Higher Education Quarterly

Higher Education Quarterly, 0951-5224
DOI: 10.1111/hequ.12119
Volume 00, No. 00, Month 2017, pp 00–00

An Exploratory Study of Chinese University Undergraduates' Global Competence: Effects of Internationalisation at Home and Motivation

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Abstract

Global competence is categorised into three dimensions: knowledge, skills/experience and attitudes. This study aims to investigate the global competence discrepancies of Chinese undergraduates in universities and regions of different development levels, as well as the effects of internationalisation efforts at home and students' motivation on global competence. To this end, 2,695 students within nine universities (three 985 project universities, three 211 project universities and three provincial universities) in three Chinese cities (Beijing, Nanjing and Changchun) participated in this survey. The findings revealed that Chinese undergraduates have positive global attitudes, but they seem to lack sufficient global knowledge. Students from 985 project universities reported gaining higher global competence than students from 211 project and provincial universities, and students from Beijing reported higher global competence than students from Nanjing and Changchun. Competence discrepancies concerning fields of study were also found. The results of hierarchical regression analysis suggest that gender, 985 and 211 project universities, Beijing city, social sciences and humanities, experience of contact with foreigners on campus activities, enrolment in courses related to internationalisation and students' motivation were predictive of Chinese students' global competence.

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Introduction

The quickening pace of globalisation driven by the profound changes of the economy, politics and technology has produced a new world. It calls for new educational responses to the opportunities and challenges the new world brings about. To respond to such challenges, it is important that higher education institutions graduate more globally competent students (Hunter *et al.*, 2006; Brustein, 2007; Mansilla and Jackson, 2011).

The Chinese government and higher education stakeholders have become aware of the importance of internationalisation of higher education and are dedicated to graduating more globally competent students (Yang, 2014). For instance, the Ministry of Education of China released the outline of China's National Plan for Medium and Long-Term Education Reform and Development (2010–2020), in which one clear goal was to cultivate large numbers of talents imbued with a global vision, well-versed in international rules, and capable of participating in international affairs and competition.

An impressive deposit of studies has demonstrated that study abroad can be a primary educational tool to develop students' global competence in a cross-cultural environment (Dwyer, 2004; Braskamp *et al.*, 2009; Mansilla and Jackson, 2011). However, it has to be noted that although an increasing number of Chinese students are pursuing an education at foreign higher education institutions, this number remains very small in comparison with the whole student population due to the high tuition fees and additional cost of living abroad (Cao *et al.*, 2016). In light of this, it is important to investigate to what extent Chinese university students who do not participate in study abroad programmes are prepared for the global interdependence and interconnectedness. However, until now, little attention has been given to the student population concerning evaluating their global competence (Shen *et al.*, 2011). According to previous studies (Shao *et al.*, 2007; Zhang and Xiang, 2011), more developed cities in China tend to have a higher internationalisation level and more actively engage in international affairs and competition. Living in the developed cities may bring about more opportunities for cross-cultural communication and activities (Zhang and Xiang, 2011). Research institutes usually divide Chinese cities into different tiers to represent their development level according to statistics such as gross domestic product and income *per capita*. Based on these, this study focused on Chinese undergraduates from different universities in different tiers of Chinese cities (Beijing, a first-tier city located in north China; Nanjing, a second-tier city located in southern China; and Changchun, a

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third-tier city located in north-east China) to investigate their potential global competence differences. In addition, this study examined whether or not internationalisation activities on home campuses and motivation for gaining global competence can be contributing factors of Chinese undergraduates' global competence.

Literature review

Global competence

It was suggested that the effort to define and foster global competence is a worthy goal essential to improving international understanding at an international conference organised by the Council on International Education Exchange (CIEE, 1993). Using a Delphi Technique, Hunter *et al.* (2006) defined global competence as 'having an open mind while actively seeking to understand cultural norms and expectations of others, leveraging this gained knowledge to interact, communicate and work effectively outside one's environment' p. 270. This definition demonstrated the inevitable link between thought and action.

It is commonly accepted that global competence can be categorised into three dimensions: knowledge, skills/experience and attitudes (Green and Shoenberg, 2006; Hunter *et al.*, 2006; Li, 2013). First of all, global attitudes describe the awareness of the global diversity and cultural complexity and the respect for cultural differences (Reimers, 2009; Mansilla and Jackson, 2011), an inner curiosity in investigating the world beyond his or her immediate environment (Deardorff, 2009). Knowledge refers to the understanding of history, geography, economic, political and other issues related to one's own and a foreign culture (Hunter *et al.*, 2006; Reimers, 2009). Such knowledge must be sufficiently in-depth to provide students with the imperative context to comprehend the complexity of global phenomena (Li, 2013). Skills cover a range of personal capabilities to collect and process information in a cross-cultural environment, such as second language capacity, adapting to difficult situations, handling stress and communication skills (Papadopoulos *et al.*, 1998; Deardorff, 2006; Hunter *et al.*, 2006).

Scholars and organisations have designed inventories and rubrics to measure global competence. For example, the Global Competencies Inventory (GCI) presented a comprehensive content domain of necessary competencies to be effective global leaders. Using this inventory, Huerta (2012) examined the global competence of employees of the United States Marine Corps who had working abroad experience and found that GCI scores positively associated with both repatriate

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adaptation and institutional commitment. In another study by Furuya *et al.* (2009), GCI scores predicted managerial ratings of job performance prior to the expatriate assignment. This instrument was mainly oriented towards helping business corporates and government agencies evaluate their employees' competence in the multicultural environment, thus not particularly applicable to the higher education context. The Global Perspectives Inventory (GPI) offers a self-reported way to measure an individual's global perspective regarding cognitive, intrapersonal and interpersonal dimensions of global learning and development. Utilising one subscale of this inventory (i.e., cross-cultural social interaction), Glass and Westmont (2014) found that college students' participation in inclusive curricular and sense of belonging can significantly predict their interactions with out-group members. The empirical research by Lv *et al.* (2013) is one of the few investigating Chinese students' global competence by comparing global competence of students at Nanjing University (China), Seoul National University (Korea) and the University of California, Berkeley (USA). The findings revealed that the American university was significantly superior to the Chinese and Korean universities in promoting students' global competence and experiences.

Internationalisation at home and global competence

One of the major educational goals of internationalising higher education is to improve students' competence in an international or intercultural context (Volet and Ang, 1998). In response to this need, higher education institutions are increasingly internationalising their curricular and co-curricular efforts on campus (Soria and Troisi, 2014). The cultural diversity of modern universities provides rich opportunities for students to develop 'a more globalized sense of responsibility and citizenship' (Kahane, 2009, p. 49). Internationalisation at home is broadly defined as any internationally related activity with the exception of outbound student mobility (Nilsson, 2003). The relationship between internationalisation on home campuses and global competence has been well documented. For instance, surveying more than 10,000 American students, Soria and Troisi (2014) found that students who attended various internationalisation activities at home achieved no less development of global competence than students who participated in study abroad programmes. Supporting this evidence, Trahar and Hyland's (2011) qualitative study revealed that both domestic and international students in the United Kingdom benefited from intercultural competence development from building intercultural friendships. Using a pedagogical

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intervention, Li (2013) offered some initial evidence that providing Chinese students with opportunities to collaborate virtually with peers from foreign cultures can enhance their global competence in an easy-to-use and cost-effective way. Scholars have also observed some challenges in the process of internationalisation at home, such as the significant lack of contact between domestic and international students and prejudice towards ethnic minority groups (e.g., De Vita, 2007; Leask and Carroll, 2011). As such, appropriate and effective interventions are needed to generate successful inclusion and active engagement in multicultural classroom and campus activities (Leask and Carroll, 2011).

The positive relationship between internationalisation at home and global competence can be explained by the contact theory (Allport, 1954) and its extensions (Pettigrew, 1998; Pettigrew and Tropp, 2006). Cross-cultural contact among different cultural groups can enhance mutual understanding and reduce prejudices when the optimal contact conditions (e.g., equal status, pursuit of common goals and cooperative attitudes) are met. Such contact theory and its extensions lay the ground for effective intercultural communication which may positively contribute to the increased knowledge, a truer set of beliefs and respect for the other cultural group (Zhang and Goodson, 2011).

In recent years, the number of international students studying in China has steadily increased. The statistics released by the Ministry of Education of China indicated that in 2014, nearly 380,000 international students from 203 countries or regions were studying in China. Their presence has diversified Chinese university campuses and offered great opportunities for Chinese students who do not participate in study abroad programmes to be exposed to students from diverse cultural backgrounds (Huang, 2003). However, it is also important to note that a majority of international students in China prefer the top universities or economically developed cities as their destinations (BeBe, 2012). Due to the imbalanced distribution, students at the top universities and/or in developed cities of China may have more opportunities of intercultural contact than other Chinese university students.

Students' motivation for global competence

The term motivation describes the reasons that explain or justify actions (Denis and Jouvelot, 2005). Ryan and Deci (2000) argued that sustained participating behaviour is closely related to intrinsic motivation. Motivation also leads to the activation of efficient cognitive strategies for long-term memory issues like monitoring, elaborating or organising

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information. On the other hand, a lack of motivation has negative results on memorisation and personal development (Denis and Jouvelot, 2005).

The inequities of globalisation require that students be motivated to cultivate global competence that changes the way to understand world history, the human condition, global environmental challenges, the development of skills to manage complex societies, the creation of different types of solutions and the visualisation of new ways of understanding our own society (Robertson, 2004). Mansilla and Jackson (2011) argued that university students should be highly motivated to effectively function in the multicultural world. Many components can contribute to global competence development, including knowledge, motivation, behavioural aspects and context (situational component) (Spitzberg and Cupach, 1984; Arasaratnam and Doerfel, 2005; Neuliep, 2014).

The present study

Despite the importance of global competence for university students, little is known about Chinese university students' global competence level and its relationship with other factors. The specific research questions (RQ) are posed as follows:

RQ 1: How globally competent are Chinese university students?

RQ 2: Do students from universities and cities of different levels gain a different global competence level?

RQ 3: Can internationalisation activities on home campuses and motivation for global competence affect Chinese undergraduates' global competence level?

Method

Sampling

Cluster sampling was employed in the data collection. First of all, considering that China is a country with a vast territory, three cities were selected representing different geographic regions and development levels. Beijing, the capital city located in north China, represents the first-tier cities of China; Nanjing, located in southern China, represents the second-tier cities; Changchun, located in north-east China, represents the third-tier cities. Then within Beijing city, three universities of different levels were selected: Renmin University of China (RUC, 985 project university[1]), Beijing Jiaotong University (BJU, 211 project university[2])

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and Capital Normal University (CNU, provincial university[3]); within Nanjing city, the three selected universities are Nanjing University (NJU, 985), Nanjing University of Aeronautics and Astronautics (NUAA, 211) and Nanjing University of Information Science and Technology (NUIST, provincial); within Changchun city, the three selected universities are Jilin University (JLU, 985), Northeast Normal University (NNU, 211) and Changchun University of Science and Technology (CUST, provincial).

A total of 2,900 paper and pencil survey questionnaires were distributed to undergraduate students from the nine universities on university campuses or in classrooms. A total of 2,695 respondents completed and returned the questionnaires. The respondents also cover different genders, the year of study at the university and fields of study. In addition, they were asked to indicate whether or not they had the experience of communicating with foreigners through curricular or campus activities and whether or not they had the experience of attending internationalisation courses. The nature and composition of the samples are presented in Table 1.

Instrument

All student participants responded to the five-point Likert scale survey questionnaire (see Appendix), which consists of three parts.

Personal information

In this part, the undergraduate students' background information was gathered, including gender, the year of study and the name of the university they attended, fields of study, the experience of communicating with foreigners through course learning, campus activities and the experience of attending courses related to internationalisation in their home universities.

Students' motivation for global competence

Based on the literature review, this scale was developed with nine item questions, measuring to what extent Chinese university undergraduate students perceived global competence is important for higher education and their future career development and to what extent they are motivated to gain global competence. A higher score indicated higher motivation to gain global competence. The reliability of this scale with a Cronbach's alpha of 0.927 well exceeds the minimum level of 0.70 to confirm instrument reliability (Nunnally, 1978).

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TABLE 1
Nature and composition of the participants

Characteristics/categories	Number	Percentage
Universities of different levels		
985 project universities	**Total = 1,343**	**49.8%**
RUC, Beijing	591	21.9%
NJU, Nanjing	303	11.2%
JLU, Changchun	449	16.7%
211 project universities	**Total = 602**	**22.3%**
BJU, Beijing	224	8.3%
NUAA, Nanjing	281	10.4%
NNU, Changchun	97	3.6%
Provincial universities	**Total = 750**	**27.8%**
CNU, Beijing	195	7.2%
NUIST, Nanjing	191	7.1%
CUST, Changchun	364	13.5%
Gender		
Male	1,204	44.7%
Female	1,491	55.3%
Fields of study		
Physics and engineering	951	35.3%
Social sciences and humanities	1,428	53%
Life sciences	310	11.5%
Experience of contact with foreigners in course learning		
Yes	1,388	51.5%
No	1,307	48.5%
Experience of contact with foreigners on campus activities		
Yes	1,057	39.2%
No	1,637	60.7%
Experience of learning courses related to internationalisation		
Yes	826	30.6%
No	1,864	69.2%

Note: Miss values are excluded in percentage calculations.

Students' self-reporting of global competence level

This part is to measure how globally competent Chinese university students are by means of self-perceived performance ratings. This part is based on the inventory adopted by Grudzinski-Hall (2007). Based on Hunter's schema, the 18 items necessary for global competence identified as a series of knowledge, skills and attitudes, Grudzinski-Hall developed an inventory with 27 survey questions. Three of these

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questions were adapted from a survey conducted in 2002 by the American Council on Education. These questions were added as they further support Hunter's Global Competence Checklist and seek opinion on language study, which Hunter's checklist does not consider because his participants are native English speakers. Some modifications were made to the item questions to make them suitable for the Chinese higher education context.

The questionnaire was translated into Chinese. In order to guarantee the content validity, a bilingual and expert in higher education internationalisation was invited to check the understanding of the instrument. Small adjustments of language and wording were made based on the feedback to make it more understandable for Chinese students while preserving the original meaning.

The reliability for the whole global competence scale is 0.89, and for the three subscales: knowledge level (11 items, $\alpha = 0.84$), the skills/experience level (8 items, $\alpha = 0.82$) and the attitudes level (7 items, $\alpha = 0.78$).

Data analysis

The following data analyses were conducted: (1) scale reliability analyses were conducted to test the internal consistency; (2) analyses of descriptive statistics were conducted to understand to what extent Chinese undergraduate students are globally competent and which competences are most and least developed for them; (3) one-way analysis of variance (ANOVA) analyses were conducted to investigate if there are any differences among the students concerning global competence level; and (4) hierarchical regression analyses were conducted to investigate whether or not international experiences at home and students' motivation have any influence on the dependent variable of students' global competence level.

Results, discussion and implications

This study explored global competence of Chinese undergraduates from universities and cities of different levels and the variables that may influence global competence. Means, standard deviations, Pearson correlations, and maximum and minimum values of the variables are presented in Table 2. All variables investigated were significantly correlated with each other on a moderate level, indicating that there may not be a multicollinearity problem (Tabachnick and Fidell, 2007).

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TABLE 2

Means, standard deviations, correlations, and maximum and minimum values of the variables

Variable	1	2	3	4	M	SD	Maximum	Minimum
Knowledge	–	0.548**	0.263**	0.302**	3.14	0.56	4.64	1.18
Skills		–	0.506**	0.415**	3.33	0.59	5.00	1.00
Attitudes			–	0.549**	4.00	0.66	5.00	1.00
Motivation				–	4.26	0.69	5.00	1.00

Note: $^{**}P < 0.01$.

Chinese undergraduates' global competence and internationalisation on home campuses

Mean scores of the three subscales of global competence provided answers to RQ 1. The results showed that students' attitude level was the highest (M = 4.00, SD = 0.66). In contrast, the score of knowledge level was the lowest (M = 3.14, SD = 0.56). The students' skills level took the intermediate position (M = 3.33, SD = 0.59).

Based on the results, Chinese undergraduates exhibited a relatively high level of global attitudes, reflecting their positive approach towards cultural differences and willingness to engage those differences in global issues. This may be attributed, at least in part, to Chinese cultural traditions that featured cultural tolerance, cultural compatibility, and the respect for diversity and differences (Han, 2013). However, they reported being relatively low in the global knowledge dimension. This deficiency in global knowledge is an educational problem that needs to be taken seriously by educators and policy makers of institutions as Longview Foundation (2008) argued that students need extensive knowledge of the world and the skills to be effective participants in the global market of the 21st century.

Chinese students' rates of participation in internationalisation activities are presented in Table 3. Regarding the university levels, students from 985 project universities had the highest rate of participation in all these internationalisation activities, followed by students of 211 project universities and provincial universities, respectively. Concerning regions, university students from Beijing (a first-tier city) had the highest participation rates, followed by students from Nanjing (a second-tier city) and Changchun (a third-tier city), respectively.

A transverse comparison in Table 3 shows that Chinese students more frequently engaged in intercultural interactions on campus than the formal course learning with international/global focus. Furthermore, a

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TABLE 3

The rates of Chinese undergraduates' participation in internationalisation activities on home campus

	Internationalisation activity 1[a]	Internationalisation activity 2[b]	Internationalisation activity 3[c]
By university level			
985 project sample	58.9%	44.9%	34.9%
211 project sample	54.3%	33.7%	33.4%
Provincial sample	36%	33.6%	20.9%
By region			
Beijing sample	69.5%	49%	38.1%
Nanjing sample	53.9%	38.2%	32.5%
Changchun sample	29.5%	29.3%	20.8%

[a]Experience of contact with foreigners in course learning.
[b]Experience of contact with foreigners on campus activities.
[c]Experience of learning courses related to internationalisation.

vertical comparison indicated that students from higher level universities or more developed cities had higher rates of participation in the internationalisation activities on their home campus.

Chinese undergraduates' global competence discrepancies

In order to test the differences in global competence of Chinese undergraduates from universities and cities of different levels, ANOVA analyses were conducted and the results are reported in Table 4. Concerning regions, the Beijing sample seemed to gain higher global knowledge and skills than the Nanjing and Changchun samples. In addition, the Beijing sample seemed to acquire higher global attitudes than the Nanjing sample. No significant differences were found between the Nanjing sample and Changchun sample.

Consistent with expectations, students from 985 project universities reported gaining significantly higher levels of knowledge, skills and attitudes than students from 211 project universities and provincial universities. When it came to the comparison between 211 project and provincial universities, no significant differences were found except the skills level, where students from provincial universities reported having higher skills level than students from 211 project universities.

To sum up, students from 985 project universities had higher rates of engagement in international experiences and gained higher global competence than those from 211 project universities and provincial universities. The underlying factors that may contribute to these significant

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TABLE 4

Differences in global competence among universities and cities of different levels

	Knowledge level			Skills level			Attitudes level		
	M	SD	F	M	SD	F	M	SD	F
By university level									
(1) 985 project sample	3.21	0.55	26.16***	3.39	0.59	20.71***	4.06	0.64	13.28***
(2) 211 project sample	3.04	0.56		3.21	0.58		3.90	0.66	
(3) Provincial sample	3.07	0.56		3.30	0.60		3.98	0.67	
		1 > 2; 1 > 3			1 > 2; 1 > 3; 3 > 2			1 > 2; 1 > 3	
By region									
(1) Beijing sample	3.22	0.55	19.45***	3.40	0.60	15.12***	4.03	0.68	4.24*
(2) Nanjing sample	3.07	0.55		3.26	0.59		3.95	0.64	
(3) Changchun sample	3.09	0.57		3.30	0.58		4.02	0.64	
		1 > 2; 1 > 3			1 > 2; 1 > 3			1 > 2	
By fields of study									
(1) Physics and engineering	3.06	0.57	32.46***	3.26	0.58	27.64***	3.91	0.64	25.71***
(2) Social sciences and humanities	3.22	0.54		3.40	0.60		4.09	0.64	
(3) Life sciences	2.99	0.52		3.18	0.57		3.90	0.66	
		2 > 1; 2 > 3			2 > 1; 2 > 3			2 > 1; 2 > 3	

Note: ***$P < 0.001$, *$P < 0.05$.

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differences can be complex. One possible reason is that Chinese students who are eligible to enter 985 project universities, the top universities in China, are generally required to excel in the entrance exam including subjects such as Chinese, a second language (mainly English), mathematics, geography and history (Davey *et al.*, 2007). Under such educational circumstances, many students from 985 project universities may have accumulated more knowledge necessary for global competence prior to entering the universities than those from universities of inferior levels. In addition, after entering these prestigious universities, students may enjoy more opportunities to be exposed to intercultural experiences because these universities tend to attract a large number of international students and scholars. It is fully expected that future research can continue searching for underlying reasons for students' global competence differences between universities of different levels.

Another finding of this study worth discussing briefly is the global competence differences between students from 211 project universities and provincial universities. Of interest, although students from 211 project universities seemed to have a higher ratio of participation in intercultural experiences than those from provincial universities, the former group exhibited similar levels of global knowledge and attitudes, but lower levels of global skills as compared to the latter group. One possible explanation is that the three provincial universities selected for this study are relatively good ones among provincial universities in China. For instance, the CNU in Beijing and CUST in Changchun rank among the top 150 among more than 2,800 Chinese universities or colleges according to the recent benchmarking in 2016. Therefore, it may result in less salient differences in global competence between students from the three 211 project universities and the three provincial universities.

Although it was not included as one of the research questions, significant differences in students' global competence were found among different fields of study. Therefore, it was decided to report the differences in this section because it might generate important implications. As shown in Table 3, students in social sciences and humanities reported gaining higher global competence in all three dimensions than students in physics and engineering and life sciences. This finding was mirrored in previous studies that students in social sciences and humanities are traditionally more interested in studying abroad and have a higher sense of global citizenship (Lincoln Commission, 2005; Hoffa, 2007; Cao *et al.*, 2016). A possible explanation is the different educational background and curricular settings. For students in social sciences and humanities, their curriculum content often involves more knowledge about history,

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culture, geography, economics and politics related to one's own and other foreign countries. From this perspective, it is recommended that curriculum provision for students in physics and engineering and life sciences be diversified to include more humanity and social knowledge.

Effects of demographic factors and motivation on global competence

To answer RQ 3, a hierarchical multiple regression (HMR) was conducted. As students from different levels of universities, regions and fields of study exhibited different global competence, it was decided to include these factors in the regression model together with the internationalisation activities, gender and the year of study at the universities. First of all, these variables were dummy-coded with female, freshman, provincial universities, Changchun city, life sciences and without the experiences of engaging in internationalisation activities as reference groups. In the second step, in examining the effects of the demographic variables and motivation on global competence, the demographic variables were entered into the model as the first block, then students' motivation was entered as the second block. In the final model, the results indicated that 11.1 per cent of the total variance could be accounted for by the demographic variables. The variable of students' motivation accounted for an additional 23 per cent of the variance in global competence (see Table 5). Examination of the Beta weights suggested that eight of all the predictors emerged as significant for global competence (in decreasing order of importance): students' motivation, the experience of contact with foreigners through campus activities, male, the experience of attending courses of internationalisation, social sciences and humanities, 985 project universities (representing top level universities of China), Beijing city (representing first-tier cities of China) and 211 project universities. Furthermore, all of these significant predictors were positively associated with global competence except for 211 project universities.

These findings were consistent with the previous study by Soria and Troisi (2014) which revealed that students who did not participate in study abroad programmes can also gain global competence development through various internationalisation activities at home. The findings also reaffirmed the contact theory (Allport, 1954) and its extensions (Pettigrew, 1998; Pettigrew and Tropp, 2006): when interacting with out-group members, individuals can gain the experiences that enable them to become more comfortable in an intercultural environment. However, it was surprising to find that the experience of contact with foreigners in course learning did not contribute to higher global competence. A possible explanation was

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TABLE 5

Hierarchical regression of students' global competence

Hierarchical steps/variables	R^2	Adjusted R^2	Change in R^2	ΔF	*df*	*B*	SE	β
Global competence								
Step 1: Demographic factors	0.111	0.107	0.111	23.964	13, 2,488			
Step 2: Students' motivation	0.341	0.347	0.230	867.699	1, 2,487			
Final model								
Step1: Demographic factors								
Male						0.120	0.018	0.127***
Sophomore						−0.002	0.022	−0.002
Junior						0.020	0.022	0.020
Senior						0.022	0.030	0.014
985 project						0.050	0.020	0.053*
211 project						−0.056	0.024	−0.050*
Beijing						0.049	0.020	0.051*
Nanjing						−0.023	0.022	−0.022
Physics and engineering						0.006	0.026	0.006
Social sciences and humanities						0.098	0.027	0.104***
Participating in internationalisation activity 1[a]						0.016	0.018	0.017
Participating in internationalisation activity 2[b]						0.128	0.017	0.133***
Participating in internationalisation activity 1[c]						0.094	0.018	0.093***
Step 2:								
Students' motivation						0.336	0.011	0.493***

[a]Experience of contact with foreigners in course learning.
[b]Experience of contact with foreigners on campus activities.
[c]Experience of learning courses related to internationalisation.
Note: ***$P < 0.001$, **$P < 0.01$, *$P < 0.05$.

that the course learning environment is too formal, thus involving much less out-group contact than the informal campus activities where students tend to feel more relaxed. As stated by Lee *et al.* (2012), it was problematic to assume that intercultural competence will naturally develop as a result of immersion in a structurally diverse environment. Future studies are encouraged to focus on the comparison of effects of formal/structured classroom context and informal/unstructured campus leisure activities on global competence to generate more in-depth findings.

Furthermore, attending courses with international/global focus also positively predicted higher global competence, in line with the previous study (Mansilla and Jackson, 2011). Siaya and Hayward (2003) argued that universities should place an emphasis on internationalising the curriculum to ensure that students gain global skills and knowledge. Conclusively, students who do not participate in study abroad programmes can also reap the benefits of cultivating global competence through participation in interactions with out-group members on their home campus and internationalised curriculum.

Finally, students' motivation can also positively predict global competence. However, the study of Lv *et al.* (2013) suggested that many Chinese students interviewed held the view that global competence was of no or little importance for them if they did not have the intention to study abroad. The weak global competence motivation or consciousness may result from their narrow interpretation of global competence. Studies have pointed out that 21st-century companies and organisations both at home and abroad depend increasingly on employee's global competence (Roth *et al.*, 2008; Slaughter, 2009).

Implications

Based on the results, there are a number of implications that point to actions and educational interventions that can be undertaken to cultivate Chinese students' global competence. As an emerging destination country, China is attracting an increasing number of international students. Mixing these incoming students and domestic students can be important to diversify the host university campus and cultivate both parties' competence in the multicultural context (Huang, 2003). However, some research has provided evidence that the two student groups tended to study and live in parallel communities due to some structural problems. Specifically, international students usually select the English-medium instruction programme (Botha, 2016), whereas domestic students are overwhelmingly enrolled in programmes taught in Mandarin. In addition, linguistic

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obstacles (Botha, 2016) and cultural distance (Zhu and Krever, 2016) were found to be additional contributing factors for the segregation between domestic and international students. As can be seen in Table 3, a majority of Chinese university students had no intercultural interaction experience. Therefore, Chinese university administrators and tutors need to raise their awareness to review and upgrade their services to better integrate international and domestic students on campus. Diverse campus activities can be organised at various times and in various forms to encourage students to participate at times when they are most convenient. For instance, the practice of English Corners can be a good way to merge international students with Chinese students, through which both parties can improve their second language proficiency, cultivate their global consciousness, learn norms and rules of foreign cultures, and acquire communication skills in the intercultural environment. At the same time, the knowledge and skills they gain from these experiences can enhance their motivation to develop global competence.

Universities are encouraged to internationalise the curriculum from three respects. First, specialised international/global-focused courses can be offered to students who are interested with extra credit for participation. Second, as an add-on, international/global-focused workshops and performances can be offered regularly for free or at a lower cost to encourage all students' participation (Soria and Troisi, 2014). Finally, international/global content can be integrated into regular courses according to the discipline features. More importantly, the teachers involved should take an active leadership role in curriculum design and cultivating students' global competence (Deardorff, 2006).

Students from 985 project universities reported gaining a higher level of global competence. In order to graduate globally competent students, for universities of inferior levels, the setting of awards or prizes for teachers who excel in internationalisation may be necessary to stimulate them to invest more effort in it.

Limitations and conclusion

There are a few limitations of the present study. First, one of the limitations of this study is the cross-sectional research design. Future pedagogical intervention or qualitative studies are needed to investigate students' global competence. Second, although the data was collected from different universities in different geographic regions in China, it is far from being able to represent the whole Chinese university student population. Therefore, future research with Chinese university students in other

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cities or regions is encouraged. Third, as there is a lack of empirical studies examining the effects of different factors on global competence, the generalisation of the results need to be tested further with other populations. Finally, due to random selection of participants on campus, the students who agreed to participate in the survey may be more interested in this topic and relatively high in global competence. With this perspective, the results observed may not represent the population of interest.

In spite of these limitations, the present study enhanced the understanding of Chinese undergraduates' global competence, especially of the discrepancies in universities and regions of different levels, and fields of study. It would be helpful for universities that are not highly internationalised to raise their awareness to take measures to compensate for the deficiency. Conclusively, all Chinese students, especially those who do not participate in study abroad programmes, can reap the potential benefits of gaining global competence by means of participation in internationalisation activities on their home campus, enrolment in international/global-focused courses and raise their global consciousness.

Notes

1. The 985 project is a project to promote the Chinese higher education system by founding world-class universities in the 21st century. By the end of the second phase of the project, 39 universities were sponsored. Normally, they are regarded as the top universities in China.
2. The 211 project refers to the aim of building up 100 top level higher education institutions and key disciplines in the 21st century. Note that 985 project universities are included in the list of the 211 project, but the three 211 project universities selected in the present study are only within the 211 project, not within the 985 project.
3. Provincial universities are under the leadership of and financially funded by local provincial government. The three provincial universities selected in the present study are not within the 211 project.

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Appendix

Questionnaire

Part one: demographic information

Please read and answer each of the following questions carefully. Write in short answers or place a √ mark in front of the appropriate choice.

1. Gender ☐ male ☐ female
2. The name of the university you are studying in _____
3. Your university belongs to ☐ 985 project ☐ 211 project, but not 985 project ☐ provincial universities
4. Your study field ☐ physics and engineering ☐ social sciences and humanities ☐ life sciences
5. You are currently ☐ a freshman ☐ a sophomore ☐ a junior ☐ a senior
6. Do you have the experience of contact with foreigners in course learning ☐ yes ☐ no
7. Do you have the experience of contact with foreigners on campus activities ☐ yes ☐ no
8. Do you have the experience of learning courses related to internationalisation ☐ yes ☐ no

Part two: global competence level

Please think carefully about the following statements and circle the one that can best describe your perceptions.

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1 = strongly disagree; 2 = disagree; 3 = unsure; 4 = agree; 5 = strongly agree

1. I hold positive attitudes towards cultural diversity	1-2-3-4-5
2. I am willing to step outside of my own culture and experience life as 'the other'	1-2-3-4-5
3. I recognise that my own worldview is not universal	1-2-3-4-5
4. I am willing to take risks in pursuit of cross-cultural learning and personal development	1-2-3-4-5
5. I am willing to cope with different cultures and attitudes	1-2-3-4-5
6. I am open to new experiences, including those that could be emotionally challenging	1-2-3-4-5
7. I take a non-judgemental reaction to cultural difference	1-2-3-4-5
8. I can successfully participate in project-oriented academic activities with people from other cultures and traditions	1-2-3-4-5
9. I can successfully participate in project-oriented vocational activities with people from other cultures and traditions	1-2-3-4-5
10. I can effectively participate in social settings anywhere in the world	1-2-3-4-5
11. I can effectively participate in business settings anywhere in the world	1-2-3-4-5

Please think carefully about the following statements and circle the one that can best describe your competence.

1 = very low; 2 = low; 3 = medium; 4 = high; 5 = very high

1. My knowledge of current world events	1-2-3-4-5
2. My knowledge of world history	1-2-3-4-5
3. My ability to collaborate across cultures	1-2-3-4-5
4. My ability to identify cultural differences	1-2-3-4-5
5. My proficiency in a foreign language	1-2-3-4-5
6. My understanding of Chinese cultural norms	1-2-3-4-5
8. My understanding of Chinese cultural expectations	1-2-3-4-5
9. My understanding of cultural norms of others	1-2-3-4-5
10. My understanding of cultural expectations of others	1-2-3-4-5
11. My ability to assess intercultural performance in social settings	1-2-3-4-5
12. My ability to assess intercultural performance in business settings	1-2-3-4-5
13. My understanding of the concept of globalisation as a social condition characterised by the existence of:	
(a) Global economic interconnections and flows	1-2-3-4-5
(b) Political interconnections and flows	1-2-3-4-5
(c) Cultural interconnections and flows	1-2-3-4-5
(d) Environmental interconnections and flows	1-2-3-4-5

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Part three: motivation for gaining global competence

Please think carefully about the following statements and circle the one that can best describe your perceptions.

1. I hope I can learn more knowledge about globalisation	1-2-3-4-5
2. Successful intercultural communication and cooperation is an important aspect of personal abilities	1-2-3-4-5
3. University students should have a global awareness and attitude	1-2-3-4-5
4. I am interested in cultivating my global competence	1-2-3-4-5
5. The university should offer courses to foster students' global competence	1-2-3-4-5
6. The university should offer courses to improve students' global knowledge	1-2-3-4-5
7. I hope for more opportunities to contact more different cultures to cultivate my global competence	1-2-3-4-5
8. Global competence is helpful for me to foster friendships with people from different cultural background	1-2-3-4-5
9. Global competence is important for my future career development	1-2-3-4-5

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