Internationalization of Medical Education in China: An Overview of Students' Outward Mobility in a Medical University

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Research article

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Abstract

Background: Challenged by globalization, internationalization of medical education has become an irreversible trend. By analyzing students' outward mobility in a medical university, eastern China, this study tries to investigate the internationalization of medical education in China.

Methods: The data, obtained from international affairs office of Xuzhou Medical University, China, provided information about outward students' backgrounds, destinations, program types and funding plans in the past nine years, and were analyzed with the use of MS Excel.

Results: Students' outward mobility has increased in the past nine years, though with a low number. Students with characteristics of undergraduate, traditional discipline related, the second and third year were more motivated in going outward. Traditional destinations like US and UK were still popular, Australia and other European countries were not hot. Developed countries and regions in Asia were becoming more and more vigorous, but developing countries were deep in freeze. Outward students demonstrated great interest in short-term programs, but little in course study and research program. The effect of financial support in students' outward mobility was obvious, yet the investment was quite limited.

Conclusion: The results suggest that students' outward mobility has been improving in the past nine years. However, European countries and developing countries did not receive enough attention, and communication in interdisciplinary fields was insufficient, neither was it in course and research collaborations. Our findings provide important reference information for policy-makers of various countries and universities. At the same time, since a big potential for future mobility can be seen, the university should do the best to call for concerted efforts from governments, education institutions and the society to further improve internationalization of medical education.

Introduction

The trend of globalization has not only promoted economic and cultural exchanges among countries, but also sped up the internationalization of higher education, presenting medical schools an opportunity for development. With the acceleration of global population mobility, transnational contacts have brought more and more new medical problems to countries, which requires health professionals in the world to strengthen cooperation. Moreover, since medicine matters both body health and human life, the qualifications of medicine practitioners in terms of professional knowledge, clinical skills and comprehensive abilities should be consistent all over the world. The role of internationalization in medical education is becoming increasingly obvious. Medical students, as future medical workforce, should be integrated with the world and kept up-to-date, so as to guarantee their professionality. As an effective way to meet these requirements, medical students' outward mobility became the primary interest of conceiving this research.

Students' outward mobility, as an important indicator to evaluate the degree of internationalization, did not receive as much attention as imagined previously. Former researches mainly focused on the investigation of factors influencing students' mobility [1–6] and evaluation of mobility programs or outward students [7–14]. Most of the evaluation studies affirmed the benefits mobility brought to students, institutions and countries, only one reflective research discussed the unexpected consequences resulted from studying abroad[10]. Almost all of the previous researches were empirical studies, with data obtained from questionnaire surveys or semi-structured interviews, yet none of them discussed from a macro perspective except one indicated that a country's popularity among outward students relates with its economic and political position in the world system[15].

With data collected for as long as nine years, this study aims to stand at a historical point of view to investigate the performance of medical students' outward mobility and provide decision makers with a concrete and quantitative foundation of data, upon which to make related policies. Three questions guide the data collection and analysis:

1. What are the features of students' outward mobility?
2. What are the features of outward students?
3. What are the key issues presented in the sample?

The case selected for this study is Xuzhou Medical University. Under the administration of Jiangsu provincial government, it is classified as an independent local/regional medical university, which accounts for 92.10% of all the independent medical universities in China (the rest are under the direct administration of Ministry of Education, Central Government). Therefore, we think it is meaningful to conduct a study on independent regional medical university with Xuzhou Medical University as a representative object.

Mobility program in this study refers to the activities through which students obtain mobility experiences in host university during the course of their degree in home university. It includes short-term study tour, such as summer camp, language and cultural courses and clinical observation, etc., and one semester/year exchange program with earned academic credits. It also includes collaborative degree program, involving study towards a full qualification to get degree from home university or both.

Methods

The data used to describe the students' outward mobility were obtained from the international affairs office, where information about outward students' backgrounds, destinations, program types and funding plans were recorded. While registering for mobility programs, students were informed that information mentioned above would be used for research purpose. All the participants gave consent for their information to be published in a scholarly journal anonymously.

The data were collected over nine years (2011-19) and analyzed with the use of MS Excel.

Results

1. The Increasing Rate of Outward Students in Recent Nine Years

The number of students with outward mobility experiences has been rising in recent nine years (Figure 1), despite a sharp drop in growth between 2014-15. It has grown dramatically in the first four years and relatively steadily from the year of 2015 onwards.

2. Academic Majors of Outward Students and Their Mobility

The top three largest outward student body were from clinical medicine (63.24%), public health (6.49%) and dentistry (4.13%), which are all traditional disciplines; students in inter-disciplines like medical information (3.51%) and medical technology (2.26%) account for a small proportion; nursing (4.06%), management (1.50%) and pharmacy (4.75%) are the most under-represented (Figure 2).

Further analysis of the proportions of outward students in their majors in 2019 (Figure 3), when the most students went mobile, indicates the same trend.

3. Learning Stage of Outward Students

Making up 15.17% of all the registered university students, postgraduate students account for 9.09% of the mobile students in 2019. This is evidently an under-representation (Figure 4).

With respect to the grade of the mobile undergraduates, a majority of them completed their outward study in the second year (32.08%) and third year (37.69%), senior students (1.87%) demonstrated little interest in being mobile (Figure 5).

4. Destinations of Outward Mobility

When analyzing the destinations by continent, we can find in Figure 6 that Asia stays at the first place with the proportion of 44.32%, North America (41.53%) remains in the top choices as it is commonly reported to be, Europe the third 13.46% and Oceania the last one 0.7%.

The top five countries/regions chosen for mobility are US, Hong Kong, South Korea, UK and Japan (Figure 7). More than one third of those students with mobile experiences completed their study in US (34.78%), 20.38% in HK, 13.32% in South Korea, 8.97% in UK and 7.61% in Japan.

5. Program Types and Its Participants

As shown in Figure 8, 90.72% of the mobile students participated in short-term study tour, such as summer camp, cultural or language course, workshop, clinical observation etc.. Very few students joined in collaborative degree programs (4.18%) or research programs (4.41%). Students participating in exchange programs are even fewer, taking up 0.7% only.

Since 63.79% of the university-organized programs were short-term and the subjects were quite general rather than limited to certain professional area, it might somehow result in an over-representation of students joining in short-term programs (90.72%). Exchange programs and collaborative degree programs accounted for 18.97% and 17.24% respectively, so either 0.70% of the exchange students or 4.18% of degree students was deficient.

6. Sources of Financial Support

It's clear in Figure 9 that tuition fee occupies the biggest part of the total cost of being mobile (69.50%), and a majority of the outward students (67.05%) received funding support from the university for this part (Figure 10). Best-performing students in academics (14.15%) got sufficient grant to cover their tuition fees from the government while attending their programs, 3.02% of them got support for their travel expenses as well. However, most of the mobile students (79.58%) paid their own travel expenses, and 82.60% of the students paid their living expenses by self-financing. Only outstanding students with inadequate financial support (17.4%) got overseas living subsidies from the university. Some of the students also got financial support from foreign partner universities (10.9%), but it only occurred in exchange programs where both parties of the contract waived the related overseas fees for students in provision of a balanced student number.

Discussion

In this study, we found that students' outward mobility has been improving in the past nine years. Outward students with characteristics of undergraduate, traditional discipline related, the second and third year were more motivated in going mobile. Traditional destinations like US and UK were still popular, Australia and other European countries were not hot. Developed countries and regions in Asia were becoming more and more vigorous, but developing countries were deep in freeze. Outward students demonstrated great interest in short-term programs, but little in course study and research program. The effect of financial support in students' outward mobility was obvious, yet the funding channels were quite limited.

This study provided evidence of an overall rising tendency of medical students' outward mobility in recent nine years. When looking at the performance in 2019, the year with the largest number of mobile students, we found public health, among the different majors, tops with the students' proportion of 5.79%. However, in the US, 14.2% students were indicated as having studied abroad in 2011-12[16]. In Australia, 13.1% undergraduates having overseas study experiences in 2012[17]. With these figures, we note Chinese medical students' international communication has just started, and there is a high potential of future mobility.

In the study, sophomores and juniors were found to be more interested in attending mobility programs, while senior students were not. Possibly, students in the second and third year have got used to university life and can get well with heavy schoolwork. Senior students are usually busy with clinical probation or preparation for graduate entrance examination, so they might not take time in outward studies. Fifth year

students are practicing in the hospital and would graduate from the university, those going mobile were all in overseas clinical exchange programs.

Our study showed that developing countries were not prevalent among sample students, neither were European countries except UK. Although Germany, France are well-developed in higher education and with solid funding policy, they were not as popular as other developed countries like US and UK, possibly due to language barriers[2]. Moreover, developed Asian countries have become more and more popular in recent years, arising from its demographic advantage, lower price and similar cultural background[5]. It is undeniable to pursue advanced technology of developed countries, yet health related issues impact human beings, medical students should be trained not only to meet the local or domestic medical service, but to have overall and international outlook, especially when global health is threatened. In UK, 40% of medical students were reported to have visited a developing country during their electives[18]. Curricula reform was also called loudly from developed countries to include global health issues in medical education[19, 20, 21]. These should be a reminder for medical education in China and other parts of the world.

We also found from the study that a huge amount of outward students went mobile for short-term study tour, few for degree programs or research purpose. Interestingly, this finding keeps in line with previous studies made in the US[3, 7] and Australia[22], where students prefer a shorter period abroad. The main reason may relate to the disintegration of the study subjects between home and host universities[1, 2, 5]. Financial burden[2, 3, 5, 23, 24] is another common issue preventing students from studying abroad for a long time. Besides, improved education strength of China, returned talents from abroad and imported ideas and resources convince most students to stay for their degree study. As a result, short-term electives would become a popular form of overseas study among Chinese medical undergraduates in the near future. The lower participation of exchange programs may result from foreign partners' unfamiliarity with Chinese medical education, which further proves the peripheral position of developing countries in academic mobility. To encourage international course and research collaboration, the first is to promote joint education programs, which could help set up dialogues between universities and promote mutual understanding about the differences and similarities, thereby finding common interests and establishing a link.

The study also found that students majoring in traditional disciplines like clinical medicine and public health displayed more passion about going abroad; students with inter-disciplines, such as medical information and medical technology, are not so active in international communication. It is possible that students cannot find matched disciplines in foreign universities, as those disciplines are quite new and not internationally conformed. This further emphasizes the importance of communication between universities and across the nations.

Our study also provided insights into the effects of financial support, yet university funding alone is not enough. Over the past nine years, we are pleased to see a stable and continuous growth in parallel with the increasing support, mainly from the university. However, that is exceedingly insufficient. Financial

burden has constantly been identified as the most critical barrier in overseas study[2, 3, 5, 23, 24]. Therefore, researches have been made internationally to call for strengthened support from both governments and education institutions in terms of scholarships and loan programs, e.g. in the US[3], EU[25], Poland[5] and Australia[22]. In China, according to the latest announcement, 11,000 PhD. students will get full scholarship from China Scholarship Council for their overseas degree study in 2020[26], and this plan has been implemented for more than ten years, no plan for undergraduates and postgraduates is yet schemed. We appeal for governments to set up scholarships or loan plans to stimulate and facilitate students' outward mobility at all levels and in various forms. Meanwhile, education institutions strive for donation or funding from the society and tuition waiver from overseas partner universities.

Conclusions And Recommendations

From this study, we found medical students' outward mobility has been improving in the past nine years. However, most of the European countries and developing countries did not receive enough attention, and communication in interdisciplinary fields was insufficient, neither was it in course and research collaborations. Since a big potential for future mobility of medical students can be seen, we recommend the university do the best to play its role in supporting its internationalization endeavors. Firstly, to expand and diversify overseas programs, fully taking into consideration of medical students' training objectives from international perspective and the perceived needs of sophomores, juniors and postgraduates in particular. Secondly, to enhance the overall awareness in international communication, from decision-making level to implementation level and from professors to students. Thirdly, to extend multiple channels to raise fund for supporting medical students' international flow. Countries aiming to establish academic communication with Chinese medical universities should pay attention to the features of outward students and the overall tendency of students' mobility presented in the sample university and consider the perceived needs of such students while making policies.

Limitations

Since this study was conducted at one regional medical university in eastern China, the findings may not be generalized to all the institutions of medical education in China, especially those high level medical universities, which are usually under the direct administration of Ministry of Education. Nevertheless, the study does help us learn more about the overall situation of medical students' outward mobility in regional medical universities, which constitute the main part of independent medical universities in China.

Declarations

Ethics approval and consent to participate

This study was approved by the Ethics Committee of Xuzhou Medical University.

Consent for publication

All participants gave consent for publication of their data.

Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

Professor Shenjun Liu contributed to the conception of the study. Qin Jiang was involved in literature review, data collection, data analysis and manuscript drafting. Professor Hong Sun was involved in data analysis, interpretation and critical revision of manuscript. Wei Duan, Yang Wu and Feng Yuan were involved in data collection. All the authors approved the final version of the manuscript for publication.

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References

1. Kehm BM. The contribution of international student mobility to human development and global understanding. US-China Education Review. 2005;2(1):18–24.
2. Doyle S, et al. An investigation of factors associated with student participation in study abroad. Journal of Studies in International Education. 2010;14(5):209–16.
3. Stroud AH. Who plans (not) to study abroad? an examination of U.S. student intent. Journal of Studies in International Education. 2010;14(5):491–507.
4. Gonza´lez CR, Mesanza RB, Mariel P. The determinants of international student mobility flows: an empirical study on the Erasmus Programme. High Educ. 2011;62:413–30.
5. Bryla P, Ciabiada B. Obstacles to international student mobility: the case of poland. Trends Journal of Sciences Research. 2014;1(1):12–6.
6. Beine M, Noel R, Ragot L. Determinants of the international mobility of students. Economics of Education Review. 2014;41:40–54.
7. Chieffo L, Griffiths L. Large-scale assessment of student attitudes after a short-term study abroad program. Frontiers: The Interdisciplinary Journal of Study Abroad. 2004;10:165–77.
8. Keogh J, Russel-Roberts E. Exchange programmes and student mobility: meeting student's expectations or an expensive holiday? Nurse Educ Today. 2009;29(1):108–16.
9. Myhre K. Exchange students crossing language boundaries in clinical nursing practice. Int Nurs Rev. 2011;58(4):428–33.
10. Knight J. Student mobility and internationalization: trends and tribulations. Research in Comparative International Education. 2012;7(1):20–33.
11. Tommasini C, et al. Competence evaluation processes for nursing students abroad: Findings from an international case study. Nurse Educ Today. 2017;51:41–7.
12. Amendola A, Restaino M. An evaluation study on students' international mobility experience. Qual Quant. 2017;51(2):525–44.
13. Heiberg IG, Dahl H, Eriksen KD. How can studying abroad nurture nurse students' intelligent kindness? Nurse Educ Pract. 2019;41:102644.
14. Gartmeier M, et al. International mobility of students in the medical disciplines from a comparative perspective. GMS journal for medical education. 2020;37:3.
15. Chen TM, Barnett GA. Research on international student flows from a macro perspective: a network analysis of 1985–1989 and 1995. High Educ. 2000;39:435–53.
16. Farrugia CA. Open Doors: report on international education exchange. New York: Institute of International Education; 2013.
17. Olsen A. 2013 Research agenda: Australian Universities International Directors Forum. Australian International Education Conference. 2013. . Accessed 15 Mar 2020.
18. Miranda JJ, Yudkin JS, Willott C. International health electives: four years of experience. Travel Medicine Infectious Disease. 2005;3(3):133–41.

19. Edwards RE, Rowson M, Piachaud J. Teaching international health issues to medical students. Med Educ. 2010;35(8):807–8.
20. Drain PK, et al. Global health in medical education: a call for more training and opportunities. Acad Med. 2007;82(3):226–30.
21. Bozorgmehr K, et al. Global health education: a cross-sectional study among German medical students to identify needs, deficits and potential benefits (Part 1 of 2: Mobility Patterns & Educational Needs and Demands). BMC Med Educ. 2010;10:66.
22. Nerlich S. Students from Australian universities studying abroad. Australian Universities' Review. 2015;57(1):52–9.
23. Hung FS. Intention of students in less developed cities in China to opt for undergraduate education abroad: Does this vary as their perceptions of the attractions of overseas study change? International Journal of Educational Development. 2010;30(2):213–23.
24. Beine M. Noël R and Ragot L. Determinants of the international mobility of students. Economics of Education Review. 2014; 41:40–54.
25. Valiulis AV, Bučlnskas V, Toločka E. Strengthening mobility for better learning. Solid State Phenom. 2015;220–221:1014–7.
26. General regulations for the selection and assignment of students studying abroad supported by the national fund for study abroad in 2020. China Scholarship Council. 2020. https://www.csc.edu.cn/article/1710. Accessed 05 April 2020.

Figures

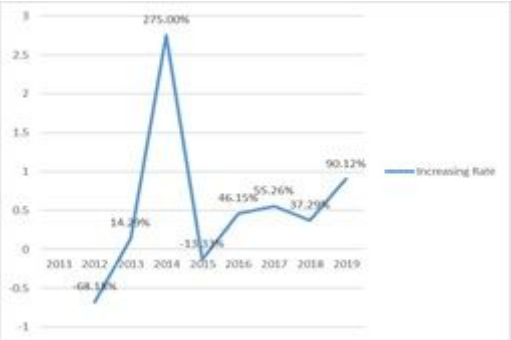

Figure 1

The Increasing Rate of outward Students Since 2011

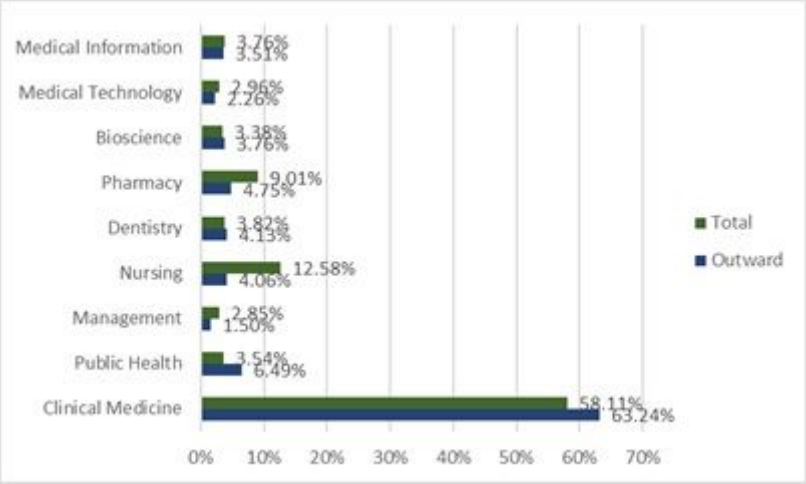

Figure 2

Average Proportions of Majors among Outward Students and Total Registered Students in Past Nine Years

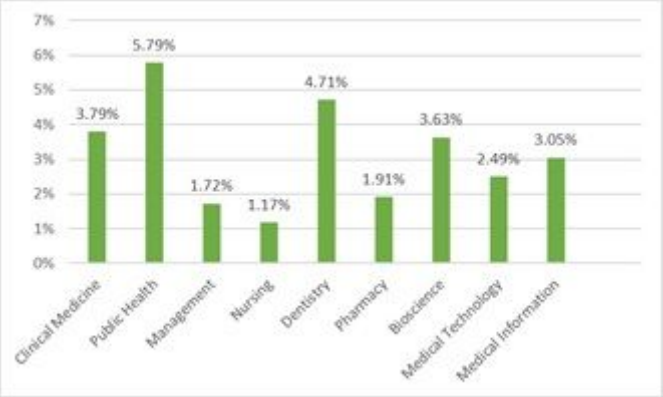

Figure 3

Proportions of Outward Students in Their Majors' Registered Students in 2019

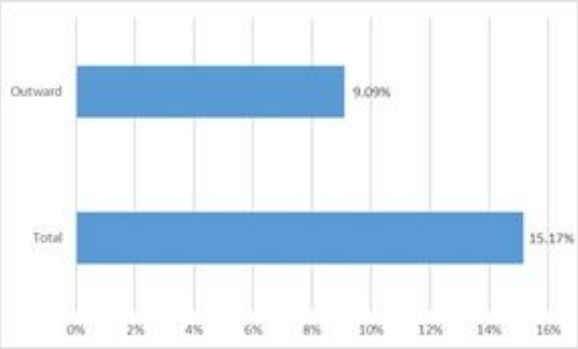

Figure 4

Proportions of Postgraduates in Outward Students and Total Registered University Students in 2019

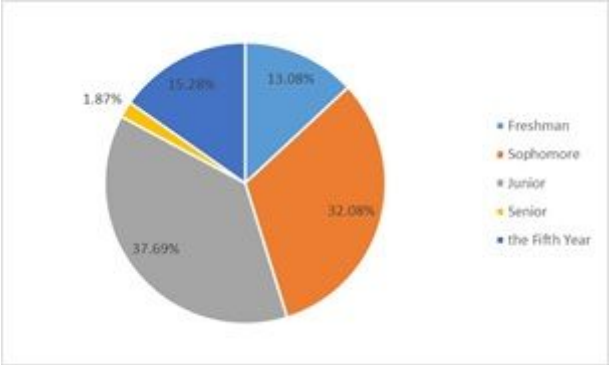

Figure 5

Distribution of Outward Students by Grade

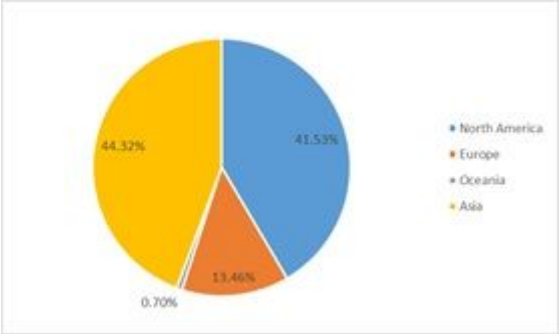

Figure 6

Destinations of Outward Mobility by Continent

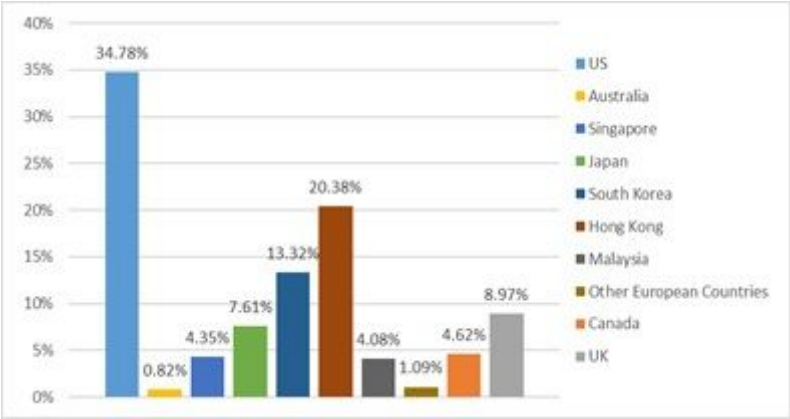

Figure 7

Destinations of Outward Mobility by Country and Region

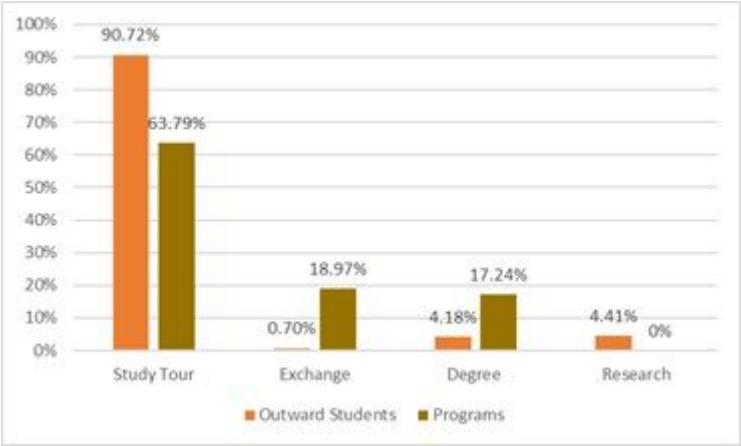

Figure 8

Program Types and Its Participants

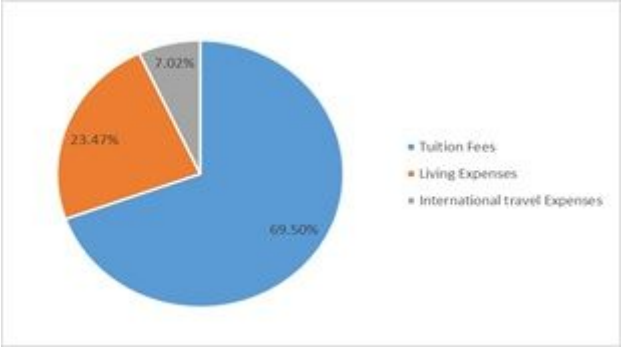

Figure 9

Proportions of the Costs of Being Mobile

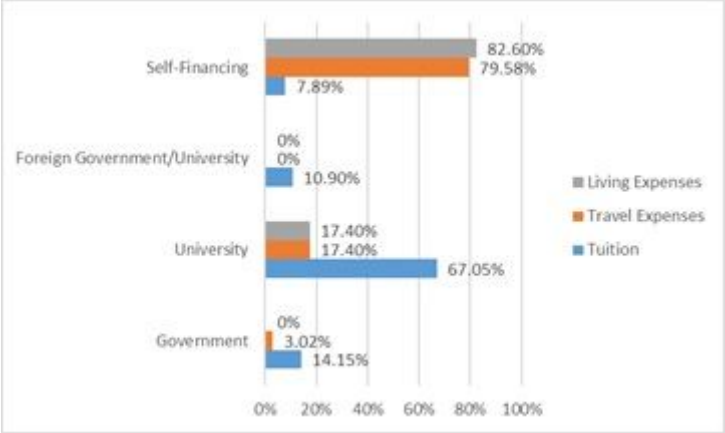

Figure 10

Proportions of Students with Different Sources of Financial Support