider wider social circles when extending or responding to invitations, which contrasts with their individualistic norms. This could result in friction when, for example, a digital invitation that would be decided upon and accepted individually in their home

culture might now require consultation with peers or family members, delaying the response and potentially confusing the inviter.

6. Limitations

This study offers preliminary insights into online cross-cultural communication tensions but is subject to certain limitations. Firstly, the participant pool's geographical diversity is limited, with a significant majority originating from North America, particularly the United States. This skewness primarily facilitates comparisons between U.S. perspectives and those of other nations, suggesting a need for future research to broaden the scope of pairwise country comparisons. Secondly, although participants based their accounts on digital records such as journals and past message threads, the large timeframe of having occurred within the last two years may lead to less accurate recall of the situation. Despite this, the study succeeded in highlighting significant issues recurrent in multiple interviews. Third, the analysis interprets identified themes through Hofstede's cultural dimensions framework, which, despite its usefulness in predicting offline communication patterns, has faced criticism for its simplistic representation of complex cultural dynamics and its emphasis on national over individual influences [14]. Lastly, efforts were made to analyze the data with a diverse research team to bring a variety of perspectives to the analysis, yet there is room for incorporating even broader viewpoints in future research.

7. Conclusion and Future Work

Our interview study revealed a number of recurring themes related to cross-cultural communication online. These themes include a preference for using WhatsApp, cultural variance in expressions of respect, variations in online openness and rich interaction, varied cultural privacy norms in digital interactions, and digital invitation dynamics. We also connect cultural dimension scores to those themes. These preliminary results suggest that there may be culturally-based differences in communication preferences that lead to conflict and misunderstanding. Going forward, we will continue to explore our research questions. Firstly, the current classification of participants is based predominantly on their country of origin. However, individuals may not be aptly classified into specific dimensions solely based on their nationality [15]. We will consider classifying participants along Hofstede's dimensions on an individual level by using measures such as the Cross Value Scale (CVSCALE) [16]. Secondly, we will expand our recruitment to be able to include a larger variety of countries as well as the combination of home vs. encountered country. By extending this work, we can work towards mitigating cross-cultural misunderstandings and conflict.

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