

A Qualitative Study of the Role of Social Ties and Learning Style Differences in Affecting Chinese International Students' Perceived Academic Performance

Jian Zhang^{1*}, Guopeng Wang²

¹Northeast Normal University, 5268, Renmin Street, Changchun city, Jilin province, China

²China Scholarship Council, No.9, Chegongzhuang Ave., Beijing, China

*Correspondence to: Jian Zhang, Northeast Normal University, 5268, Renmin Street, Changchun city, Jilin province, China; Email: zhangjian@nenu.edu.cn

Received: June 23, 2022; Accepted: August 23, 2022; Published Online: October 31, 2022

How to cite: Jian Zhang, Guopeng Wang. A Qualitative Study of the Role of Social Ties and Learning Style Differences in Affecting Chinese International Students' Perceived Academic Performance. *Psychology Research and Practice*, 2022; Vol. 1(1):page 08-18. Doi: [10.37155/2972-3086-0101-2](https://doi.org/10.37155/2972-3086-0101-2)

Abstract: This qualitative study aimed to solicit the perceptions of Chinese international students about their social tie formation and learning styles in a European country (Belgium) and relations to their perceived academic performance. Four focus groups, involving 21 Chinese students were conducted. This focus group study provided a picture of the interactional and learning experiences of Chinese international students in Belgium. The results indicated that Chinese students have built primary co-national ties, secondary international ties and tertiary host-national ties (i.e., domestic students) and perceived a number of learning style differences as compared to the western students. Furthermore, this qualitative study captured some essence of how these different social ties and learning style differences influenced Chinese students' academic performance.

Keywords: Chinese international student; Social tie; Learning style; Academic performance; Qualitative

1. Introduction

The number of Chinese students who are pursuing an education in a foreign country in the quest of better educational opportunities and future career prospects is rapidly increasing each year (Cao, Zhu, & Meng, 2016a). This burgeoning

number has prompted many researchers to focus on this cohort in aspects of their acculturation, adaptation, psychological well-being, institutional support and intercultural competence development (see for example, Cao, Zhu, & Meng, 2016b, 2017; Wang & Mallinckrodt, 2006; Zhang & Goodson, 2011). In contrast, few studies investigate Chinese



© The Author(s) 2022. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, sharing, adaptation, distribution and reproduction in any medium or format, for any purpose, even commercially, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

international students' academic performance, which tends to be highly valued by them (Lee, Farruggia, & Brown, 2013). In addition, enhancing international students' educational experiences and their academic performance can be important in making the host university more attractive (Li, Chen, & Duanmu, 2010). Therefore, this study, using a qualitative method, aims to fill this gap by exploring the functional roles of social ties developed by Chinese international students in a European country (Belgium) and their perceived learning style differences and the possible relations with their academic success.

Three reasons determined our exploration of these constructs and their relationships. First, as stated earlier, there is a lack of research that focuses on academic performance of international students (Lebcir, Wells, & Bond, 2008). Second, the relationships of academic performance with social ties and learning styles have received inconsistent results in the existing literature. For instance, some researchers (e.g., Lynch, Woelfl, Steele, & Hanssen, 1998; Rienties, Beusaert, Grohnert, Niemantsverdriet, & Kommers, 2012) argue that different learning approaches or the degree of academic integration can be significant predictors of academic performance, while others (e.g., Busato, Prins, Elshout, & Hamaker, 2000; Lu, Yu, & Liu, 2003) suggest that there is no significant association between these constructs. Third, previous studies tend to quantitatively examine different variables that potentially contribute to academic performance. Although these studies provide valuable research evidence, a qualitative method is necessary in that it would best capture students' 'lived experience' and accurately differentiate the functional roles of different social ties and learning styles in influencing academic performance.

2. Literature Review

2.1 Social Ties of International Students and Their Academic Performance

Bochner, McLeod and Lin (1977) were among the first to examine international students' friendship networks and developed the Functional Model of Friendship Networks (FMFN). Based on this model, international students tend to build three types of social networks after arrival in the host country: primary co-national ties, secondary host-national ties and tertiary

international ties (i.e., friendships formed among international students of multi-nationalities).

Co-national ties of international students were found to attenuate the psychological stress and offer emotional support (Kim, 2001; Maundeni, 2001). Host-national ties were found to contribute to higher levels of satisfaction and lower levels of homesickness (Church, 1982) and foster positive attitudes towards the host culture (Kashima & Loh, 2006) and to achieve better sociocultural adaptation (Kwon, 2013). International ties can benefit international students in ways of making friends from many different cultural backgrounds and increasing the complexity of their cognitive map (Yum, 2001), affecting their acculturation level (Cao, et al., 2017) and learning about many different cultures (Hendrickson, Rosen, & Aune, 2011).

Previous research tends to explore the benefits of different social ties of international students in their psychosocial experiences. The study by Schartner (2015) is one of the few that has extended the functional roles of social ties to academic domains, which revealed that multi-national ties formed among international students are very important for their academic work and proofreading of each other's papers. Despite being limited, some research has provided evidence in terms of the relationship between social interactions and academic performance. For instance, Li, Chen and Duanmu (2010) found that communication with compatriots was a significant predictor of Chinese international students' academic performance, whereas communication with others was not significant. However, a somewhat contrasting finding was provided by Westwood and Barker (1990) in which the authors found that international students who participated in matching programs with host-national students achieved higher overall academic performance than non-participants.

2.2 Learning Style Differences and Academic Performance

In addition to general social cultural shock, Chinese international students usually experience academic culture shock, especially at a western university (Li, Chen, & Duanmu, 2010; Wang & Greenwood, 2015). Academic culture shock is a subset of culture shock and refers to difficult experiences resulting

from incongruent schemata about education in the international students' home country and host country. Cultural values play an important role in international students' adaptation to the host university's educational environment, communication and lecture style (Wang & Greenwood, 2015). Watkins and Biggs (1996) found that Asian students (particularly Chinese) had great difficulties in adaptation to the educational context featuring independent learning styles and less instructor supervision and guidance. Western students from individualist cultures usually engage more actively in classroom discussions and activities and behave more independently (Ozer, 2015). By contrast, Chinese international students who are from collectivist cultures tend to be quiet and compliant in class, obey tutors and feel reluctant to express their ideas until asked to do so by tutors (Wang & Mallinckrodt, 2006; Zhu, Valcke, & Schellens, 2008). Besides, humbleness and modesty are cultural values highly stressed in the Chinese social way of life (Ho, 1989). However, Chinese students were found to be looked down upon by domestic American students due to their habitual humbleness and modesty (Yan & Berliner, 2009).

Some research has documented that international students' maladjustment to the host educational environment can significantly influence their academic performance. For example, Rienties et al. (2012) examined perceptions of international students in the Netherlands and found that their degree of academic integration was a strong predictor of academic performance, whereas social integration was not significant for academic performance. International students who are well connected to the educational environment and meet the demands of the tutors are more likely to feel comfortable in classrooms and establish positive relationships with fellow students and tutors. All these factors may in turn contribute to better study performance. The supporting evidence was provided by Lebcir, Wells and Bond (2008) in which the authors argue that the style of lecture presentation seems to be an important factor in facilitating international students' understanding of the subject content. However, another cohort of studies argue that different learning approaches may not affect students' academic performance (e.g., Busato, Prins, Elshout, & Hamaker, 2000; Lu, Yu, & Liu, 2003).

Therefore, the present study aims to determine in what ways learning style differences, if any, perceived by Chinese international students affect their academic performance.

2.3 The Present Study

Drawing on the aforementioned studies, the present study is directed toward understanding Chinese international students' social ties and perceived learning style differences in a European country (Belgium), as well as their potential influences on academic performance. The study contains four general research questions:

1. How do Chinese international students develop their social ties (i.e., friendships with co-nationals, domestic students and international students other than from China)?
2. Do the three types of social ties affect Chinese international students' academic performance? If yes, in what ways do they affect academic performance as perceived by Chinese international students?
3. In which ways do Chinese international students perceive their learning styles to be different from those of the western students?
4. How do the perceived learning style differences affect Chinese international students' academic performance?

3. Methods

3.1 Participants and Procedure

This study used a purposive sampling approach. Chinese international students in Belgium were contacted for this research. Chinese international students from two Belgian universities responded to the initial invitation via a Chinese scholar and a student association in Belgium. A written invitation and informed consent (including the anonymity, research objectives and participation criterion) was circulated to the participants. The participation criterion mandates that all participants must be Chinese students from Mainland China who have been studying in Belgium for at least one whole academic year as full-time students. The requirement of the length of stay in Belgium was to guarantee that the participants had accumulated sufficient social and learning experiences both on and off campus. As a result, a total of 21 Chinese students participated in the study, of different ages, genders and majors (see **Table 1**).

Table 1. Demographics of participants

| Groups | Participants | Gender | Age | University | Program | Discipline | Length of stay |
|---------|--------------|--------|-----|--------------|----------------|------------------|----------------|
| Group A | P 1 | Male | 24 | University A | Masters | Politics | 16 months |
| | P 2 | Male | 26 | University A | Masters | Management | 14 months |
| | P 3 | Female | 26 | University A | Masters | Politics | 16 months |
| | P 4 | Male | 25 | University A | Masters | Education | 15 months |
| | P 5 | Male | 27 | University A | Masters | Computer science | 15 months |
| Group B | P 1 | Female | 26 | University A | Masters | Management | 26 months |
| | P 2 | Male | 27 | University A | Masters | Physics | 16 months |
| | P 3 | Female | 25 | University A | Masters | Computer Science | 26 months |
| | P 4 | Male | 26 | University A | Masters | Education | 16 months |
| | P 5 | Male | 25 | University A | Masters | Biology | 17 months |
| Group C | P 1 | Male | 27 | University B | Masters | Chemistry | 15 months |
| | P 2 | Female | 26 | University B | Masters | Biology | 15 Months |
| | P 3 | Male | 26 | University B | Masters | Linguistics | 16 months |
| | P 4 | Female | 25 | University B | Masters | Materials | 15 months |
| | P 5 | Female | 29 | University B | Doctor student | Computer Science | 50 months |
| Group D | P 1 | Female | 28 | University B | Doctor student | Management | 16 months |
| | P 2 | Male | 30 | University A | Doctor student | Computer Science | 27 months |
| | P 3 | Female | 38 | University A | Doctor student | Education | 13 months |
| | P 4 | Male | 33 | University A | Doctor student | Linguistics | 17 months |
| | P 5 | Female | 27 | University B | Doctor student | Communication | 16 months |
| | P6 | Male | 29 | University B | Doctor student | Law | 26 months |

A focus group technique was employed to capture the individuals' views, attitudes, beliefs, discourses and understandings of issues (Paul & Lynne, 2001). Our study preferred the focus group to other data collection methods due to its interactive atmosphere which can be conducive to the exchange of opinions and ideas with other participants with similar experiences (Kelly, 2003). Our study determined to organize groups that were as much homogenous as possible with respect to academic levels and the host university he or she was studying at. Before the focus groups were initiated, a guide for the moderator was created based on a set of semi-structured questions developed by the authors to complement the general and overarching research questions. Four focus group sessions were conducted in an informal place away from distraction. Three sessions consisted of 5 participants and the other one consisted of 6 participants, all of them lasting from 86 to 98 minutes. At the beginning of each session, the assigned moderator welcomed and thanked the Chinese students for participation, briefly introduced the research objectives and encouraged them to speak their mind and share their experiences. Then each participant was

asked to briefly introduce themselves. Also noteworthy is that in order to avoid bias, the Chinese international students' native language (Mandarin) was used. In order to solicit the answers to the four general research questions, a specific set of open-ended interview questions were developed to guide the focus groups.

3.2 Data Analysis

All focus group sessions were audio-taped for the purpose of subsequent data transcription. Immediately after each session, a complete transcript was made of the discussion by the first author of this study and then checked for accuracy against the tape recordings by a second researcher. Next, following the suggestion of Morgan (1997), transcription data generated from each of the four focus group sessions were analyzed independently by two researchers, who noted the recurrent themes and categories within each theme. More specifically, the research members independently assigned each aspect of the transcripts (i.e. phrases, sentences or block of texts) to these domains while remaining alert for additional potential domains that were not expected in the initial domains list. After

the whole transcripts were coded into domains, the team members discussed and assigned core ideas to the relevant information in each domain. Finally, domains were further broken down into categories that were derivations of each domain by cross-analysis of the data. In intervals of each step, the team members met and collaboratively reviewed each other's list of possible domains, discussing overlap and divergences. Based on these discussions and consensus reached among team members, the domains and core ideas

were generated.

4. Results

4.1 Social Ties of Chinese International Students

Overall, Bochner et al.'s (1977) three types of social ties were all present for Chinese international students based on our data, albeit to different degrees. Moreover, some characteristics for these social ties (similarities and differences) also emerged from their responses (see **Table 2**).

Table 2. Characteristics of social ties and learning style differences and their effects on academic performance.

| Social ties | Characteristics | Effects on academic performance |
|---|---|--|
| Co-national ties | The quickly established primary network Being Supportive Maintained both on and off campus | -Helping in various ways -Their contribution being persistent and important |
| International ties | The secondary network The main source of intercultural friendships Maintained on campus Sharing similar identities in the host country | -Improving English proficiency -Their contribution being most salient in the early period |
| Host-national ties (domestic students) | The tertiary network Hoping for more | -Not much connection with academic performance |
| Learning style differences | | |
| Passive class participation | Persistent all through their sojourning | Negative influence at the initial stage of study abroad |
| Lack of confidence | Positive attitudes towards the western styles | No strong influence in the long run |
| Lack of critical thinking | Hard to make adaptations | |
| More focus on theories | | |

Co-national ties. After arrival in the host country, Chinese students built strong co-national ties which tend to be their primary social ties. Moreover, Chinese students had a common perception that both quality and quantity of such co-national friendships are quite satisfactory:

I have to say that almost all my friends in Belgium are Chinese students like me. (P2, focus group B)

I have made many friends with Chinese students, and there are so many of them here. We are very close to each other and often do things together. (P1,

focus group C)

Although this finding was consistent with our expectation, the speed of the establishment of such ties was very surprising. Many participants reported that they befriended other Chinese students within a few days, when they sought accommodation, travelling or engaged in social activities together:

It was very easy to find your Chinese peers in here [Belgium] and make friends with them, probably because we were all far away from home. (P2, Group C)

After the initial stage of sojourning in the host country,

the co-national network of Chinese students was steadily maintained and expanded both on and off campus. Specifically, their interactions with compatriots took place through various venues, such as in classrooms, on campus, in social activities and travelling together. Co-national ties were viewed as a main information source of the host sociocultural festivals and activities. For instance, P3 from Group C shared his views:

Contact with Chinese students is very important for me to know what happens in Belgium every day. We often share such information with each other because we really lack sources of these things.

International and host-national ties. International friendships formed with other fellow international students seem to be secondary ties and a majority of the participants perceived that international ties were the main source of their intercultural friendship.

[...] I have made several friends with other international students. (P5, Group A)

Apart from my Chinese friends, the most time I spend is with international students. (P5, Group C)

In contrast, an overwhelming majority of Chinese students, particularly the masters students, reported lacking contact with domestic students. Therefore, host-national ties (friendships with domestic students) emerged as the tertiary and least developed network for Chinese international students.

I don't have any friendships with domestic students. I don't even know where they are. (P5, Group A)

I have little contact with domestic students, all my classmates are international students. (P1, Group A)

Some Chinese students reported relative ease and comfort when interacting with international students, whereas many of them found it to be more difficult to initiate significant and meaningful contact with domestic students. Moreover, some of the participants attributed this difference to the similar identity they shared with their fellow international students:

I have some in common with other international students, probably because we are all living in a new country away from our home. (P3, Group A)

We [Chinese students and other international students] are interested in each other's cultures, and we often talk about our own families and cultures. (P5, Group C)

Despite very limited contact with domestic students, most of Chinese international students displayed strong motivation to form ties with this group. 'Hoping to meet or make more friends with domestic students' was a common aspiration across the sample.

4.2 Effects of Social Ties on Academic Performance

The participants described how the three different types of social ties affect their academic performance at the host university. Most of the participants shared the common view that co-national ties play an important role in enhancing their academic performance. For instance,

I have two other Chinese colleagues in my faculty. I must say that their academic support for me is really important. (P2, Group D)

When I met with academic problems, the first choice for me was to seek help from Chinese friends. (P3, Group C)

In addition, the academic support among compatriots can be reflected in various aspects, such as providing advice, emotional encouragement, proofreading each other's papers, and dealing with technical problems. Based on their responses, such help from compatriots happen so often that many of them reported that it was difficult to recollect specific detailed instances.

My English is not very good, and my classmate who is also a Chinese student often helped me correct grammatical issues. (P1, Group B)

We [Chinese students] often discuss academic frontiers in my field, which has given me some inspirations for future studies. (P2, Group D)

With respect to international ties, a majority of the participants indicated that such ties can also be useful for them to enhance their academic performance, but in different ways as compared to co-national ties. A common theme noted by Chinese students was the improvement of their English fluency through contact with international students:

I can feel my spoken English and listening comprehension has been improved though interactions with international students. (P3, Group A)

I became more confident using English. (P1, Group B)

Overall, students gave a positive account of the role of English proficiency improvement in enhancing their academic performance. Such comments as, 'better

understanding the tutors', 'more confident in class' and 'more active in class discussion' came up time and time again. In addition, unlike the academic support of co-national friends, which tended to be persistent through their sojourn, a number of Chinese students shared their feeling that the academic support from their international student friends were most salient at the early stage of their study at the host university:

I can remember vividly that during the first month of study abroad, my international friends gave me much help. For instance, I had difficulties in understanding the tutors and they were very kind-hearted and explained the course content to me in much detail. (P4, Group A)

I am very thankful to my international friends who pull me through the most stressful academic situations when I began my study here. (P1, Group B)

However, most of the Chinese international students, particularly the masters students, thought that their academic performance was not too much related to domestic students:

I can't remember any instances that domestic students helped me in academics. (P3, Group C)

If I had some local students as my friends, I think they would help me in some way or another. But unfortunately, I didn't have any. (P5, Group A)

4.3 Learning Style Differences and Their Effects on Academic Performance

Another major theme discussed was Chinese international students' perceived learning style differences with western students and how these differences affected their academic performance (see Table 2). Almost all of the participants have felt that their learning styles were different with those of western students in one way or another. The two most frequently mentioned learning style differences were firstly Chinese students' passive class participation and secondly their lack of confidence as compared with western students.

We [Chinese students] are often listening quiet. (P5, Group A)

I seldom answer questions raised by the tutors. (P2, Group A)

They [western students] are quite confident in class, but we [Chinese students] seem to lack this confidence. (P5, Group C)

These western students are very assertive and often come up with good ideas. (P3, Group B)

Other frequently reported differences between Chinese and western students included: Chinese students' lack of critical thinking, being harder working and having a particular focus on theories:

We [Chinese students] apparently lack the initiatives to challenge the teacher, as exhibited by western students. (P2, Group A)

Chinese students usually work harder than those western students. (P2, Group D)

I feel that Chinese students tend to pay particular attention to the theories within the study field, while the western students focus more on the applications. (P4, Group C)

In addition, some characteristics related to these learning style differences emerged from the data. First of all, as early as the very beginning of their study abroad, Chinese students already perceived that they adopted very different learning styles as opposed to the western students:

The differences in academic learning was so obvious that we could notice them at the very beginning. (P3, Group C)

Most of the participants held a positive attitude towards western learning style, which they believed can strengthen the comprehension of the learning content and form a cooperative relationship with the teacher.

I think their learning style has many advantages over ours. (P4, Group A)

The frequent exchange of ideas between western students and teachers can surely help them understand each other. (P1, Group B)

In spite of this, for Chinese international students, it was hard to change their habitual learning styles to assimilate into the western educational environment. For most of them, the perceived learning style differences that emerged at the beginning of their overseas study tended to persist all through their sojourning.

Participants were asked to describe how the different learning approaches adopted by Chinese students influenced their academic performance. In this respect, they generally shared their views that although these learning style differences made them feel uncomfortable and uneasy in the classroom,

especially at the initial stage, they did not seem to negatively affect their academic performance. Many of them further argued that unlike support from significant others and personal hard working, the way an individual learns in classrooms is not necessarily a daunting hurdle for achieving academic success.

It is true that we are different [in learning styles] with the dominant western students, but I think it is only a personal habit or culture. (P2, Group D)

These [learning styles] are not important if you work hard. (P1, Group B)

Some other participants provided more integrative views using a retrospective approach. Specifically, several participants thought that the first few months at the host university was a very stressful period for them due to the difficulties in acclimatizing to the western learning style, strongly affecting their learning confidence and achievement:

I suffered a lot in the beginning, and sometimes I even lost my confidence thinking that the western students were smarter than I. (P2, Group A)

I didn't perform well in my academic learning in the beginning because I was trapped in a dilemma of sticking to my own style or following their style. (P4, Group B)

However, these participants further noted that once they became used to the differences, their learning styles did not remain as a barrier for their academic performance.

5. Discussion

Our focus group study not only revealed social ties built by Chinese international students after arrival in the host country and their perceived learning style differences with the 'western' students, but also captured some essence of how these two constructs influenced their academic performance.

First of all, the three types of social ties identified by Bochner et al.'s (1977) had been formed by Chinese international students in Belgium to different degrees. The primary co-national ties for Chinese students were consistent with Bochner et al.'s (1977) and other previous studies (e.g., Cao, et al., 2017; Hendrickson, Rosen, & Aune, 2011) which revealed that international students mainly socialized within their co-national friendship networks and enjoyed the comfort provided

by this network. In contrast, the least developed ties being found to be with domestic students contradicted the findings of Bochner et al.'s (1977), but were in line with many other studies (e.g., Cao et al., 2017; Wang & Hannes, 2014).

International students' social ties tended to be a focal area in the acculturation literature, and as a result, many studies identified their respective functional roles in this cohort's social and psychological adaptation (Cao, Meng, & Shang, 2018; Kashima & Loh, 2006). In contrast, very few studies examined the relationship between social ties and academic performance. Although very limited, these studies, mostly quantitative, provided insightful knowledge concerning their relationships. However, they failed to unravel the 'lived' experiences of international students, as could be achieved by a qualitative study. Moreover, these studies have received mixed results. For instance, the study by Li, Chen and Duanmu (2010) revealed that it was co-national contact, instead of contact with outgroup members, that positively predicted international students' academic performance. However, Rienties et al. (2012) identified a negative correlation between social integration and academic performance.

This present study extended our understanding of their relationships by qualitatively exploring Chinese international students' experiences. For instance, the results indicated that co-national friends can be very important in Chinese students' academic learning. Moreover, their help in achieving good academic performance tended to be persistent all through the sojourning lives in various aspects. In terms of international ties, their benefits for Chinese students' academic performance seemed to be limited, though also important. These findings suggested that seeking academic advice, assistance or support from peers can increase the possibility of successfully resolving academic difficulties, leading to better academic performance, which echoed several prior studies (Cao & Meng, 2017; Saenz, et al., 1999).

However, our result revealed that domestic students did not contribute much to Chinese students' academic performance in Belgium. This finding contradicted the study of Westwood and Barker (1990) which revealed that strong contact between international and domestic students can greatly improve the former's

academic achievement. We may, at least in part, attribute the different results to the sporadic contact between Chinese and domestic students in our sample. Increasing the opportunities of mixing the two groups may lead to better academic performance for Chinese students.

Another major finding of this study is that Chinese international students perceived a number of learning style differences as compared to western students. Furthermore, the participants tended to cling to their own academic cultural traditions and were unable or unwilling to make adaptations to acclimatize to the host academic environment, suggesting that some aspects of cultural values were not removed or modified, as argued by Gu (2006). The finding also contradicted the previous study by Wong (2004) which found that Asian international students were willing to change their study habits and adapted well to the new teaching and learning environment at an Australian university within just three months.

Moreover, a majority of Chinese students shared their views on how these perceived learning style differences influenced their academic performance. Contrary to our expectation, only a small number of students sensed the influence of the learning styles on their academic performance at the early period of their study. They also acknowledged that it was the dilemma of whether sticking to their own styles or following the western styles that influenced their academic confidence and performance. However, once they became used to the differences, the influence from the learning style differences were not obvious. In addition, many other participants did not perceive the connections between learning style differences and academic performance. These findings were in line with some previous studies (Busato et al., 2000; Lu, Yu, & Liu, 2003), but contradictory to others (Lebcir, Wells, & Bond, 2008; Rienties et al. 2012). However, the latter two studies focus on international students of multi-nationalities sojourning in a western country, instead of a particular minority group, which may be one reason for the different findings.

6. Limitations and Conclusion

The present study has several limitations to be noted. First, the small sample size is one limitation though the number of focus group sessions met the minimum

requirement as suggested by Guest, Namey and McKenna (2016). Second, another limitation of this research is the cross-sectional research design. Future studies using longitudinal research designs are needed to capture Chinese international students' trajectories of social ties, learning styles and their effects on academic performance. Finally, this study was conducted with Chinese international students in an environment of Belgian universities. Caution need to be used in generalizing the results to people of Chinese origin living or studying outside such environments.

Despite these limitations, our focus group study revealed the ways of socializing and learning of Chinese students in the host country (Belgium). Specifically, Chinese students had formed primary co-national ties, secondary international ties and tertiary host-national ties (i.e., domestic students). In the academic context, Chinese students also perceived a number of learning style differences. More importantly, this study extended our understanding of the ways of how social ties and learning style differences influenced Chinese international students' academic performance. The findings also point to the need for implementing some educational interventions and provide services to help Chinese international students to mix with other international students with various cultural backgrounds and domestic students, in order to increase their sources of potential academic support and further enhance their academic performance. In addition, the host university management, administrators and tutors need to raise their awareness of the importance of minimizing the learning style differences between Chinese international students and western students, thus making them an integrated part of the whole student body. As the number of Chinese international students is increasing rapidly each year, understanding the relevant factors and knowing how these factors influence this cohort' academic performance will become even more important in the study abroad literature.

References

- Bochner, S., McLeod, B. M., & Lin, A. (1977). Friendship patterns of overseas students: A functional model. *International journal of psychology*, 12(4), 277-294.
- Busato, V. V., Prins, F. J., Elshout, J. J., & Hamaker,

- C. (2000). Intellectual ability, learning style, personality, achievement motivation and academic success of psychology students in higher education. *Personality and Individual differences*, 29(6), 1057-1068.
- Cao, C., & Meng, Q. (2017). Mapping the Paths from Language Proficiency to Adaptation for Chinese Students in a Non-English Speaking Country: an Integrative Model of Mediation. *Current Psychology*, doi: 10.1007/s12144-017-9708-3.
- Cao, C., Meng, Q., & Shang, L. (2018). How can Chinese international students' host-national contact contribute to social connectedness, social support and reduced prejudice in the mainstream society? Testing a moderated mediation model. *International Journal of Intercultural Relations*, 63, 43-52.
- Cao, C., Zhu, C. and Meng, Q. (2016a). A Survey of the Influencing Factors for International Academic Mobility of Chinese University Students. *Higher Education Quarterly*. 70: 200–220.
- Cao, C., Zhu, C., & Meng, Q. (2016b). An exploratory study of inter-relationships of acculturative stressors among Chinese students from six European Union (EU) countries. *International journal of intercultural relations*, 55, 8-19.
- Cao, C., Zhu, C., & Meng, Q. (2017). Predicting Chinese international students' acculturation strategies from socio-demographic variables and social ties. *Asian Journal of Social Psychology*, 20(2), 85-96.
- Guest, G., Namey, E., & McKenna, K. (2017). How many focus groups are enough? Building an evidence base for nonprobability sample sizes. *Field methods*, 29(1), 3-22.
- Gu, Q. (2009). Maturity and Interculturality: Chinese students' experiences in UK higher education. *European Journal of Education*, 44(1), 37-52.
- Hendrickson, B., Rosen, D., & Aune, R. K. (2011). An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. *International Journal of Intercultural Relations*, 35(3), 281-295.
- Ho, D. Y. (1989). Continuity and variation in Chinese patterns of socialization. *Journal of Marriage and the Family*, 51, 149-163.
- Kashima, E. S., & Loh, E. (2006). International students' acculturation: Effects of international, conational, and local ties and need for closure. *International journal of intercultural relations*, 30(4), 471-485.
- Kelly, B. T. (2003). Focus group interviews. In F. K. Stage & K. Manning (Eds.), *Research in the college context: Approaches and methods* (pp. 49-62). New York: Brunner Routledge.
- Kim, Y. Y. (2001). *Becoming intercultural: An integrative theory of communication and cross-cultural adaptation*. Thousand Oaks, California: Sage.
- Kwon, Y. (2013). The sociocultural adjustment of Chinese graduate students at Korean universities: A qualitative study. *International Journal of Intercultural Relations*, 37(5), 536-549.
- Lebcir, R. M., Wells, H., & Bond, A. (2008). Factors affecting academic performance of international students in project management courses: A case study from a British Post 92 University. *International Journal of Project Management*, 26(3), 268-274.
- Lee, B., Farruggia, S. P., & Brown, G. T. (2013). Academic difficulties encountered by East Asian international university students in New Zealand. *Higher Education Research & Development*, 32(6), 915-931.
- Li, G., Chen, W., & Duanmu, J. L. (2010). Determinants of International Students' Academic Performance: A Comparison between Chinese and Other International Students. *Journal of Studies in International Education*, 14(4), 389-405.
- Lu, J., Yu, C. S., & Liu, C. (2003). Learning style, learning patterns, and learning performance in a WebCT-based MIS course. *Information & Management*, 40(6), 497-507.
- Lynch, T. G., Woelfl, N. N., Steele, D. J., & Hanssen, C. S. (1998). Learning style influences student examination performance. *The American Journal of Surgery*, 176(1), 62-66.
- Maundeni, T. (2001). The role of social networks in the adjustment of African students to British society: Student's perceptions. *Race Ethnicity*

- and Education, 4, 253–276.
- Morgan, D. L. (1997). *Focus groups as qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.
- Ozer, S. (2015). Predictors of international students' psychological and sociocultural adjustment to the context of reception while studying at Aarhus University, Denmark. *Scandinavian journal of psychology*, 56(6), 717–725.
- Paul, B., & Lynne, M. (2001). *Organizational research methods: A guide for students and researchers*. London, England: SAGE.
- Rienties, B., Beausaert, S., Grohnert, T., Niemantsverdriet, S., & Kommers, P. (2012). Understanding academic performance of international students: the role of ethnicity, academic and social integration. *Higher education*, 63(6), 685–700.
- Saenz, T., Marcoulides, G. A., Junn, E., & Young, R. (1999). The relationship between college experience and academic performance among minority students. *International Journal of Educational Management*, 13(4), 199–207.
- Schartner, A. (2015). 'You cannot talk with all of the strangers in a pub': a longitudinal case study of international postgraduate students' social ties at a British university. *Higher Education*, 69(2), 225–241.
- Wang, C. C., & Greenwood, K. M. (2015). Chinese nursing students' culture-related learning styles and behaviours: A discussion paper. *International Journal of Nursing Sciences*, 2(3), 253–258.
- Wang, C. C. D., & Mallinckrodt, B. (2006). Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students. *Journal of Counseling Psychology*, 53(4), 422–433.
- Wang, Q., & Hannes, K. (2014). Academic and socio-cultural adjustment among Asian international students in the Flemish community of Belgium: A photovoice project. *International Journal of Intercultural Relations*, 39, 66–81.
- Watkins, D. & Biggs, J. (eds) 1996, *The Chinese Learner: Cultural, Psychological and Contextual Influences*. CERC & ACER, Melbourne.
- Westwood, M. J., & Barker, M. (1990). Academic achievement and social adaptation among international students: A comparison groups study of the peer-pairing program. *International Journal of Intercultural Relations*, 14(2), 251–263.
- Wong, J. K. K. (2004). Are the Learning Styles of Asian International Students Culturally or Contextually Based?. *International Education Journal*, 4(4), 154–166.
- Yan, K., & Berliner, D. C. (2009). Chinese international students' academic stressors in the United States. *College Student Journal*, 43(4), 939–960.
- Yum, J. O. (2001). Multidimensional analysis of international images among college students in Japan, Hong Kong, and the United States. *The Journal of Social Psychology*, 128, 765–777.
- Zhang, J., & Goodson, P. (2011). Acculturation and psychosocial adjustment of Chinese international students: Examining mediation and moderation effects. *International Journal of Intercultural Relations*, 35(5), 614–627.
- Zhu, C., Valcke, M. & Schellens, T. (2008). A cross-cultural study of Chinese and Flemish university students: Do they differ in learning conceptions and approaches to learning? *Learning and Individual Differences*, 18 (1), 120–127.

Conflict of Interest

There is no conflict of interest.

Funds & Supports

The study is funded by Social Sciences Funding Project of Jilin Province, China [Grant Number: 2019B168].