# **Preplanned Studies**

# Assessment of Intercultural Communication Competence for China Field Epidemiology Training Program (CFETP) Trainees — China, 2025

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## **Summary**

#### What is already known about this topic?

Trainees in the China Field Epidemiology Training Program (CFETP) constitute a vital workforce in addressing global public health emergencies. Developing intercultural communication competence is essential for their future participation in international public health efforts. However, within China's existing public health training system, this aspect has not yet received adequate attention or been systematically strengthened.

# What is added by this report?

This study is the first to evaluate and investigate the intercultural communication competence of domestic CFETP trainees. There are 77 trainees that demonstrated strong cognitive (Score rates: 86.57%) and emotional (87.22%) competencies. However, behavioral (79.42%) competence, particularly language proficiency, can be improved. Further analysis indicated that international experience, duration of time spent abroad, and foreign language proficiency had a significant impact on their intercultural communication competence.

# What are the implications for public health practice?

This study examined the current state of intercultural communication competence among public health professionals and the factors influencing it. It highlights the key obstacles and practical challenges trainees face in intercultural communication while providing essential data to inform the development of targeted strategies for improving competence and refining training programs.

#### **ABSTRACT**

**Introduction:** Advancements in global public health have increased the competency demands for public

health professionals engaged in global health work in China. Intercultural communication competence, an integral component of global public health capabilities, enables trainees to build trust, collaborate effectively in and cultural multicultural contexts, maintain sensitivity and effectiveness in public health interventions.

**Methods:** China Field Epidemiology Training Program (CFETP) trainees with an expressed interest in global health work were selected for this study. A questionnaire was used to evaluate their intercultural communication competence through a combination of subjective self-assessments and objective testing.

Results: A total of 77 CFETP trainees completed the survey. Self-assessment scores indicated a relatively high level of intercultural communication competence (scoring rate: 84.86%), whereas objective test scores were moderately lower (scoring rate: 72.21%). Key influencing factors included previous international experience, duration of time spent abroad, and proficiency in foreign languages.

Conclusion: The participating CFETP trainees demonstrated above-average intercultural communication competence, although performance varied across specific dimensions. Future research should focus on addressing weaker aspects of intercultural skills among public health professionals through targeted training efforts.

The China Field Epidemiology Training Program (CFETP), a cornerstone of China's public health workforce development established in October 2001, has trained 448 highly skilled field epidemiologists through its 2-year program as of February 2025. These professionals are central to domestic outbreak investigations, major public health events, epidemic prevention and control, and public health

policymaking. They also serve as key talent pools for global public health efforts (1). Although CFETP graduates possess professional expertise, those who perform well in domestic settings may not necessarily be equipped to navigate the complexities of public health in intercultural environments. Public health issues are often intertwined with cultural factors (2) shaped by the customs, traditions, and social behaviors of target populations (3). Intercultural communication competence is therefore a core requirement, enabling professionals to build trust, facilitate collaboration and ensure that public health interventions are culturally appropriate and effective in diverse settings.

This study drew on domestic and international intercultural competence models (3), scales (4), and domestic intercultural competence test guidelines (5), incorporating insights from in-depth interviews with professionals, to design a Global Public Health Personnel Intercultural Communication Competence Survey Questionnaire. The questionnaire comprised three main sections: 1) basic personal information; 2) a self-evaluation scale for intercultural communication competence, employing a 5-point Likert scoring system measuring intercultural cognitive competence (10 items, 50 points), intercultural emotional competence (9 items, 45 points), and intercultural behavioral competence (8 items, 40 points); and 3) scenario-based test questions, consisting of 15 multiple-choice questions (10 points each) based on three work-related scenarios: public health assistance abroad, employment in international health organizations, and participation in global health projects. The score rate (%) was determined using the following formula: average score/total score × 100%. Score rates <60% were categorized as low, 60.00%-80.00% as medium, >80.00% as relatively high, and > 90.00% as high level. This study conducted an online questionnaire survey. Data were analyzed using SPSS (version 25.0, IBM SPSS Inc., Armonk, NY, USA).

The survey was administered to all 448 graduated CFETP trainees, with 77 responses received (response rate: 17.19%). The respondents were selected from multi-tiered disease prevention and control centers across 22 provincial-level administrative divisions in China, with an average age of 41.40 years. Approximately 51.95% were male, and 87.01% held postgraduate degrees. A majority (66.23%) had overseas experience, although 60.78% of that subgroup had spent less than 6 months abroad, primarily for brief professional visits (Table 1). The self-assessment scale demonstrated strong reliability, with an overall

Cronbach's \alpha coefficient of 0.95. Exploratory factor analysis vielded a Kaiser-Meyer-Olkin (KMO) value of 0.84, and Bartlett's test of sphericity was significant (P<0.01). Six factors were extracted, aligning with the expected three-dimensional structure (Table 2). The self-assessment results indicated that CFETP trainees exhibited a relatively high overall level of intercultural communication competence. By contrast, the objective test results showed that the score rates across the three scenarios and the total score were all below 80%, indicating a moderate level of performance (Table 2). Overall, Self-assessment scores slightly exceeded objective test scores, suggesting possible overestimation of competence..

The consistency between self-assessment and objective test results was relatively weak (Table 3). A comparative analysis demographic based on characteristics was conducted across these dimensions (Table 1). Trainees with overseas experience had better intercultural cognitive and behavioral competence. Those with longer durations of stay abroad achieved significantly higher scores in behavioral competence. English proficiency had a notable influence on all three dimensions of cognitive, emotional, and behavioral competence, while educational level had no significant effect, though doctoral degree holders scored slightly higher in cognitive and behavioral competence. Sex, age, and professional title were not significant factors.

The main barriers to intercultural competence were cultural background differences, limited language proficiency, and insufficient communication opportunities. In terms of training needs, cultural knowledge, language proficiency, and understanding of cultural taboos were the top three priorities. Most trainees possessed extensive experience in domestic disease prevention through profession-focused training. However, available international opportunities were typically brief and provided minimal cultural exposure. This limited immersion impedes the development of intercultural competence, highlighting the need to incorporate such training into public health programs.

# **DISCUSSION**

High-quality professionals are essential for China's active role in global public health governance and serve as a driving force in advancing a global community focused on health for all (6). Intercultural communication competence, a key component of global public health capacity, is indispensable for both long-term health aid initiatives and short-term

TABLE 1. Comparative analysis of cross-cultural communication competence across dimensions under different characteristics.

	Normalia and (01)		Self-assessment		- <b>-</b>
Item	Numbers (%)	Cognitive ability	Emotional competence	Behavioral competence	Test questions
Sex					
Male	40 (51.95)	4.44±0.54	4.32±0.51	3.99±0.64	102.00±23.99
Female	37 (48.05)	4.21±0.57	4.41±0.50	3.95±0.60	115.14±21.81
Т		1.78	-0.75	0.29	-2.51
P		0.08	0.46	0.77	0.01*
Age (years)					
20-29	2 (2.60)	4.35±0.21	4.22±0.16	3.50±0.00	115.00±7.07
30-39	29 (37.66)	4.33±0.58	4.28±0.58	3.96±0.70	105.86±22.92
40-49	36 (46.75)	4.29±0.59	4.42±0.47	3.99±0.56	111.94±23.76
≥50	10 (12.99)	4.45±0.55	4.42±0.43	4.04±0.68	101.00±28.07
F		0.19	0.49	0.42	0.75
P		0.90	0.69	0.74	0.53
Overseas experience					
Yes	51 (66.23)	4.44±0.49	4.37±0.44	4.09±0.57	106.27±23.06
No	26 (33.77)	4.11±0.64	4.34±0.61	3.73±0.65	112.31±25.03
Т		2.53	0.26	2.50	1.06
P		0.01*	0.80	0.01*	0.30
Cumulative time spent overseas (years)					
<0.5	30 (60.00)	4.41±0.54	4.33±0.47	3.98±0.57	106.33±23.41
0.5-1	15 (30.00)	4.47±0.44	4.46±0.45	4.13±0.56	111.33±21.00
>1	5 (10.00)	4.62±0.36	4.44±0.28	4.67±0.41	88.00±23.87
F		0.40	0.47	3.37	2.00
P		0.67	0.63	0.04*	0.15
English proficiency					
Basic English for daily communication	26 (33.77)	4.07±0.68	4.20±0.58	3.59±0.61	107.69±28.75
Sufficient for basic work communication	27 (35.06)	4.31±0.45	4.30±0.47	3.91±0.49	110.37±20.09
Proficient, capable of handling most work communication	22 (28.57)	4.59±0.40	4.61±0.36	4.40±0.41	109.09±21.58
Use English like a native speaker	2 (2.60)	5.00±0.00	4.61±0.24	5.00±0.00	80.00±14.14
F	( /	4.89	3.22	12.77	1.03
Р		0.00**	0.03*	0.00**	0.39
Educational background					
Bachelor's degree or below	10 (12.99)	4.31±0.43	4.48±0.53	3.94±0.60	100.00±23.09
Master's degree	55 (71.43)	4.28±0.61	4.29±0.51	3.89±0.63	110.18±24.07
Doctoral degree	12 (15.58)	4.57±0.42	4.57±0.40	4.35±0.49	106.67±23.09
F	,	1.28	1.89	2.87	0.81
P		0.28	0.16	0.06	0.45
Professional title					
Senior professional title	27 (35.06)	4.47±0.59	4.48±0.42	4.06±0.61	107.78±26.36
Associate senior professional title	35 (45.45)	4.25±0.54	4.30±0.56	4.01±0.57	111.14±21.11
Intermediate professional title	12 (15.58)	4.20±0.61	4.23±0.51	3.63±0.71	103.33±26.05
Junior professional title or other	2 (2.60)	4.65±0.21	4.67±0.47	4.25±1.06	95.00±35.36
F	( /	0.93	0.91	1.40	0.41
P		0.45	0.46	0.24	0.81

<sup>\*</sup> P<0.05;

<sup>\*\*</sup> P<0.01, the difference is significant.

TABLE 2. Descriptive statistics of each dimension.

Item	Meaning	Mean	SD	Score rate (%)	Level
Self-assessment scale					
Cognitive ability		43.29	5.66	86.57	Relatively high
Cultural knowledge	The communicator's understanding of cultural knowledge and common sense of both their own country and other countries, including cultural background, social norms, and cultural taboos. This encompasses three subordinate indicators: material culture, institutional culture, and spiritual culture.	21.42	3.57	85.66	Relatively high
Intercultural awareness	Sensitivity to and insight into differences, interaction patterns, and values across cultures, encompassing three subordinate indicators: cultural differences, cultural identity, and critical awareness.	21.87	2.64	87.48	Relatively high
Emotional competence	······································	39.25	4.53	87.22	Relatively high
Personal characteristics	The proactive guidance of human behavior, manifesting relatively stable traits across diverse situations, encompasses two subordinate indicators: qualities and character.	26.14	3.06	87.14	Relatively high
Motivation	The ability to stimulate and sustain the communicator's willingness to engage in cross-cultural contexts and to direct behavior toward specific objectives. It consists of three subordinate indicators: willingness to communicate, task-driven motivation, and self-driven motivation.	13.10	1.80	87.36	Relatively high
Behavioral competence		31.77	4.97	79.42	Moderate
Communication skills	Selecting appropriate cultural resources based on specific situations and using verbal and non-verbal forms of expression to ensure effective communication. This includes three subordinate indicators: cultural resource utilization ability, linguistic skills, and non-linguistic skills.	10.64	2.40	70.91	Moderate
Executive ability	The ability to integrate resources, apply communication strategies, and achieve communication goals. It consists of four subordinate indicators: observational and critical thinking skills, interaction management skills, adaptability, and teamwork skills.	21.13	3.08	84.52	Relatively high
Total score		114.56	13.12	84.86	Relatively high
Test questions					J
Public health foreign aid	Communication issues are designed around emergency response, health project collaboration, and local work engagement. These include intercultural coordination in the local work environment, emergency management, meeting preparation, proactive communication for assistance, team integration, and trust building.	35.20	11.69	70.39	Moderate
Employment in international health organizations	Communication issues are based on the daily operations and interpersonal interactions within international organizations. These include communication methods, problem-solving, conflict management, and emergency response in the specific working environment of international organizations to ensure a smooth workflow and maintain positive professional relationships.	38.05	10.94	76.10	Moderate
Participation in international health projects	Questions focus on real-life scenarios involving international exchange and cooperation. Topics include effective communication, adaptability, respect, and inclusiveness in intercultural environments to facilitate problem-solving and strengthen collaboration.	35.07	10.52	70.13	Moderate
Total score		108.31	23.75	72.21	Moderate

Abbreviation: SD=standard deviation.

emergency responses to international public health crises. It extends beyond language proficiency to include the ability to understand, adapt, and respect diverse cultural contexts while effectively navigating complex intercultural environments. Given its significance, this study focused on CFETP trainees, recognized for their strong public health expertise, to

assess the current state of intercultural communication competence among domestic public health professionals, identify gaps across multiple dimensions, and provide insights for future capacity-building efforts (7).

The self-assessment results suggest that CFETP trainees generally possess high intercultural

TABLE 3. Correlation analysis of each dimension.

	Cognitive	Emotional	Behavioral	Cultural	Intercultural	Personal	:	Communication	Executive	Overall Self-	Test
Item	ability	٠	competence	knowledge	awareness	characteristics	Motivation	skills	ability	assessment	Questions
Dimension											
Cognitive ability	_										
Emotional competence	0.496**	<b>←</b>									
Behavioral competence	0.697**	0.602**	<del>-</del>								
Extracted factor											
Cultural knowledge	0.936**	0.432**	0.632**	_							
Intercultural awareness	0.878**	0.479**	0.640**	0.653**	<b>←</b>						
Personal characteristics	0.461**	0.961**	0.512**	0.402**	0.444**	<del>-</del>					
Motivation	0.465**	0.882**	0.643**	0.404**	0.450**	0.717**	_				
Communication skills	0.653**	0.524**	0.879**	0.611**	0.574**	0.480**	0.503**	<del>-</del>			
Executive ability	0.616**	0.562**	0.928**	0.543**	0.585**	0.453**	0.645**	0.638**	_		
Overall self- assessment	0.875**	0.794**	0.895**	0.799**	0.794**	0.731**	0.755**	0.803**	0.819**	<del>-</del>	
Test questions	-0.185	0.154	-0.084	-0.167	-0.172	0.087	0.242*	-0.223	0.039	-0.059	~

Note: The questionnaire items were mapped to specific competency domains as follows: Cultural Knowledge: Items 1–1 to 1–5, intercultural Awareness: Items 1–6 to 1–10, Personal characteristics: Items 2–1 to 2–6, Motivation: Items 2–7 to 2–9, Communication Skills: Items 3–1 to 3–3, Executive ability: Items 3–4 to 3–8.

\* P<0.05;

\*\* P<0.01, the difference is significant.

communicative competence. However, noticeable differences emerged across certain items, and scores were notably lower in areas related to knowledge of religion, traditional ceremonies, social etiquette, (mean score 4.08), and intercultural customs knowledge, both within one's own country and abroad (mean 3.95). This trend aligns with trainees' expressed need for more cultural knowledge. Limited opportunities for intercultural exchange may have contributed to a lack of awareness regarding the intricate relationship among religion, traditional customs, and health. Furthermore, the trainees also scored lower on intercultural initiative for two main reasons. First, weak professional language skills. Second, China's predominant communication style, which favors indirect expression, may encourage passivity. Supported by intrinsic motivations such as task-oriented demands (mean 4.40) improvement goals (mean 4.48),participants' communicative initiative (mean 4.23) exhibited an upward trend. These motivations may help individuals psychological overcome barriers in real-world situations, ultimately strengthening their initiative and adaptability in intercultural contexts.

The overall score on the self-assessment scale was slightly higher than that of the objective test, particularly in cultural knowledge and behavior. Trainees with higher self-assessment scores exhibited greater confidence in their ability to navigate intercultural communication. This finding is consistent with those of international studies, which indicate that even without formal intercultural training, participants often assume they possess the necessary skills to effectively multicultural function in environments (8). Intercultural communication is inherently complex and encompasses a broad range of competencies. Even with similar levels of cultural knowledge and communicative initiative, individuals' actual behavior may vary owing to personal characteristics. Therefore, assessments should distinguish between competence gaps resulting from modifiable factors such as knowledge and language proficiency and those influenced by intrinsic traits such as personality.

Analysis across different backgrounds revealed that women outperformed men in objective testing and scored higher on intercultural emotional competence. From a sex-based perspective, women are often thought to have stronger empathy, increased cultural awareness, and greater aptitude for foreign language learning. These strengths likely helped them avoid

missteps in test scenarios and make more thoughtful decisions. In the self-assessments, trainees with stronger English proficiency reported better intercultural communication capabilities, particularly in terms of understanding, cultural initiative, inclusiveness, communication, and teamwork. Trainees with overseas experience demonstrated stronger cognitive and competence. Firsthand behavioral intercultural exposure improves both cultural understanding and practical communication skills while encouraging a broader worldview. These abilities tend to strengthen with longer stays abroad. Moving forward, English proficiency and international experience should be prioritized in selecting and training of professionals for global health work.

 $T_{\Omega}$ enhance intercultural communication competence, it should be continuously taught and reinforced through medical education, training, and practice (9). For in-service personnel, increasing opportunities for international health exchanges and integrating training programs can strengthen their intercultural communication competence Trainees prefer face-to-face lectures, in-depth case studies, global public health emergency response scenarios, and practical experiences related to medical missions and international public health initiatives (11). The development of cultural knowledge and language proficiency is a long-term process that requires continuous support from the educational system. Integrating intercultural competence into public health education and research can yield more substantial and lasting improvements (12).

This study has certain limitations. First, its exclusive focus on trainees interested in global health activities introduces sampling bias, which may limit the representativeness and generalizability of the findings. Second, although the objective test questions were developed with expert guidance, the complexity of intercultural communication behaviors makes it challenging for existing assessment tools to capture all dimensions of intercultural communication competence.

In conclusion, the participating CFETP trainees demonstrated above-average intercultural communication competence, which was mainly influenced by English proficiency and overseas experience. The significance of our study lies not only in providing public health professionals with a comprehensive understanding of their cross-cultural communication skills—enabling them to assess their knowledge, attitudes, and abilities when encountering

cultural differences — but also in clarifying essential directions for selecting and training international health professionals. Future efforts should focus on more specific areas within public health and addressing weaker aspects of intercultural skills.

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### **REFERENCES**

- Zeng G, Wang Y, Lv M, Shi GQ, Ma HL, Lei J, et al. China field epidemiology training program. China Sci Technol Achiev 2009;10 (20):35. http://dx.doi.org/10.3772/j.issn.1009-5659.2009.20.018. (In Chinese).
- Napier AD, Ancarno C, Butler B, Calabrese J, Chater A, Chatterjee H, et al. Culture and health. Lancet 2014;384 (9954):1607 – 39. https:// doi.org/10.1016/S0140-6736(14)61603-2.
- Chen GM, Starosta WJ. Intercultural communication competence: a synthesis. Ann Int Commun Assoc 1996;19 (1):353 – 83. https://doi.

- org/10.1080/23808985.1996.11678935.
- Fantini A, Tirmizi A. Exploring and assessing intercultural competence. Brattleboro: Federation of the Experiment in International Living; 2006.
- 5. Peng RZ. A guidebook for intercultural competence test. Shanghai: Shanghai Foreign Language Education Press. 2023. http://find.nlc.cn/search/showDocDetails?docId=-148733008751206855&data Source=ucs01&query=%E8%B7%A8%E6%96%87%E5%8C%96%E8%83%BD%E5%8A%9B%E8%80%83%E8%AF%95%E5%A4%87%E8%80%83%E6%8C%87%E5%8D%97. (In Chinese).
- Hou JL, Yu C, Cheng HQ, Wang WM. Reflections on strengthening the cultivation of internationalized medical talents under the background of building a global community of health for all. Chin J Med Educ 2024;44 (10):739 – 44. https://doi.org/10.3760/cma.j. cn115259-20240626-00656.
- Huish C, Greenhalgh C, Garrow A, Verma A. Intercultural gaps in knowledge, skills and attitudes of public health professionals: a systematic review. J Public Health (Oxf) 2023;45 (Suppl 1):i35 – 44. https://doi.org/10.1093/pubmed/fdac166.
- Da Costa M. How culture impacts health: the Hispanic narrative. Creat Nurs 2023;29 (3):273 – 80. https://doi.org/10.1177/10784 535231211695.
- 9. Dimitrova D, Sehouli J. Promoting intercultural competencies in the healthcare sector through further education and training. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz 2023;66 (10):1126-9. http://dx.doi.org/10.1007/s00103-023-03768-3. (in German).
- Beach MC, Price EG, Gary TL, Robinson KA, Gozu A, Palacio A, et al. Cultural competence: a systematic review of health care provider educational interventions. Med Care 2005;43 (4):356 – 73. https://doi. org/10.1097/01.mlr.0000156861.58905.96.
- Fang N, Liu X, Wang Q, Liang XH, Dong XP. A preliminary research on transcultural capacity in global public health: from the view of public health professionals. BMC Public Health 2023;23 (1):465. https://doi.org/10.1186/s12889-023-15312-8.
- Fleckman JM, Dal Corso M, Ramirez S, Begalieva M, Johnson CC. Intercultural competency in public health: a call for action to incorporate training into public health education. Front Public Health 2015;3:210. https://doi.org/10.3389/fpubh.2015.00210.

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