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Exploring the Dynamics of Intercultural Contact and Intercultural Communicative Competence among Chinese College Students



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Abstract

Intercultural contact (IC), affording interactions between individuals from different cultures, should be an accessible goal in promoting intercultural (communicative) competence (ICC) in additional language learning context. IC happened either directly through in-person interaction or indirectly through exposure to cultural elements such as media. This study explored ways of direct and indirect IC, the levels of ICC, and their dynamic association. Data were collected from 425 participants at a Chinese university with an IC-ICC survey. Results revealed limited availability of direct in-person intercultural contact and a moderate level of ICC, with indirect IC being the primary means. The interplay between IC and ICC were reciprocal. Based on Byram's (2021) model of ICC components, in the present study direct contact through intercultural activities within the home country and online written exchange on social media predicted the variance of knowledge of self and others, as well as skills of discovery. Indirect contact through personal connections and media, influenced intercultural attitudes and awareness, as well as skills of interaction and interpretation. Indirect contact through reading only enhanced knowledge of other cultures, while general English and cultural courses demonstrated no significant effects on ICC. Conversely, higher ICC facilitated IC, with knowledge of other cultures emerging as a particularly influential predictor of both direct and indirect IC, while intercultural attitudes mainly had an impact on indirect IC. The findings of this study highlighted the importance of indirect intercultural contact in the development of intercultural competence and the virtuous cycle of IC and ICC development.

Keywords: Intercultural contact, intercultural (communicative) competence, direct contact, indirect contact

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Introduction

Intercultural competence referred to “a complex of abilities needed to perform effectively and appropriately when interacting with others who are linguistically and culturally different from oneself” (Fantini, 2007, p.12). The absence of it led to failures in modern professionals (Sarwari et al., 2024). Given the rapid advancements in technology, such as artificial intelligence (AI), social media, online courses, and chat rooms, connections among people had been facilitated. Additional language education, aiming at developing intercultural speakers, had the potential to address the growing demand for intercultural (communicative) competence (ICC) (Byram, 2009), because the development of an additional language “allows participation and interaction in ways otherwise not possible; extends relationships, evokes new sentiments, weakens stereotypes and crumbles prejudices” (Fantini, 2020, p.280). Intercultural contact (IC), referring to the interactions between individuals from different cultures, brought about linguistic, cultural, and social changes (Kramsch & Uryu, 2020). IC, whether occurring face to face in a study abroad context, online exchange, or within additional language classrooms in one’s home country, was believed to positively affect ICC (Alred & Byram, 2002; Álvarez Valencia & Fernández Benavides, 2019; Avgousti, 2018; Berg, 2009; Chen & Yang, 2016; Chocce et al., 2015; Elola & Oskoz, 2008; Godwin-Jones, 2019; Taguchi et al., 2016). In light of the abundant means of contact facilitated by modern technology and globalization, the present study first sought to investigate an exhaustive means of both direct and indirect IC and assess ICC components within the context of additional language education where direct IC might not always be readily accessible. Crucially, in an effort to go beyond previous studies focusing primarily on the assessment of ICC components (Chen, 2023; Liu et al., 2023; Peng et al., 2015; Wang and Teo, 2024; Wu et al., 2013), this study analyzed the vigorous, reciprocal relationship between IC and ICC, investigating the virtuous loop of how specific means of IC affected individual ICC component and how improved ICC subsequently enhanced learners’ opportunities for and engagement in future IC.

Intercultural (communicative) Competence

There were various terms associated with intercultural competence, as identified by Fantini (2007), including intercultural competence, intercultural sensitivity, cross-cultural adaptation, multiculturalism, global competence, and global citizenship. Byram’s (1997) intercultural (communicative) competence (ICC) was deemed most applicable to institutions’ internationalization strategies in the Delphi study which aimed to seek expert consensus on the definition of intercultural competence (Deardorff, 2006). Byram (1997, 2021) believed that intercultural competence was distinct from intercultural communicative competence, with the former referring to the individuals’ ability to interact in their language with people from another country and culture, while the latter referred to the ability to interact with people from a different culture in an additional language. However, the relationship between them was “one of degrees and the ability to deal with a wider range of situations of contact in the latter than in the former” (Byram, 1997, p.71). Given the fluidity of cultures which may go beyond the closed attributable categories such as country and race, we might expand the concept of “intercultural” as interactions between people of dissimilar backgrounds, but not necessarily of different races or ethnicity (Lee et al., 2012; Luo & Chan, 2022).

The present study based its discussion of intercultural (communicative) competence on Byram’s (1997; 2021) and Deardorff’s (2006) frameworks. Byram’s model depicts individuals involved in intercultural communication as “intercultural speaker”, who had knowledge of other cultures and social identities and had the capacity to discover and relate to new people from various contexts, and who was more of a mediator between cultures and possessed an individual identity that was flexible in adjusting performance in multiple cultures (Byram, 2002). Byram’s (1997; 2021) model comprised linguistic competence, sociolinguistic competence, discourse competence, and intercultural competence, which

consisted of five components. The first was attitudes, referring to curiosity and openness, readiness to suspend disbelief about other cultures, and belief about one's own. In the context of additional language education, openness and readiness could be manifested in the eagerness to learn and try anything new from their own culture, the willingness to use an additional language and engage in interactions with people from other cultures. The second component was knowledge, comprising the knowledge of self and other cultures, as well as the knowledge of the general interaction process. The third component was skills of interpreting and relating, referring to the ability to interpret a document or event from another culture, explain it and relate it to documents from one's own. In today's globalized world facilitated by technology, documents depicting other cultures were of various kinds, including media reports, printed or digital books, cultural products such as movies and TV shows, or even language learning textbooks. The fourth component was skills of discovery and interaction, including the ability to acquire new knowledge of cultural practice and operate knowledge, attitudes, and skills under the constraints of actual intercultural communication. This was when all the theory came alive and was put into practice and was also a quick way for individuals to establish their understanding and interact in rich and complex ways. The last component was critical cultural awareness (or political education in the 2nd version, Byram, 2021), referring to the ability to evaluate, systematically and critically, the values present in their own and other cultures.

Deardorff's (2006) Pyramid Model of Intercultural Competence consisted of similar components including attitudes (respect, openness, curiosity, and discovery), knowledge and comprehension (cultural self-awareness, knowledge of others' worldviews, and sociolinguistic awareness), skills (to listen, observe, interpret, analyze, evaluate, and relate), then leading to desired internal outcomes such as adaptability, flexibility, ethnorelative view, and empathy, which ultimately were evident in the desired external outcomes including behaving and communicating effectively and appropriately to achieve one's goals (Deardorff, 2006; Spitzberg & Changnon, 2009). This pyramid model emphasized the prerequisite and fundamental role of attitudes, the supporting and facilitating role of knowledge and skills, and the internalization of abilities that can predict appropriate and effective outcomes.

Intercultural Contact and Intercultural (communicative) Competence

Intercultural contact (IC), when realized in positive contexts, provided the opportunity to enter a new lingua-culture, which could render both powerful and enriching experiences, and opened up choices, leading to the transformation of the original worldview through understanding different perspectives (Fantini, 2020). According to the Contact Hypothesis, given certain conditions, such as equal status, common goals, cooperation, and institutional support, intergroup contact could lead to favorable changes in attitudes and behaviors, such as reduced stereotypes and prejudice and increased tolerance and acceptance, thereby influencing further contact (Allport et al., 1954; Kormos et al., 2014; Paolini et al., 2021; Pettigrew & Tropp, 2006). Intergroup contact could lower anxiety about interaction and increase empathy and perspective-taking, creating more opportunities for dialogue and a deeper understanding of diverse perspectives (Tropp et al., 2022). From the perspective of globalization-based acculturation, intercultural contact includes direct and indirect IC. Direct IC referred to the experiences of face-to-face interaction with people from other cultures (e.g., international immigrants or tourists), which could be voluntary or involuntary, positive or negative. Indirect IC referred to the experiences of engaging with other cultural elements through media, Internet, which were primarily voluntary and positive (e.g., watching movies) (Ozer et al., 2021). Harwood (2021) summarized the commonly examined modes of intergroup contact, including face-to-face, technology-mediated interpersonal, extended, mass-mediated, and imagined contact. In additional language education, direct IC happened in language interactions with L1 or LX speakers in the home country or overseas, while indirect IC occurred when learners engaged with various cultural products in the target language (Kormos & Csizér, 2007; Kormos et al., 2014).

Direct intercultural contact could be realized by study abroad programs when learners engaged in various forms of interaction with native speakers, thereby contributing to their intercultural development (Boonen et al., 2021; Campbell, 2012; Czerwionka et al., 2015; Root & Ngampornchai, 2013; Song, 2020; Williams, 2005). Moreover, longer periods spent abroad yielded higher levels of ICC (Neff & Apple, 2020). Social networks established and interactions with host families offered learners experiences that contributed to their ICC development, influencing their linguistic, sociolinguistic, and cultural gains (Shiri, 2015). In addition to face-to-face interactions, direct IC could be facilitated through online platforms, specifically through telecollaboration and virtual exchange (O'Dowd & Dooly, 2020). Studies reviewed by Avgousti (2018) suggested that both text-based communication and multi-modal communication involving text, voice, and video could enhance participants' intercultural sensitivity. Online intercultural interactions in synchronous modes (e.g.: via chats on Skype) or asynchronous modes through emails, blogs, or wikis had been found to contribute to the development of cross-cultural awareness, critical thinking, and analysis of cross-cultural similarities and differences (Angelova & Zhao, 2016; Chun, 2011; Lee, 2011; Menard-Warwick et al., 2013; O'Dowd, 2000; O'Dowd, 2003; Wang et al., 2013).

Indirect intercultural contact, such as domestic diversity interactions (Wang & Kulich, 2015), had been shown to predict greater multicultural acquisition and less ethnic protection (Ozer et al., 2021). Indirect intergroup interactions were found to be less anxiety-provoking than direct contact, allowing individuals to overcome initial barriers and prepare for future contact (Turner et al., 2008). Indirect ways of contact were associated with entertainment, social media, news, sport, and consumerism, reflecting the voluntary and selective features of remote acculturation (Ferguson & Bornstein, 2012). Mediated contact, conceptualized as viewing foreign TV or movies, was found to reduce intergroup anxiety and increase global competence (Cao and Meng, 2020). Indirect IC also happened when learning instructional materials such as textbooks and with language teachers. Language learning textbooks provided content and activities to engage learners in real or imagined intercultural encounters, promoting more positive evaluations of outgroups and a greater interest in engaging in intergroup contact (Sercu, 2000; Crisp & Turner, 2012). Virtual intercultural contact through pedagogical intercultural and critical incident tasks was found to have boosted learners' intercultural attitudes, knowledge, and skills (Esmaeili & Kuhi, 2023). Indirect IC through book reading reduced stereotyping and increased more positive intergroup behavioral intentions and more desire for future contact (Vezzali et al. 2012)

Some studies examined both direct and indirect IC on the development of ICC. Meng and colleagues (2022) examined both offline IC (face-to-face contact) and online IC (contact through social networking sites) and their association with intergroup anxiety and uncertainty, revealing that online contact provided opportunities for communication, thus contributing to the development of their ICC and that offline contact helped reduce intergroup uncertainty and enhanced communication effectiveness. Through an intercultural experience project, Ghantous and Belkhiria (2023) engaged learners in a multiplicity of intercultural contact including interpersonal interactions (e.g., with exchange students, French expatriates, visiting cultural centers) and non-personal interactions (e.g., watching movies, following main media of the target culture, reading a novel by a famous author from the target culture). They found that these interactions enhanced meaningfulness and depth of their intercultural experiences, thus leading to advanced ICC skills.

Assessing Intercultural (communicative) Competence and Intercultural Contact

Various assessment tools had been utilized to measure intercultural (communicative) competence, targeting different populations and utilizing different models (e.g.: Fantini, 2006; Fantini & Tirmizi, 2006; Hammer, 2011; Koester & Olebe, 1988). Surveys and portfolio assessments were the two

predominant formats (Griffith et al., 2016; Sinicrope et al., 2007). Direct assessment approaches such as performance assessment and portfolio assessment had been used to elicit individuals' ability to demonstrate their ICC through behaviors (Byram, 1997). Other qualitative assessment methods were written reflection, discussions, role plays, interviews, and presentations (Bloom & Miranda, 2015; Luo & Chan, 2022; Nero, 2009). Despite potential theoretical and methodological drawbacks, self-report surveys remained the most widely practiced form of indirect assessment, owing to the availability of ready-made instruments and the efficiency of data collection and analysis (Griffith et al., 2016).

In the Chinese additional language learning context, Wu and colleagues (2013) developed an ICC scale, consisting of dimensions including awareness, attitude, knowledge, and skills. The scale had been tested using explorative factor analysis (EFA) and certification factor analysis (CFA), demonstrating a good validity and reliability to assess Chinese college students' ICC. Peng and colleagues (2015) examined the effectiveness of a comprehensive evaluation model and index system adapted from (Wu et al., 2013) in assessing intercultural competence in non-western contexts. Adopting the same ICC scale, Wang and Teo (2024) examined the components of ICC in a large-scale study involving 2599 participants, concluding that positive attitudes towards people from other cultures was the most important element which significantly influenced skills of discovery and interaction. Chen (2023) developed an ICC scale in the Spanish as an additional language context and examined external factors such as age, the frequency of using Spanish, and positive intercultural experiences. Liu and colleagues (2023) composed an IDLE (informal digital learning of English) - ICC questionnaire, reporting the facilitating role of IDLE activities in helping Chinese learners acquiring knowledge of English language and culture, taking attitudes of openness and curiosity, and gradually developing their ICC.

Limited research had been conducted on assessing the overall intercultural contact in the additional language learning context. IC was investigated with language learning motivation (Csizér & Kormos, 2008; Kormos & Csizér, 2007; Kormos et al., 2014; Mostafaei Alaei & Aghblagh, 2020) Peng and Wu (2016) constructed an intercultural contact scale, utilizing a structural equation modeling approach. Their research explored pathways from intercultural contact to intercultural competence, revealing that domestic social media as the most important pathway in direct contact, while cultural products as the most significant in indirect contact. Additionally, Cao and Meng (2020) developed an intercultural contact scale, consisting of three items of mediated contact through TVs and movies and three items of direct contact through interactions with international students to investigate their correlations with intergroup anxiety and global competence. Their research reported that mediated contact negatively predicted intergroup anxiety and positively predicted global competence. In an exploratory qualitative design, Zhou and Burhanudeen (2023) explored IC as a pathway for ICC development from participants' self-reports and interviews, showing that indirect, self-engaged contact via cultural products, artifacts, and online courses being the most referenced pathway, while external contact with L1 speakers in face-to-face communications and in online interactions through social media played a lesser, but not negligible role.

Focus of the Study

Both direct and indirect intercultural contact (IC) played a crucial role in the development of intercultural (communicative) competence (ICC), especially in the context of additional language education where direct IC is not readily accessible, and indirect IC could be complemented as a valuable adaptation. Previous studies examining either direct or indirect IC had predominantly focused on assessing the effects of different forms of IC on intercultural communicative competence (ICC) (Angelova & Zhao, 2016; Boonen et al., 2021; Cao and Meng, 2020; Esmaeili & Kuhi, 2023; Ghantous & Belkhiria, 2023; Meng et al., 2022). Furthermore, few studies had provided a comprehensive assessment of IC

means within the context of additional language education. While Peng and Wu's (2016) intercultural contact scale and Zhou and Burhanudeen's (2023) research explored pathways from IC to ICC, a critical gap remains: a comprehensive analysis of the dynamic and reciprocal relationship between these two constructs. The present study went beyond accessing both components of ICC and diverse ways of direct and indirect IC. Moreover, it explored the vigorous dynamics between IC and ICC, aiming to uncover how IC influenced each component of ICC and how enhanced ICC, in turn, fostered greater opportunities for and engagement in IC.

Therefore, this study addressed the following four research questions:

- (1) What were the various means in which Chinese additional language learners engaged in intercultural contact, and to what extent did they participate in these activities?
- (2) What were the levels of components of intercultural (communicative) competence of these learners?
- (3) How did the means of intercultural contact and components of intercultural (communicative) competence predict each other?
- (4) How did participants majoring in English and non-English differ in the reported IC and ICC?

Method

Participants

The participants were 425 university students randomly selected from English classes offered at a comprehensive university in South China that specialized in medical and health sciences. The university comprised diverse colleges such as School of Clinical Chinese Medicine, School of Pharmaceutics, and School of Medical Management, alongside School of Foreign Studies. All participants had received between three to nine years of formal instruction in either English or Japanese as an additional language in China. Their majors covered a wide range of disciplines, including English language, Chinese medicine, pharmaceutics, biology, and medical information engineering. 83 participants were male and 342 were female. The imbalanced gender ratio was attributed to the pre-existing skewed gender ratio within some majors such as English and biology. None of the participants had had study abroad experience. Prior to data collection, all participants provided informed consent, acknowledging that their responses were used exclusively for research purposes and affirming their right to withdraw their data at any time.

Measures

The Measure of Intercultural Contact

The survey comprised two principal measures written in Chinese: the Intercultural Contact (IC) Scale and the Intercultural Communicative Competence (ICC) Scale. Participants' IC was assessed using the IC Scale for Chinese College Students, originally developed by Peng and Wu (2016). It had been administered among a large population in China, demonstrating high reliability and validity. The IC scale consisted of 48 items across four domains of intercultural contact. Within each domain, participants were presented with four to five descriptions of intercultural activities and were required to rate the frequency of their engagement. The first domain was direct in-person contact, encompassing interactions with L1 or LX speakers using the target language both overseas and in the home country, including various domestic and overseas intercultural activities, such as internships, academic

conferences, summer camps, exchange student projects, tourism, culture lectures given by people from other cultures, English classes taught by L1 speakers, and translation practices (e.g., Participants were asked to rate how often they “participated in exchange-student programs”). The second domain addressed direct contact through online platforms, including synchronous exchange through audio or video conferencing, as well as asynchronous contact through written communication in letters, emails, and other social media (e.g., Participants were asked to rate how often they “had a live conversation with people from other cultures using Wechat”). The third domain centered on indirect contact in the home country, involving personal contact with family, friends, and teachers, or through intercultural activities using the target language (e.g., English club, simulated UN, cultural lectures), language or culture learning courses (e.g., Participants were asked to rate how often they “learned about other cultures from teachers”). The fourth domain explored indirect contact through cultural products, including printed materials like books, magazines, and electronic materials such as songs, movies, and TV programs (e.g., Participants were asked to rate how often they “watched movies to learn about other cultures”). Four items related to specific communication tools (MSN, Skype, Twitter, and Facebook) were combined into two items due to their rare usage in China. All items were measured using a Likert-style 6-point scale, ranging from 0 (not at all) to 5 (very frequently). Reliability analysis indicated high internal consistency ($\alpha = .93$ for direct contact, $\alpha = .95$ for indirect contact, and $\alpha = .96$ for the overall scale).

The Measure of Intercultural (communicative) Competence

The Assessment of Intercultural Competence of Chinese College Students (AIC-CCS) developed by Wu et al. (2013) was utilized to measure participants' ICC. The AIC-CCS aligned with the ICC framework proposed by Byram (1997, 2021) and consisted of six components: knowledge of home culture, knowledge of other cultures, intercultural attitudes, intercultural awareness, intercultural communication skills (skills to interact, interpret and relate), and intercultural cognitive skills (skill to discover). There were 28 items measured on a 5-point Likert scale, ranging from 1 (very little) to 5 (very much). The Cronbach's alpha values for the six components ranged from .93 to .96, with an overall reliability coefficient of $\alpha = .96$.

Research Procedure

The survey questionnaire in this study consisted of three parts: demographics, the intercultural contact scale and the intercultural (communicative) competence scale. The demographics section gathered information about the participants' gender, years in college, English language proficiency measured in CET (College English Test in China), TEM (Test for English Majors in China), IELTS or TOEFL, and whether they have been abroad. Convenience sampling was employed to select participants. The survey was administered during their English classes and it took about 15 to 20 minutes to complete it. The collected responses were coded into categories of means of IC and components of ICC according to Byram's (1997) and Deardroff's (2006) frameworks. Then, data were analyzed by descriptive statistics, independent samples t-tests, hierarchical multiple regression analysis, and standard multiple regression analysis to investigate the interplay of IC and ICC.

Results

Direct Intercultural Contact

The results revealed that the majority of participants had not engaged in direct in-person intercultural contact overseas. Specifically, 98.6% of respondents ($n = 419$) reported never having overseas experiences such as internships, exchange programs, or academic conferences. Similarly, 96.7%

($n = 410$) had never participated in summer/winter camps, and 97.9% ($n = 414$) never volunteered in other countries. However, a small percentage of participants (16.1%, $n = 68$) had traveled abroad for leisure purposes. Despite the limited opportunities for direct in-person contact overseas, some participants had engaged in intercultural interactions within their home country. This included activities such as celebrating foreign festivals, cultural exchange and study abroad fairs, English corners, translations, cultural lectures, extra-mural language classes, volunteering, academic conferences, and attending English classes by L1 speakers. Among these activities, celebrating foreign festivals ($M = 1.29$, $SD = 1.23$), participating in English corners with people from other cultures ($M = 1.26$, $SD = 1.39$), and interacting with L1 teachers in English classes ($M = 1.93$, $SD = 1.69$) were the common ways, though the frequency of contact was not high. Regarding the online direct IC, some participants reported engaging in asynchronous voice interactions through QQ (28.2%, $n = 120$), WeChat (26.1%, $n = 111$) (popular online instant messaging tools in China), or Skype (7.6%, 7.6%). Synchronous video interactions were less common, with QQ (9.6%, $n = 41$), WeChat (12%, $n = 51$), and Skype (7.8%, $n = 33$) being the platforms used. The most prevalent form of direct online contact was text exchange through social media, including QQ (35.5%, $n = 151$), WeChat (48.5%, $n = 206$), and Weibo (28.9%, $n = 123$), a Twitter-like popular social media in China, and other platforms such as Facebook and Twitter (24.8%, $n = 105$), letters (12.8%, $n = 54$), and Emails (17.9%, $n = 76$). However, the general frequency of this online contact was generally low, with all the means lower than 1.

Indirect Intercultural Contact

Five types of indirect intercultural contact were examined in the study. The most common means of contact included contact through media ($M = 2.79$, $SD = 1.47$), cultural and English courses ($M = 2.04$, $SD = 1.40$), and reading ($M = 2.02$, $SD = 1.40$). 62.4% of participants responded having frequent IC through movies and songs, 51.4% through TV programs, and 48.5% through English courses. Moreover, personal connections ($M = 1.54$, $SD = 1.12$) represented a notable means of indirect IC. A majority of respondents (84%, $n = 358$) reported having learned about other cultures from teachers and 70.6% ($n = 296$) from friends. However, in terms of the frequency of engagement, only 24.6% ($n = 106$) reported that they frequently learned about other cultures from their teachers. Lastly, domestic English learning and cultural activities ($M = 1.04$, $SD = 0.97$) was considered a minor source of IC, including English clubs, English corners with local peers, and cultural lectures by Chinese.

Overview of Intercultural (communicative) Competence

Table 1 presented the mean scores and standard deviations for each dimension of participants' ICC measured by the scale of The Assessment of Intercultural Competence of Chinese College Students (AIC-CCS). Following established conventions in quantitative research using five-point scales (e.g., Wu et al., 2013), participants' mean scores were categorized as low (1.00–2.33), moderate (2.34–3.66), and high (3.67–5.00). The results indicated a moderate overall level of ICC, with a mean score of 2.90 ($SD = 0.73$). Firstly, participants scored the highest in intercultural attitudes ($M = 3.78$, $SD = 1.10$), indicating a positive willingness to learn from individuals from different cultures, a desire to learn foreign languages, and the ability to respect others' lifestyles and customs. Intercultural awareness ($M = 3.25$, $SD = 1.06$) fell within the moderate level range, suggesting that participants generally demonstrated the ability to recognize similarities and differences among cultures and identities, and understand the impact of languages and communication on intercultural interactions. Secondly, participants moderately rated their intercultural skills to interpret, relate and interact ($M = 2.99$, $SD = 0.92$), indicating some preparedness in dealing with misunderstandings, avoiding offense in language, appearance, and behavior, respecting others' privacy and religion, and utilizing verbal and nonverbal means to communicate and negotiate meanings. The skills to discover ($M = 2.49$, $SD = 0.96$) was rated lower than the skills to interpret, relate and interact, suggesting that learners

Table 1 *Descriptive Statistics of Participants' Intercultural (communicative) Competence*

	N	Minimum	Maximum	Mean	Std. Deviation
Home	426	1.00	5.00	3.30	0.88
Foreign	426	1.00	5.00	2.27	0.81
Attitudes	417	1.00	5.00	3.78	1.0
Awareness	420	1.00	5.00	3.25	1.06
Skills to interpret	412	1.00	5.00	2.99	0.92
Skills of discovery	419	1.00	5.00	2.49	0.96
ICC	405	1.00	5.00	2.90	0.73

Interaction between intercultural contact (IC) and intercultural (communicative) competence (ICC)

Table 2 *Correlations Among the Variables and VIF (overall ICC and direct and indirect contact)*

Variables	1	2	3	4	5	6
1. ICC	–					
2. Gender	.16	–				
3. Major	–.25	–.24	–			
4. Proficiency	.12	.06	–.27	–		
5. Direct IC	.49	.05	–.34	.23	–	
6. Indirect IC	.67	.21	–.36	.18	.55	–
7. VIF	–	1.10	1.30	1.11	1.53	1.56

perceived themselves as having limited abilities in deducing rules from actual IC, applying intercultural strategies and techniques, and resolving conflicts that may arise in intercultural interactions. Thirdly, knowledge about other cultures ($M = 2.27$, $SD = 0.81$) received the lowest score, suggesting that there was a lack of the understanding of others' history, social norms, values, and taboos, as well as techniques in intercultural communication, even though participants were confident in the knowledge of their own Chinese culture ($M = 3.30$, $SD = 0.88$).

Effects of IC on ICC

Hierarchical multiple regression analysis was conducted to investigate the predictive relationship between IC and levels of ICC, after controlling for the demographic characteristics. Preliminary analyses were conducted to ensure no violation of the assumptions of normality and linearity. Additionally, Table 2 showed the correlations among variables and the Variance Inflation Factor (VIF) for the dependent variables. No particularly high correlations ($r > .90$) were observed among the independent variables. Furthermore, all VIF values were below 2, ruling out the possibility of multicollinearity.

In the first step of hierarchical multiple regression, three demographic variables were entered: gender, major, and proficiency. They made a significant contribution to the model ($F(3,229) = 6.09$; $p < .001$), and explained 7% of variance in the overall ICC (see Table 3), among which major was the main contributor. Gender and proficiency did not emerge as significant predictors. After the entry of direct and indirect IC in Step 2, the total variance explained by the model as a whole was 48% ($F(5,227) = 11.80$;

Table 3 Hierarchical Regression for the Variance of ICC

Dependent variables	β	R^2	R^2 change	F/t	p
Step 1:		.07***		F(3,229) = 6.09	<.001
Gender	.11			t = 1.66	.10
Major	-.20**			t = -2.97	.003
Proficiency	.06			t = 0.87	.39
Step 2:		.48***	.40***	F(5,227) = 11.80	<.001
				F(2,227) = 87.49	<.001
Gender	.04			t = 0.86	.39
Major	.03			t = 0.62	.54
Proficiency	-.02			t = -0.40	.69
Direct Contact	.19**			t = 3.11	.002
Indirect Contact	.58***			t = 9.65	<.001

Note. Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 4 Differences of ICC between English and non-English Majors

ICC	Knowledge of home culture	Knowledge of other cultures	Attitudes	Awareness	Communicative skills	Cognitive skills
English majors (M, SD)	3.31, 0.90	2.42, 0.80	3.91, 1.03	3.33, 1.10	3.09, 0.92	2.63, 0.97
Medical majors (M, SD)	3.27, 0.82	1.85, 0.69	3.42, 1.10	3.04, 0.91	2.69, 0.86	2.10, 0.08
<i>t</i>	(421) 0.36	(421) 6.47	(412) 4.35	(217.520) 2.37	(407) 3.85	(218.726) 5.49
<i>p</i>	.72	<0.001	<0.001	.01	<.001	<.001
Cohen's <i>d</i>	0.04	0.73	0.49	0.27	0.44	0.56

$p < .001$). The inclusion of direct and indirect IC accounted for an additional 40% of variance in ICC, after controlling for the demographic factors (R^2 change = .40; $F(2,227) = 87.49$; $p < .001$). In the final adjusted model, two out of the five predictor variables were found to be statistically significant, with indirect contact recording a much higher Beta value ($\beta = .58$) than direct contact ($\beta = .19$).

Additional independent samples t-tests were conducted to compare the differences in ICC between English majors and non-English majors. The results indicated that English major students outperformed non-English majors in all dimensions of ICC except knowledge of home culture (see Table 4). The differences were statistically significant, with a large effect size observed for knowledge of other cultures (Cohen's $d = 0.73$). The differences in intercultural attitudes, skills to interpret, relate, and interact, and discover exhibited medium effect sizes, with Cohen's d ranging from 0.44 to 0.56. The effect size of the difference in intercultural awareness is small (Cohen's $d = 0.27$).

Standard multiple regression analyses were performed to examine the predictive power of different means of IC on the six components of ICC. The results revealed that both direct and indirect intercultural contact significantly contributed to the development of ICC (See Tables 5 and 6). Direct intercultural activities in the home country, including celebrating foreign festivals and participating in English corners made significant contributions to the knowledge of other cultures and skills of discovery, explaining 22% and 18% of variance respectively. Direct contact through written exchange accounted for 16% and 15% of variance in the knowledge of home culture and skills of discovery. Indirect contact through personal connections and media emerged as significant predictors. Personal connections predicted 20% variance in the knowledge of home culture, 25% in awareness, and 20% in skills to interpret, relate, and interact. Media contact accounted for 47% variance in attitudes, 19% in awareness, 33% in skills to interpret, relate and interact, and 16% in skills of discovery. Additionally, indirect contact through reading could predict 25% variance in knowledge of other cultures.

Table 5 *Standard Regression Analyses of Ways of Intercultural Contact on Components of ICC*

ICC components	F	p	R ²
Knowledge of home culture	(9,390) = 11.05	<.001	.20***
Knowledge of other cultures	(9,390) = 27.82	<.001	.39***
Attitudes	(9,390) = 18.47	<.001	.30***
Awareness	(9,390) = 14.83	<.001	.26***
Skills to interpret, relate, and interact	(9,387) = 22.33	<.001	.34***
Skills of discovery	(9,390) = 19.25	<.001	.31***

Note. Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 6 *Significant Predictors of IC on Components of ICC*

Ways of IC	ICC components	β	t	p
Direct intercultural activities in the home country	Knowledge of other cultures	.22**	3.25	.001
	Skills of discovery	.18*	2.60	.01
Direct contact through written exchange	Knowledge of home culture	.16*	2.14	.03
	Skills of discovery	.15*	2.19	.03
Indirect contact through personal connections	Knowledge of home culture	.20**	2.75	.006
	Awareness	.25**	3.48	.001
	Skills to interpret, relate, and interact	.20**	2.94	.003
	Attitudes	.47***	6.36	<.001
Indirect contact through media	Awareness	.19**	2.49	.013
	Skills to interpret, relate, and interact	.33***	4.59	<.001
	Skills of discovery	.16*	2.12	.04
Indirect contact through reading	Knowledge of other cultures	.25**	3.29	.001

Note. Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

Effects of ICC on IC

Hierarchical regression analyses were conducted to explore the potential impact of participants' self-perceived intercultural (communicative) competence on their intercultural contact. Table 7 presented the correlations among intercultural contact and components of ICC, as well as the VIF among the independent variables. The possibility of multicollinearity was considered unlikely as all the correlation coefficients (r) were smaller than 0.70 and VIF was smaller than 2.5.

Three demographic variables, gender, major, and proficiency were entered in the first step of hierarchical regression analysis (see Table 8). The model was statistically significant ($F(3,212) = 15.20, p < .001$) and explained 17% of variance of intercultural contact. Major was found to be a significant contributor. Six components of ICC were entered in the second step and they explained 52% of variance of IC ($F(9,206) = 47.03; p < .001$). After controlling the demographic variables, ICC components explained an addition of 35% of variance ($R^2 \text{ change} = .35; F(6,206) = 25.55; p < .001$). In the adjusted model, there were three significant predictors, major, knowledge of others, and skills to interpret, relate, and interact, with knowledge of others having the highest Beta value ($\beta = .33, p < .001$), followed by major ($\beta = -.19, p = .001$) and skills to interpret, relate and interact ($\beta = .18, p = .03$).

Independent samples T-Tests were conducted to examine the differences between English majors and non-English majors in ways of intercultural contact (Tables 9 and 10). Results indicated that English majors had significantly higher levels of IC than non-English majors across all categories. In direct IC, English majors ($M = 0.09, SD = 0.39$) had more contact through overseas activities than non-English majors ($M = 0.04, SD = 0.13$); $t(412.99) = 2.06, p = .04$, though the effect size was small (Cohen's $d = 0.15$). Given that the majority of participants had not had IC overseas, the difference in this category could be negligible. However, in other direct or indirect IC, the differences were significant. English major students ($M = 0.34, SD = 0.67$) had more online exchange with people from other cultures both in synchronous and asynchronous modes than non-English majors ($M = 0.06, SD = 0.17$); $t(394.10) = 6.45, p < .001$, and the effect size was medium (Cohen's $d = 0.46$). The English learners also participated in more intercultural activities in the home country, and the effect size was large

Table 7 Correlations Among the Variables and VIF (overall IC and Components of ICC)

Variables	1	2	3	4	5	6	7	8	9	10
1. Intercultural Contact	—									
2. Gender	.15	—								
3. Major	-.39	-.24	—							
4. Proficiency	.22	.06	-.27	—						
5. Knowledge of self	.40	.07	-.02	-.03	—					
6. Knowledge of others	.62	.14	-.30	.12	.530	—				
7. Attitudes	.44	.17	-.21	.07	.45	.37	—			
8. Awareness	.45	.07	-.12	.08	.45	.42	.57	—		
9. Skills to interpret	.56	.15	-.19	.10	.46	.51	.59	.70	—	
10. Skills of discovery	.55	.07	-.24	.19	.36	.58	.43	.57	.68	—
VIF	—	1.10	1.29	1.11	1.70	1.99	1.80	2.25	2.83	2.29

Table 8 *Hierarchical Regression for the Variance of IC*

Dependent variables	β	R^2	R^2 change	F/t	p
Step 1:		.17***		F(3,212) = 15.20	<.001
Gender	.06			t = 0.92	.36
Major	-.34***			t = -5.13	<.001
Proficiency	.12			t = 1.84	.07
Step 2:		.52***	.35***	F(9,206) = 47.03	<.001
				F(6,206) = 25.55	<.001
Gender	.001			t = 0.02	.99
Major	-.19**			t = -3.47	.001
Proficiency	.08			t = 1.58	.12
Knowledge of self	.06			t = 0.89	.38
Knowledge of others	.33***			t = 4.84	<.001
Attitudes	.08			t = 1.20	.23
Awareness	.02			t = 0.32	.76
Skills to interpret	.18*			t = 2.23	.03
Skills of discovery	.11			t = 1.55	.12

Note. Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

Table 9 *Differences of Direct Intercultural Contact between English and non-English Majors*

Direct Contact	Overseas activities	Online audio & video	Online written	Domestic intercultural activities
English majors (M, SD)	0.09, 0.39	0.34, 0.67	0.69, 0.90	1.00, 0.78
Medical majors (M, SD)	0.04, 0.13	0.07, 0.17	0.17, 0.42	0.29, 0.46
<i>t</i>	(412.99) 2.06	(394.09) 6.45	(379.11) 8.00	(303.95) 11.21
<i>p</i>	.04	<.001	<.001	<.001
<i>Cohen's d</i>	0.15	0.46	0.65	0.99

Table 10 *Differences of Indirect Intercultural Contact between English and non-English Majors*

Indirect Contact	Personal	Learning activities	Courses	Reading	Media
English majors (M, SD)	1.75, 1.11	1.25, 0.95	2.31, 1.38	2.29, 1.39	3.02, 1.45
Medical majors (M, SD)	0.96, 0.90	0.47, 0.73	1.26, 1.12	1.25, 1.12	2.16, 1.32
<i>t</i>	(223.08) 7.38	(225.29) 9.00	(212.69) 7.74	(219.19) 7.72	(197.14) 5.42
<i>p</i>	<0.001	<0.001	<0.001	<0.001	<0.001
<i>Cohen's d</i>	1.06	0.91	1.32	1.33	1.42

Table 11 Significant Predictors of Components of ICC on Direct IC and Indirect IC

ICC components	Direct IC			Indirect IC		
	$R^2 = .31$ $F(6,366) = 27.17$, $p < .001$			$R^2 = .46$ $F(6,375) = 55.34$, $p < .001$		
	β	t	p	β	t	p
Knowledge of home culture	-.04	-0.73	.47	.04	0.91	.36
Knowledge of other cultures	.37***	6.22	<.001	.35***	6.77	<.001
Attitudes	-.03	-0.55	.58	.17**	3.48	.001.
Awareness	-.08	-1.30	.20	.07	1.27	.20
Skills to interpret	.18*	2.57	.01	.15*	2.44	.02
Skills of discovery	.19**	2.92	.004	.08	1.46	.15

Note. Statistical significance: * $p < .05$; ** $p < .01$; *** $p < .001$

(Cohen's $d = 0.99$). English language learners excelled significantly than medical major students in all the categories in indirect IC, suggesting that intensive language learning brought about increased IC.

Standard multiple regression analyses were performed to examine the impact of knowledge, attitudes, and skills on direct and indirect intercultural contact. Components of ICC were found to significantly contribute to both forms of IC (see Table 11). They predicted 31% of variance of direct IC ($F(6, 366) = 27.17$, $p < .001$), with knowledge of other cultures being the most significant predictor ($\beta = .37$, $p < .001$). Skills to interpret, relate, and interact ($\beta = .19$, $p = .01$) and skills of discovery ($\beta = .19$, $p = .004$) also made statistically significant contributions to direct IC. Similarly, the components of ICC contributed to indirect IC, explaining 46% of variance ($F(6, 375) = 55.34$, $p < .001$). Knowledge of other cultures again made the most significant contribution ($\beta = .35$, $p < .001$), indicating its crucial role in fostering IC. Attitudes ($\beta = .17$, $p = .001$) and skills to interpret, relate and interact ($\beta = .15$, $p = .015$) were the other two significant predictors.

Discussions

Means of Intercultural Contact (IC) and the Level of Self-perceived Intercultural (communicative) Competence (ICC)

Table 12 summarized the keys findings of various means of intercultural contact. Participants in this study had limited exposure to direct intercultural contact and most intercultural activities occurred within their home country, which was common for additional language learners because direct IC was not accessible (Kormos & Csizér, 2007). With regard to self-perceived ICC, similar to what Peng and colleagues (2015) had found, participants reported a moderate level of competence. They perceived themselves possess a relatively high command of knowledge of home culture but limited knowledge of other cultures and intercultural communications. Importantly, participants demonstrated positive intercultural attitudes, thus having a firm foundation in the intercultural competence pyramid to support and facilitate the development of other components (Deardroff, 2006).

The findings regarding the impact of participants' major on intercultural contact (IC) and intercultural communicative competence (ICC) highlighted the significance of language learning in facilitating intercultural experiences. English majors excelled in all components of ICC except the knowledge of home culture. They also had significantly more intercultural contacts in all aspects. This finding

Table 12 *Summary of Means of Intercultural Contact (Categorization based on Harwood, 2021)*

Means of IC	Description of means	Findings
Direct IC		
Face-to-face	Overseas	Negligible: very limited assess and low frequency
	Home country	Infrequent: while available, engagement is low.
Technology-mediated interpersonal	Online synchronous interactions	Uncommon: low prevalence and infrequent use
	Online asynchronous interactions	Moderately frequent
Indirect IC		
Vicarious and secondary	Teachers, friends	Prevalent and moderately frequent
Mass-mediated	Media	Prevalent and frequent
Imagined	English courses	Prevalent and moderately frequent
	Domestic cultural activities	Limited and infrequent

was in line with the notion that lingua-culture “configures worldview component differently; many cross-cultural challenges are revealed only through access to host language” (Fantini, 2020, p.271). Language learners had the advantage of accessing and understanding different worldviews through the target language, thus enhancing their intercultural competence (Shadiev & Yu, 2022). Therefore, intercultural education and additional language education should be incorporated because learning an additional language provided an accessible avenue for individual to engage in intercultural contact (Csizér & Kormos, 2008; Liu et al., 2023). However, another two demographic characteristics, gender and English proficiency were found to have limited impact on either IC or ICC. These findings aligned with previous research that suggested gender and language proficiency might not be significant predictors of intercultural development (Bloom & Miranda, 2015; Cubillos & Ilvento, 2018; Hismanoglu, 2011; Mirzaei & Forouzandeh, 2013; Busse & Krause, 2016; Palmer, 2013). The development of language proficiency might interact with the development of ICC, however, the effect of language proficiency alone was not strongly supported (Tajeddin et al., 2022), and it might not be a sufficient condition for intercultural development (Bennett, 2008).

Dynamics of Intercultural Contact (IC) and the Development of Intercultural (communicative) Competence (ICC) in Additional Language Education

Results in this study supported that both direct IC and indirect IC made significantly unique contributions to the development of ICC, while indirect IC exerted a stronger impact on ICC than direct IC in the additional language education context (Kormos & Csizér, 2007; Peng & Wu, 2016; Wang & Kulich, 2015). Various means of contact had distinct effects on different components of ICC. Firstly, overseas intercultural activities and online synchronous video or audio exchange were not significant predictors of ICC in the present study owing to the limited access to overseas intercultural experience and partners from other cultures. However, overseas immersion has been shown to significantly associate with the improvement of ICC by providing authentic immersion into culturally different contexts (Meng et al., 2017; Zhang & Zhou, 2019). In complement, direct contact through intercultural activities in the home country and online written exchange on social media emerged as significant predictors of ICC in developing knowledge of other cultures and the ability to reflect and learn from

conflicts and misunderstandings. Therefore, given limited opportunities of direct IC in additional language learning, programs should entail simulated intercultural activities and encourage learners to engage in online interactions with people from different cultures. For example, discussions on Facebook groups improved intercultural communicative effectiveness more than in-class discussions did (Özdemir, 2017).

Secondly, indirect IC such as media contact, being the strongest predictor in ICC, helped participants get in contact with different worldviews and cultures, thereby promoting their openness, curiosity, and willingness to suspend their previous beliefs (Tirnaz & Haddad Narafshan, 2020). Intercultural learning through films had been shown to enhance learners' knowledge of cultural differences, help learners engage in cross-cultural comparison, break cultural stereotypes, and immerse learners in authentic language learning (Truong & Tran, 2014; Zhang, 2020). Additionally, indirect contact from personal connections, primarily from friends and teachers, also made a significant contribution to the knowledge of self, improved participants' intercultural attitudes and awareness, and enhanced skills of interaction and interpretation. This emphasized the importance of integrating the development of ICC in teacher education programs (Cushner & Mahon, 2009; Romijn et al., 2021) since teachers' accounts of their own intercultural experiences significantly exerted influence on students' understanding, attitudes, and critical thinking, and even specific techniques in intercultural communication. Furthermore, intercultural contact through reading was a significant predictor of knowledge of other cultures, though it had little impact on the overall ICC. Extensive reading could help increase knowledge of other cultures, but reading for itself or pleasure might not be sufficient to promote overall intercultural competence. In additional language reading, linguistic and rhetorical approaches were needed to guide learners to critical reading on cultural situatedness of language use and various ideologies (Escudero, 2013), combined with analyzing the reading texts in comparison with home culture (Yu & Van Maele, 2018), as well as working with literary texts from cognitive and affective tasks (Rodríguez & Puyal, 2012). Interestingly, it is worth noting that indirect contact through language courses failed to predict variance of ICC in the present study, suggesting that the courses examined in the study focused primarily on language skills or simple facts of cultures, rather than providing in-depth intercultural education. More culturally-laden resources and intercultural tasks in language classrooms should be used, such as digital photograph-mediated intercultural learning, interpretation, and reflection (Kusumaningputri & Widodo, 2018), employing drama to provide intercultural contexts and space (Rothwell, 2011), and bringing in world views through discussion and reflection on intercultural phenomena (Deardoff, 2011). For example, Acheson and colleagues (2015) found that an intercultural approach to language instruction, emphasizing explicit instruction in intercultural communication, could help develop Spanish language learners' positive attitudes and increase their motivation for language study. To sum up, direct contact through intercultural activities at home and written exchange through social media generally contribute to the improvement of knowledge of self and others, and skills of discovery. Indirect intercultural contact through personal connections and media mainly promotes intercultural attitudes, awareness, and skills of interpretation, relating, and interaction.

Lastly, intercultural contact (IC) and intercultural (communicative) competence (ICC) shared a robust, mutually influential relationship across various means of contact and ICC components. The ICC components of knowledge, attitudes, and skills significantly accounted for a considerable proportion of the variance in both types of IC, thus shaping individuals' engagement with intercultural experiences, aligning with previous studies (Wiseman et al., 1989; Mansouri & Vergani, 2018; Liu, 2016). As the most influential predictor, knowledge of other cultures had a substantial impact on both direct and indirect IC, highlighting the pivotal role of a deeper cultural understanding in fostering better engagement. In the present study, knowledge of other cultures was reported as the least confident ICC component, implying that limited cultural understanding restricted willingness and

hindered deeper engagement in diverse forms of intercultural contact. Moreover, intercultural attitudes made a unique contribution to indirect IC, emphasizing the importance of a positive disposition, such as openness, respect, and curiosity, in facilitating voluntary involvement in indirect contact. Within the context of additional language education where opportunities for direct IC was limited, these attitudes, positioned at the base of Deardoff's (2021) intercultural competence pyramid, constituted the necessary initial motivation for engagement. Conversely, as quality of contact exerted effects on intercultural attitudes and cultural inclusiveness (Tawagi & Mak, 2015; Mak et al., 2014), this reciprocal process illustrated a feedback-loop in which enhanced ICC, particularly knowledge, attitudes, and skills, encouraged greater engagement in IC, while rewarding IC experiences further strengthened ICC. This reciprocal relationship between IC and ICC formed a virtuous cycle of intercultural engagement, suggesting that fostering ICC not only resulted from but also actively promoted intercultural contact over time.

Pedagogical Implications and Conclusion

This study examined levels of intercultural (communicative) competence (ICC), means of intercultural contact (IC), and their interaction among Chinese college students. The findings of this study highlighted that both direct and indirect intercultural contact (IC) contributed uniquely to the development of intercultural communicative competence (ICC). Direct IC, facilitated by local activities and online written exchanges, primarily fostered knowledge of other cultures and skills of discovery. Importantly, indirect IC, particularly media exposure, intercultural learning through films and reading, and personal connections, exerted a stronger overall impact, especially given the limited access to direct intercultural experiences, promoting foundational intercultural attitudes such as openness and curiosity. Moreover, a crucial reciprocal relationship between IC and ICC suggested that improvements in intercultural knowledge and attitudes further promoted learners' engagement with intercultural opportunities, creating a mutually reinforcing cycle. This suggested that while direct contact is valuable, integrating intercultural dimensions more explicitly into additional language education should be prioritized.

Building on these findings, additional language education should focus on maximizing both simulated and mediated experiences for diverse intercultural engagement, particularly in contexts where authentic direct IC is limited. Firstly, language educators were encouraged to integrate culturally-laden resources such as films, structured online exchanges, and digital intercultural projects into curricula, thereby encouraging cross-cultural comparison, critical analysis, and interactions with culturally diverse perspectives to move beyond passive exposure toward deeper intercultural learning even in local classrooms. Secondly, teacher education programs should explicitly prepare instructors to model and share their own intercultural experiences, since teacher mediation significantly enhanced students' intercultural awareness. By embedding these practices through accessible indirect contact and simulated direct experiences, additional language education could move from a focus on linguistic competence alone to a holistic development of intercultural communicative competence.

Limitations

Several limitations of the current study should be noted. First, it utilized a cross-sectional design, which limited the ability to establish causal relationships. Future longitudinal studies would provide a more robust understanding of the suggested findings. Second, the study relied on convenience sampling from a single institution and had an imbalanced gender and major ratio. These methodological constraints limited the generalizability of the findings to broader Chinese university populations and introduced potential bias. Specifically, students majoring in medical studies might be more practically oriented and exhibit less intercultural sensibility, suggesting that findings might primarily represent the dynamics of IC and ICC within a STEM/Medicine academic culture. The observed gender imbalance

might inflate the mean of ICC since female students might have higher levels of intercultural motivation. Third, the study applied self-report measures to assess intercultural contact and competence. Future research could integrate other qualitative data such as observational or performance-based measures to supplement self-report data.

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