Longitudinal contribution of international electives for medical students to professional identity formation: A qualitative study

Mikio Hayashi (✉ h_mikio106@hotmail.com)

International Research Center for Medical Education, Graduate School of Medicine, The University of Tokyo <https://orcid.org/0000-0002-5372-0664>

Daisuke Son

International Research Center for Medical Education, Graduate School of Medicine, The University of Tokyo

Keiko Nanishi

Office of International Academic Affairs, Faculty of Medicine, Graduate School of Medicine, The University of Tokyo

Masato Eto

Department of Medical Education Studies, International Research Center for Medical Education, Graduate School of Medicine, The University of Tokyo

Research article

Keywords: international electives, longitudinal contribution, professional identity formation, qualitative study, socialization

Posted Date: January 22nd, 2020

DOI: <https://doi.org/10.21203/rs.2.21526/v1>

License: This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background: Globalization has given medical university students the opportunity to pursue international electives in other countries, enhancing the long-term socialization of medical professionals. This study examined the relationship between international electives for medical students and professional identity formation to identify the long-term effects of such electives.

Methods: In all, 23 medical professionals (mean age 36.4 years; range 33–42 years), graduated from the University of Tokyo, participated in this study, and had completed their international electives for medical students more than 10 years before. The study employed a narrative inquiry approach based on a constructivist paradigm. Qualitative data were collected from 23 face-to-face, semi-structured in-depth interviews with each participant and 16 narrative reflective reports on international electives for medical students based on ethical permission. The thematic analysis involved generative coding and theorization, with the data being analyzed and interpreted by several researchers.

Results: During the interviews, 36 themes related to medical professional socialization were identified, and from these, a theoretical framework was developed comprising six primary socialization factors (i.e., perspective transformation, career-design, self-development, diversity of values, contribution to others, and leadership). It was concluded that international electives for medical students could promote reflective self-relativization and contribute to medical professional identity formation. Additionally, such electives can encourage pursuing a specialization and academic or non-academic work abroad. International electives for medical students could contribute to medical professional identity formation on the basis the idea of cross-cultural understanding.

Conclusions: This study addressed a number of issues regarding the long-term impact of international elective experiences in various countries on the socialization of Japanese medical professionals. It was found that these experiences gave medical professionals an opportunity to advance their professional identity formation and reflect on their developing identities. Furthermore, such electives provided opportunities of gaining cross-cultural understanding on their professional identity formation. This study thus offers some guidance to mentors conducting international electives for medical students and provides useful information for professional identity formation development in medical professionals.

Background

Globalization has given medical university students the opportunity to pursue international electives in other countries^{1–3}, which can enhance the long-term socialization of medical professionals. However, how the medical professionals utilize these experiences remains unclear. Previous studies have found that international electives may have a transformative learning potential^{4,5}, as they immerse medical students in cross-cultural settings that can strengthen and challenge their professional identities⁶. However, these studies have not clarified the long-term contributions to medical professional

socialization. Therefore, this study explored the long-term effects of international electives for medical students on medical professional socialization from a professional identity formation (PIF) perspective.

As international electives for medical students have been found to contribute to medical education internationalization by enhancing global health competencies and encouraging global citizenship^{7,8}, they are an important part of undergraduate medical training to prepare students for the globalized world⁵. International electives for medical students enhance the knowledge of medical students about areas and issues outside the traditional medical school curricula, such as current research, global clinical practices, healthcare systems around the world, and cultural competencies, which often influence the students' career choices^{6,9,10}. Previous studies have found that international electives for medical students increase the probability of students choosing primary care specialties (e.g., family medicine, internal medicine, and pediatrics) or public health as their career paths^{2,11}. However, the international electives' effects are not limited to the content, as it is important to understand how students learn¹² regardless of whether they choose to follow primary care specialties or opt to work in their country of origin or abroad. International electives for medical students give medical students an opportunity to reflect on their experiences by highlighting their personal and professional identities and allowing them to closely examine the health outcomes in their own countries^{10,13}. Many participants who have reflected on their undergraduate careers have stated that their elective experiences were transformative, served to refresh the values that were underpinning their initial motivations to enter the profession⁵, and led to valuable insights into the potential congruence of their personal and professional identities¹⁴. As mentioned in the PIF framework by Cruess et al^{15,16}, socialization is useful when seeking to understand the transformative learning of international electives for medical students, as medical students are often in a formative state and thus more susceptible to the influences of their cultural backgrounds and learning environments¹⁷. Socialization and identity formation have been found to be strongly connected¹⁸. Using narrative reflective reports, Sawatsky et al.⁴ identified some transformative learning components—disorienting experiences, emotional responses, critical reflection, perspective changes, and a commitment to future action—and clarified how these were related to professional identity transformations for residents participating in international electives. However, Sawatsky et al.'s⁴ study did not explain these relationships in undergraduate settings or clarify the long-term contributions to medical professional socialization. As educational activities that foster a deep PIF-associated transformation, such as international electives, should be long-term and cumulative in nature¹⁹, this study focused on these aspects.

In western education environments, international electives for medical students are often conducted in and focused on low- and middle-income countries. However, in Asian countries, including Japan, these electives are generally conducted and focused on developed countries. A National Survey in Japan found that a majority of Japanese exchange students traveled to both western and Asian countries, with approximately 70% choosing to study in Europe and North America, reflecting the desire of Japanese students to acquire medical knowledge or experiences through the English language^{3,20}. However, 40% of the United Kingdom medical students chose developing countries, and approximately one-third of

medical students in the United States, Canada, and Germany selected low- and middle-income countries to complete their international electives before graduation^{21,22}.

Professional Identity and Socialization

Becoming a physician is challenging and transformative²³; therefore, medical education needs to be responsive to the changes in students' professional identities from their experiences and from society²⁴. Cruess et al.¹⁷ defined professional identity as "a representation of self, achieved in stages over time during which the characteristics, values, and norms of the medical profession are internalized, resulting in an individual thinking, acting, and feeling like a physician," and Holden et al.¹⁹ recommended that professional identity development be integrated with core medical knowledge, skills, and attitudes. Hence, professional identity is developed through socialization from a layperson to a professional, and it is unique to each learning environment¹⁵. International electives for medical students give medical students unique learning experiences that have transformative components assisting in professional and personal socialization. Jarvis-Selinger, Pratt and Regehr¹⁸ defined PIF as "an adaptive developmental process that happens simultaneously (1) at the level of the individual, which involves the psychological development of the person, and (2) at the collective level." Previous studies have found that role models, mentors, and experiential learning, in both clinical and nonclinical situations, were the most powerful PIF factors¹⁵. Therefore, international electives are expected to be part of a medical student's long-term, cumulative education that enacts the deep transformations associated with PIF¹⁹. Frost and Regehr²³ suggested that the implications arising from the different professional identities of medical students needed to be explored.

Research Question

Using a qualitative method, this study examined the contribution of international electives for medical students conducted in various countries to the socialization of Japanese medical professionals from a PIF perspective, with the primary objective being to assess the relationship between the electives and PIF to clarify their long-term effects. Therefore, the research question driving this qualitative research was, "How do international electives for medical students contribute to the long-term socialization of Japanese medical professionals?" It is expected that the study findings could guide mentors when conducting international electives for medical students and provide useful information to foster PIF development in medical professionals.

Method

A qualitative study was conducted following the Standards for Reporting Qualitative Research (SRQR) recommendations²⁵. Backgrounded by the constructivist paradigm stating that human knowledge is not discovered but socially constructed²⁶, a narrative inquiry approach was adopted to solicit and analyze personal accounts as stories²⁷. The qualitative data were collected from 23 face-to-face semi-structured in-depth interviews and 16 narrative reflective reports on international electives for medical students

written by the study participants. Thematic analysis was employed to elicit the subjective meanings, which involved generative coding and theoretical interpretations by several researchers.

Setting

The National Survey of Japan reported that 790 medical students in 2012 and 1069 medical students in 2013 were involved in clinical clerkships or short-term study abroad programs³, which was about 2% of all Japanese medical students. The University of Tokyo international electives for medical students have been formal electives since 2001 and are taken by approximately 3% of University of Tokyo medical students each year, which is considered higher than average in Japan. The students taking these conduct clinical clerkships or basic research training for 1–3 months, with some seeking to take this elective in other countries to gain further experience. The purpose of international electives for medical students depended on the participants, and they were directly negotiated between participants and the hosts. The international electives program is generally conducted in the last academic year (5–6th year) at medical school. Similar to the national statistics results, a majority University of Tokyo exchange students choose to travel to western countries, with approximately 60% choosing to study in Europe and North America, every year. As the international elective content is different at various overseas host institutions, they are decided through direct communication between the organization and the undergraduate student. With regard to financial support, some students with excellent grades were offered scholarships but not at all.

Participants

To understand the long-term effects of such electives, the participants in this study were University of Tokyo medical professionals who had graduated more than 10 years before this study, after completing their international electives. Of the viable participants, all are licensed and experienced medical professionals at a variety of institutions, including (but not limited to) university and community hospitals, research centers, medical companies, and the Ministry of Health. Purposive sampling was used to identify the participants²⁸. From 2001 to 2009, 133 University of Tokyo undergraduate students completed international electives, and 70 contactable medical professionals who had completed international electives for medical students were invited, through email, to participate in the study. Of them, 23 (mean age 36.4 years; range 33–42 years) agreed, all of whom had taken the international electives program more than 10 years before this study. Of the 23 participant profiles given in Table 1, a majority chose to go to the US, with only a few choosing other countries.

Reflexivity

The first author (MH, PGY 14) is conducting research on medical education at the University of Tokyo Graduate School of Medicine as a PhD candidate but has not yet graduated. MH is studying a major in the Medical Education Department and a minor in the Advanced School Education and Evidence-Based Research Department, and has mastered qualitative research methods at the same graduate school. The participant interviews were conducted by MH, with the research participants and MH meeting for the first time at the interview. The second author (DS) is a lecturer in the Department of Medical Education

Studies, and is a University of Tokyo Graduate School of Medicine graduate. He has a Master's degree in Health Professionals Education, and he has conducted quantitative and qualitative medical education studies. The third author (KN) is a lecturer in the Office of International Academic Affairs, University of Tokyo Graduate School of Medicine, and a University of Tokyo graduate. She is the primary coordinator for the international electives for medical students at the University of Tokyo. The fourth author (ME) is a professor in the Department of Medical Education Studies at the University of Tokyo Graduate School of Medicine, and a University of Tokyo graduate. He is one of the primary coordinators for University of Tokyo undergraduate medical education and this study's supervisor. The focus of this study involved a subjective assessment of the research participants' interpretations of the value of the University of Tokyo's international electives for medical students based on subjective epistemology; therefore, the study used the methodology of the narrative inquiry approach.

Data collection

Open-ended data were collected, using an audio recorder, from face-to-face semi-structured in-depth interviews, wherein the participants' feelings and beliefs were explored²⁹. Interviews were conducted by the first author (MH), which lasted 40–80 minutes, at the participant's place of clinical practice between December 2018 and March 2019. To ensure a safe environment encouraging the participants to provide honest answers, only the participant and the interviewer were present at the time of interviews. Total recorded data comprised 1077 minutes. An interview guide (see Table 2) was used to clarify how the participants viewed their experiences and how those experiences had contributed to their PIF. The study authors agreed that the interview guide was suited to the research purpose; therefore, it was not changed. However, the interviews were flexible so that the participants could take the discussion in any direction. The interviews concluded with questions about the medical professionals' views on the impact of the international electives for medical students on their professional development. The recorded data were transcribed verbatim by the authors immediately after each interview. The study authors also analyzed narrative reflective reports on the international electives for medical students that had been written by the study participants more than 10 years ago. These reports on international electives for medical students were originally written to take undergraduate students beyond global health facts, as a self-reflective learning process emphasizing transnational competence and heightening their empathy for humanity underlying global health issues³⁰. Therefore, they were considered useful in assessing the existing and potential PIF pedagogy³¹ and helpful in understanding the long-term contributions of the international electives for medical students on the socialization of the study participants. However, not all of the reports that were reflective of the medical students' narrative of the international electives for them as written by the study participants existed, and only 16 reports reflective of the narrative were viewable.

Ethics

The Institutional Review Board of the University of Tokyo approved this study (2018001NI(1)). Ethical concerns included maintaining confidentiality of the sensitive information revealed in the interviews and reflective reports. The participants were informed of the study's scope and nature, and all of them

provided written consent. They were also informed that all data were confidential and that the given consent could be withdrawn at any time.

Data analysis

The data were analyzed using the thematic analysis method, which involved generative coding and theorizing to identify instances in the data set that were similar in concept³². Although the study research question was partly theory-driven, the analysis process was conducted inductively. The first and second authors (MH and SD, respectively) were formally trained in using NVivo11 for Windows (QSR International, Australia, a computer software program to support the analysis of qualitative data) and conducted all the analysis steps, including the reading and rereading of the narratives until the themes emerged and categorizing the data from a constructivist perspective. The themes were categorized into main and subcategories and were then tabulated using Nvivo11 to identify the theme frequencies in the interviews and reports. After the data collection and analyses, the study authors agreed that theoretical saturation had been reached as there were with no new themes emerging in the data set, and a complete understanding of the identified concepts had been achieved. Member-checking was conducted twice by the research participants after the interviews and analyses.

Results

Thirty-six emergent themes were identified from the thematic analysis of the interviews and reports, several of which were related to socialization. The resulting themes had six primary factors; perspective transformation, career-design, self-development, value diversity, contribution to others, and leadership (see Table 3). International electives for medical students often lead to specializations and further academic or non-academic work abroad. Although the contents of international electives for medical students were different between developing countries and developed countries, they were common in that international electives for medical students could promote reflective self-relativization and contribute to PIF on the basis of the idea of cross-cultural understanding.

Perspective transformation

Although it was difficult for most participants to specifically describe the international electives' contents, most commented on the thinking that they had acquired, with the impressions gained being the origins for their own perspective transformations as medical professionals.

When I think about whether I'm able to compare what I learned during my international elective clerkship now, that may have been my original intention, but in reality, what I wanted to do has changed....So, I think it's the ways of thinking, the people who left an impression, and the things that happened that all had formative effects. (R14)

In the past, there were many participants who chose a specialty that was different from what they had hoped for at the time of international electives for medical students. On the other hand, they went through

a process of reflecting on their experience of international electives when pursuing their own interests. Most participants also believed that the international electives promoted self-relativization and assisted in their identity development as medical professionals.

I think this is a good opportunity to reevaluate myself. When training at university hospitals and affiliated hospitals, because these organizations are all very similar, there are few differences, so we don't think about what might be good or bad, or what might be incorrect. I think that this could be an extremely useful opportunity for reevaluation. (R19)

Career-design

Most participants had continued their careers in Japan, but believed that their experiences abroad had some impact on their mindset and work-life balance.

When I think about what it was like when I had the opportunity to go to America as a medical trainee, this may seem a little vague, but this is the image I was able to give—with my experience at that time, it's not that the knowledge I learned there was of direct use, but having gone to America as a medical student was extremely useful to me in terms of planning my own life. (R3)

The role models the participants encountered during their international electives for medical students assisted them to develop their careers and pursue their own interests regardless of whether they chose to follow primary care specialties or opted to work in their countries of origin or abroad.

I feel like the awareness that I already had of the problems was accelerated and my desire to preserve medical care in Japan was strengthened by learning about conditions overseas; indeed, I had a strong feeling that I would enjoy working to change the structure of medical care more than just working as a medical profession....It had an impact in the sense that I began thinking that I would enjoy making this my life's work. (R1)

Some participants had experienced clinical settings for years, and as a result of their interest in entrepreneurship, they changed their career path, e.g., by starting up a medical company.

Self-development

The participants said that their experiences of having to adjust to their host country and their elective content by themselves and traveling to their international electives had contributed to their motivation and future independence, and had affected their educational behavior in clinical situations.

Fundamentally, when you do not do something yourself in this world, it is rare that someone will do it for you....Being in the position where you are forced to depend on yourself fosters a more talented individual as you always have to figure out where you're going by yourself. (R12)

Throughout their international elective experiences, the medical professionals could not only relativize the environment wherein they had been placed but were also forced to think more deeply about their own

strengths. Therefore, the international electives for medical students enhanced the participants' future self-development.

For me in particular, I was raised over there, so I came back to Japan thinking that I could have become like them if I had stayed there. Well, I had an image of who I desired to be when I was there and the real figure of who I am today having come back to Japan....There was a real sense that clinical training in U.S. was superior, which I wanted to fight against, thinking that we had to somehow do our best in Japan as well. (R4)

Diversity of values

Participants recognized not only the diversity of values they gained from their cross-cultural experiences, but were also able to use these experiences when treating patients from other countries. Further, regardless of their specialties, they sought to imagine the patient's background and religious views when conducting their clinical practice.

All in all, I would say that going to Brazil had a significant effect on me, but I cannot go so far as say that I would force this on Japanese people, or that I would impose my value system, which shifted slightly as a result of my time in Brazil, on Japan....I think I have become better able to respond to patients that have various views and values about life and death. (R5)

Through international electives, the participants believed that their experience assisted in their identity development as medical professionals and that it contributed to their interpretive and tolerant attitude toward patients and colleagues.

Contribution to others

It was suggested that the medical students established a relationship of trust in the field and made a more conscious effort to empower others through international electives. Furthermore, in the future, they leveraged their experience into developing others and strengthened credit accumulation and cooperation among their staff members.

It may be that what was at the core of medical care was clear. By observing the medical care in a range of medical conditions, I came to understand what was central to being a doctor....Of course, there may be better or worse medical systems and medical instruments, but perhaps what I learned was a way of thinking about what I could do with what I had been given. (R20)

In particular, the international elective experiences in developing countries were seen as opportunity to better understand socially vulnerable people and were suggested to be raising medical professionals' awareness of their social responsibility and motivating to continue working in the global health field.

I think about medical care and support based on the patient's background. In Japan, in particular, if a person comes from a developing country, even if they have a working background in Japan and we're in

Japan, they still have a different cultural background, and it good to understand that this is still true while they are living here. (R23)

International electives for medical students provided opportunities for gaining cross-cultural understanding on their PIF. It could contribute to their socialization process in PIF through their various types of experience in the future.

Leadership

The international elective experiences urged the participants to be more conscious about goal-setting and policy decision-making in organizations and gave them a better understanding of their own work environments and of how the working environment knowledge strengthened their awareness of target-setting and development.

While the medical care systems in Japan and overseas may be different, I do not hate the rational medical care in U.S. There are various ways I could break this down and give a more detailed view....for example, only a patient's doctor is able to care for them, there is poor quality control, and people are unable to look in from the outside and manage the quality. (R7)

After international elective experiences, participants continued to self-evaluate their own leadership concept and considered the medical approach for the delegation of authority according to their own situation.

Discussion

Several constituent elements related to medical professional socialization were gained from the international elective experiences. It was evident that the experiences promoted reflective self-relativization, which contributed to the participants' identity formation as medical professionals. Previous studies have shown the potential benefits of international electives for medical students in enhancing both professional and personal development, and building transferable skills from working with people from culturally, linguistically and socioeconomically diverse backgrounds⁵. The results of this study contribute to the extant research because of its findings on the long-term influences on PIF from the perspective of international elective experiences. Previous studies have found that international electives for medical students increased the probability of students choosing primary care specialties or public health as their future career paths^{2,11}. This study uncovered that there were additional long-term career influences regardless of whether the participants followed primary care specialties, or whether they opted to work in their countries of origin or abroad.

Cruess et al.¹⁶ gave a schematic representation of PIF, which indicated that people who went through a socialization process with only partially developed identities emerged with enhanced personal and professional identities (see Fig. 1). This schematic representation shows that PIF is a formative development continuum that instills professional values and a sense of being a medical professional. In

this study, several factors were found that related to the contribution of international electives for medical students to medical professional socialization and this schematic PIF representation. The results indicated that the reflective self-relativization gained from the international electives was the basis for the medical professionals' perspective transformations. A previous study found that PIF and socialization required a reflective process and that individual experiences allowed for the development of "their own stories by which to love doctors" through this self-reflection²⁴. Therefore, it was concluded that the international elective experiences provided opportunities to medical professionals to not only advance their PIF processes, but also to reflect on their underlying identities. While the schematic PIF representation¹⁶ is unidirectional (existing personal identity = > socialization = > personal and professional identity), the results indicated that the international elective experiences were bidirectional (socialization = > existing personal identity, socialization = > personal and professional identity) (see Fig. 1). This was seen one of the key relationships between the international electives for medical students and PIF to prove the long-term effects.

As a background to this schematic PIF representation, Cruess et al.¹⁶ pointed out that every person's journey from layperson to professional was unique, and that each learning environment had its own characteristics and culture. In a similar vein, we also considered the cultural aspects such as the cross-cultural understanding that was gained from the international elective experiences. In this study, the medical professionals who had undertaken international electives not only recognized the diversity of values through their cross-cultural experiences but also gained a greater understanding and empathy for patients with different backgrounds.

The findings in this study had important parallels with earlier studies. Previous studies have found that medical professionals need to acquire cultural competency as part of becoming and being a professional. When the students become medical professionals and the medical professionals make transitions, being culturally competent means being able to incorporate those views into day-to-day practices³³. The international electives provided medical students with the opportunities of gain cross-cultural understanding on their PIF journey, which over the long-term contributed to their development of appropriate empathic responses. Gosselin et al.³⁴ proposed that medical education researchers should reconsider their assumptions and discourses about the dynamic relationships between culture, globalization, and medical education.

Professional identity is part of a wider social identity that varies depending on the country of origin and cultural background; that is, medical professionals' professional identities are constructed and influenced by their social identities³³. Monrouxe³⁵ showed that cultural differences could be explained by considering the wider culture the medical professionals inhabit. Although the international electives for medical students generally run from only one to three months, based on the previous results, the international electives for medical students in Asian countries could have a substantial impact on the medical students' socialization.

Overall, however, individual PIF development through international electives for medical students in other cultures would need to be more comprehensively studied to assess the transferability of these results. A limitation of this study was that only Japanese medical professionals who had graduated from the University of Tokyo were included, which means that their PIF was affected by their innate cultural values and social norms. Because there are cultural differences between western models and other cultures that focus less on the individual and have a more collective culture³³, there are wide differences as to the appropriateness of some professional attributes³⁵, which means that it is difficult to make generalized statements without knowledge of the individual PIF development in other cultures. However, based on the emergent themes in this study, it is possible that these types of experiences in other cultures would yield similar findings such as perspective transformations, self-development, and leadership. Another limitation of this study was that the focus was on medical professionals who were already specializing (mean clinical experience duration was 11.9 years). As identity formation continues throughout the medical professional's career¹⁸, identities are never fixed³⁶. Therefore, it is necessary to investigate the socialization gained from international electives in a younger generation, such as undergraduate students and residents. Finally, the problems that arise from the activities of participants are not made clear in this study. Although we identified the contribution of the international electives to the socialization process as an outcome, the experiences that the participants gain from their work are complex. Therefore, further investigation of how the medical professionals adopted their experiences in their own environments would be required.

Conclusion

This study clarified a number of issues regarding the long-term impact of international elective experiences in various countries on the socialization of Japanese medical professionals. It was found that these experiences promote reflective self-relativization and contribute to PIF on the basis of the idea of cross-cultural understanding. The results of this study contribute to the extant research because of their findings on the long-term influences of PIF from the perspective of international elective experiences. It is hoped that this study offers some guidance to mentors conducting international electives for medical students, and provides useful information for PIF development in medical professionals.

Declarations

Ethics approval and consent to participate

This study was approved by the Institutional Review Board of the University of Tokyo (IRB ID 2018001NI-(1)). The participants were informed of the study's scope and nature, and all of them provided written consent.

Consent for publication

The authors obtained written consent for publication from all of the participants.

Availability of data and materials

No additional data are available.

Competing interests

There are non-financial associations that may be relevant to the submitted manuscript.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Authors' contributions

MH was the principal investigator for this study, who conducted the interviews and authored the paper. KN contributed to the design of this study. DS analyzed and coded all data along with MH. ME checked the results, advised edits, and approved for public release. All authors have agreed with the final version of this paper.

Acknowledgments

The authors would like to thank all the participants who gave their time and participated in this study.

References

1. Harmer A, Lee K, Petty N. Global health education in the United Kingdom: a review of university undergraduate and postgraduate programmes and courses. *Public Health*; 2015;129(6):797–809. doi: [1016/j.puhe.2014.12.015](https://doi.org/10.1016/j.puhe.2014.12.015).
2. Khan OA, Guerrant R, Sanders J, Carpenter C, Spottswood M, Jones DS, O'Callahan C, Brewer TF, Markuns JF, Gillam S, O'Neill J, Nathanson N, Wright S. Global health education in U.S. medical schools. *BMC Med Educ*; 2013;13:3. doi: [1186/1472-6920-13-3](https://doi.org/10.1186/1472-6920-13-3).
3. Suzuki T, Nishigori H. National survey of international electives for global health in undergraduate medical education in Japan, 2011–2014. *Nagoya J Med Sci*; 2018;80(1):79–90. doi: [18999/nagjms.80.1.79](https://doi.org/10.18999/nagjms.80.1.79).
4. Sawatsky AP, Nordhues HC, Merry SP, Bashir MU, Hafferty FW. Transformative learning and professional identity formation during international health electives: A qualitative study using grounded theory. *Acad Med*; 2018;93(9):1381–1390. doi: [1097/ACM.0000000000002230](https://doi.org/10.1097/ACM.0000000000002230).
5. Lumb A, Murdoch-Eaton D. Electives in undergraduate medical education: AMEE Guide No. 88: AMEE Guide No. 88. *Med Teach*; 2014;36(7):557–572. doi: [3109/0142159X.2014.907887](https://doi.org/10.3109/0142159X.2014.907887).

6. Ramakrishna J, Valani R, Sriharan A, Scolnik D. Design and pilot implementation of an evaluation tool assessing professionalism, communication and collaboration during a unique global health elective. *Med Confl Surviv*; 2014;30(1):56–65. doi: [1080/13623699.2014.874088](https://doi.org/10.1080/13623699.2014.874088).
7. Murdoch-Eaton D, Green A. The contribution and challenges of electives in the development of social accountability in medical students. *Med Teach*; 2011;33(8):643–648. doi: [3109/0142159X.2011.590252](https://doi.org/3109/0142159X.2011.590252).
8. Stys D, Hopman W, Carpenter J. What is the value of global health electives during Medical School? *Med Teach*; 2013;35(3):209–218. doi: [3109/0142159X.2012.731107](https://doi.org/3109/0142159X.2012.731107).
9. Neel AF, Al-Ahmari LS, Alanazi RA, Sattar K, Ahmad T, Feeley E, Khalil MS, Soliman M. Medical students' perception of international health electives in the undergraduate medical curriculum at the college of Medicine, King Saud University. *Adv Med Educ Pract*; 2018;9:811–817. doi: [2147/AMEPS173023](https://doi.org/2147/AMEPS173023).
10. Cherniak WA, Drain PK, Brewer TF. Educational objectives of international medical electives—a narrative literature review. *Acad Med J Assoc Am Med Colleges*; 2013;88(11):1778–1781. doi: [1097/ACM.0b013e3182a6a7ce](https://doi.org/1097/ACM.0b013e3182a6a7ce).
11. Jeffrey J, Dumont RA, Kim GY, Kuo T. Effects of international health electives on medical student learning and career choice: results of a systematic literature review. *Fam Med*; 2011;43(1):21–28.
12. Nishigori H, Otani T, Plint S, Uchino M, Ban N. I came, I saw, I reflected: A qualitative study into learning outcomes of international electives for Japanese and British medical students. *Med Teach*; 2009;31(5):e196–e201. doi: [1080/01421590802516764](https://doi.org/1080/01421590802516764).
13. Bender A, Walker P. The obligation of debriefing in global health education. *Med Teach*; 2013;35(3):e1027–e1034. doi: [3109/0142159X.2012.733449](https://doi.org/3109/0142159X.2012.733449).
14. Goldie J. The formation of professional identity in medical students: considerations for educators. *Med Teach*; 2012;34(9):e641–e648. doi: [3109/0142159X.2012.687476](https://doi.org/3109/0142159X.2012.687476).
15. Cruess RL, Cruess SR, Steinert Y. Supporting the development of a professional identity: general principles. *Med Teach*; 2019;11:1–9.
16. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. A schematic representation of the professional identity formation and socialization of medical students and residents: A guide for medical educators. *Acad Med*; 2015;90(6):718–725. doi: [1097/ACM.0000000000000700](https://doi.org/1097/ACM.0000000000000700).
17. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. Reframing medical education to support professional identity formation. *Acad Med*; 2014;89(11):1446–1451. doi: [1097/ACM.0000000000000427](https://doi.org/1097/ACM.0000000000000427).
18. Jarvis-Selinger S, Pratt DD, Regehr G. Competency is not enough: integrating identity formation into the medical education discourse. *Acad Med*; 2012;87(9):1185–1190. doi: [10.1093/acmed/bmas001](https://doi.org/10.1093/acmed/bmas001).

[1097/ACM.0b013e3182604968](#).

19. Holden MD, Buck E, Luk J, Ambriz F, Boisaubin EV, Clark MA, Mihalic AP, Sadler JZ, Sapire KJ, Spike JP, Vince A, Dalrymple JL. Professional identity formation: creating a longitudinal framework through Time (transformation in medical education). *Acad Med*; 2015;90(6):761–767. doi:

[1097/ACM.0000000000000719](#).

20. Nishigori H, Takahashi O, Sugimoto N, Kitamura K, McMahon GT. A national survey of international electives for medical students in Japan: 2009–2010. *Med Teach*; 2012;34(1):71–73. doi:

[3109/0142159X.2012.638014](#).

21. Miranda JJ, Yudkin JS, Willott C. International health electives: four years of experience. *Travel Med Infect Dis*; 2005;3(3):133–141. doi: [1016/j.tmaid.2004.09.003](#).

22. Rowson M, Smith A, Hughes R, Johnson O, Maini A, Martin S, Martineau F, Miranda JJ, Pollit V, Wake R, Willott C, Yudkin JS. The evolution of global health teaching in undergraduate medical curricula. *Global Health*; 2012;8:35. doi: [1186/1744-8603-8-35](#).

23. Frost HD, Regehr G. “I am a doctor”: negotiating the discourses of standardization and diversity in professional identity construction. *Acad Med*; 2013;88(10):1570–1577. doi:

[1097/ACM.0b013e3182a34b05](#).

24. Wilson I, Cowin LS, Johnson M, Young H. Professional identity in medical students: Pedagogical challenges to medical education. *Teach Learn Med*; 2013;25(4):369–373. doi:

[1080/10401334.2013.827968](#).

25. O’Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: A synthesis of recommendations. *Acad Med*; 2014;89(9):1245–1251. doi: [1097/ACM.0000000000000388](#).

26. Mann K, MacLeod A. Constructivism: learning theories and approaches to research. (In: Cleland J, Durning SJ, eds. *Researching Medical Education*. Oxford: Wiley-Blackwell); 2015:51–65.

27. Muller J. Narrative approaches to qualitative research in primary care. (In: Crabtree B, Miller W, eds. *Ng Qualitative Research*. Thousand Oaks, CA: Sage Publications); 1999:221–238.

28. Bryman A. *Social Research Methods*. Oxford: Oxford university press; 2016.

29. DeJonckheere M, Vaughn LM. Semistructured interviewing in primary care research: A balance of relationship and rigour. *Fam Med Commun Health*; 2019;7:e000057.

30. Lencucha R. A research-based narrative assignment for global health education. *Adv Health Sci Educ*; 2014;19(1):129–142. doi: [1007/s10459-013-9446-8](#).

31. Wald HS, Anthony D, Hutchinson TA, Liben S, Smilovitch M, Donato AA. Professional identity formation in medical education for humanistic, resilient physicians: pedagogic strategies for bridging theory to practice. *Acad Med*; 2015;90(6):753–760. doi: [1097/ACM.0000000000000725](#).

32. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nurs Health Sci*; 2013;15(3):398–405. doi: [1111/nhs.12048](#).

33. McKimm J, Wilkinson T. “Doctors on the move”: exploring professionalism in the light of cultural transitions. *Med Teach*; 2015;37(9):837–843. doi: [3109/0142159X.2015.1044953](#).

34. Gosselin K, Norris JL, Ho MJ. Beyond homogenization discourse: reconsidering the cultural consequences of globalized medical education. *Med Teach*; 2016;38(7):691–699. doi: [3109/0142159X.2015.1105941](#).

35. Monrouxe LV. Theoretical insights into the nature and nurture of professional identities. (In: Cruess RL, Cruess SR, Steinert Y, eds. *Teaching Medical Professionalism: Supporting the Development of a Professional Identity*. (2nd ed. Cambridge (UK): Cambridge Univ Press); 2016:37–53.

36. Lockyer J, de Groot J, Silver I. Professional identity formation, the practicing physician, and continuing professional development. (In: Cruess RL, Cruess SR, Steinert Y, eds., *Teaching Medical Professionalism: Supporting the Development of a Professional Identity*. (2nd ed. Cambridge (UK): Cambridge University Press); 2016:186–200.

Tables

Table 1. Characteristics of the research participants

No	Sex	PGY	Specialty	Host Country	Type of Electives
1	M	13	Internal Medicine	US (NY), UK	Clinical
2	F	10	Rheumatology	US (WA)	Clinical
3	F	9	Neurology	US (OR)	Clinical
4	F	12	Pediatrics	US (PA)	Research
5	M	12	Emergency	US (OR), Brazil	Clinical
6	M	9	Endocrinology	US (CA)	Clinical
7	M	16	Intensive Care	US (OH)	Clinical
8	M	11	Gastrointestinal Surgery	US (OR)	Clinical
9	M	10	Thoracic Surgery	US (PA)	Clinical
10	M	13	Endocrinology	US (PA)	Research
11	M	12	Hematology	US (OR)	Clinical
12	M	10	Emergency	India, Nepal	Clinical
13	M	12	Orthopedics	US (MI)	Clinical
14	M	9	Emergency	US (PA)	Research
15	M	16	Respiratory	US (MA)	Clinical
16	M	11	Neurology	US (PA)	Research
17	M	16	Radiology	Thailand	Clinical
18	M	13	Neurology	US (MA, MN)	Clinical, Research
19	M	13	Health Policy	US (NY, OR)	Clinical
20	M	9	Cardiac surgery	Australia	Clinical
21	M	10	Ophthalmology	US (CA)	Clinical
22	F	16	Physiology	US (PA)	Clinical
23	F	12	Surgery	India	Clinical

PGY: Postgraduate year

Table 2. Interview guide

1. What is your specialty, experience level (number of years), and board certification?
2. Please describe the medical services you usually provide.
3. What have been your major medical experiences so far?
4. Describe your international elective experiences and provide details.
5. Why did you choose to study international electives for medical students?
6. What are your personal impressions of the international electives for medical students?
7. What impact did the impressive episode (answer 6) have on your own medical treatment (attitudes toward medical practice or work) and career development?
8. What impact did your international electives for medical students have on your professional development? Why do you think so?

Table 3. Emergent themes

Perspective transformation Self-relativization, Self-transformation, Wide perspective
Career-design Career support, Mindset, Role model, Work-life balance, Pursuit of interest, Right of choice, Insufficient information sharing
Self-development Outcomes, Motivation, Cross-boundary experiences, Self-reliance
Diversity of values Culture shock, Globalization, Work style, Cross-cultural understanding, Flexibility, Acceptance of various values
Contribution to others Open mind, Empathy, Resistance to egoism
Leadership Systems thinking, Resilience, Decision-making, Objective thinking, Responsibility, Critical thinking, Uncertainty

Figures

Figure 1

A schematic representation of the process of socialization International elective experiences provided opportunities to medical professionals to not only advance their PIF process¹⁶ but also to reflect on their underlying identities. The international elective experiences indicated bidirectional schematic representation (socialization=>existing personal identity, socialization=>personal and professional identity).