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Research on the Experiences of International Graduate Students: A Selective Literature Review

Bryan M. Carson

Western Kentucky University Libraries; Vanderbilt University Peabody College of Education, bryan.carson@wku.edu

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**Research on the Experiences
of International Graduate Students:
A Selective Literature Review**

Bryan M. Carson

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Introduction

In 2003, there were 586,523 international students in U.S. institutions. International students make up 13 percent of the graduate study body in the U.S. (Ruby, 2007, p. 3). One-fifth of all doctorates awarded by American universities go to international students. This represents one quarter of the international enrollment in the world (Sahasrabudhe, 2007, p. 1). Some students remain in the U.S., while others return to their home countries. Either way, however, international students represent a very significant portion of the U.S. higher education field. Yet the literature on international graduate students is surprisingly sparse.

While there are many studies of the international graduate student experience, they tend to focus mostly on language acquisition, academics, acculturation and social adaptation (Zucca, 2007; Mehra, 2004; Womujuni, 2007), and intercultural social relationships (Martin, 1996; Womujuni, 2007). A few studies deal with educational choice. Many works are “memoirs” by graduate students discussing their own experiences.

There are few well-constructed theoretical, qualitative, or quantitative studies dealing with the processes of academic choice, mentoring, graduate school socialization, or outcomes. There are also very few studies about the career trajectories of international graduate students. Those who remain in the U.S. are usually lumped together with other early-career professionals in outcome evaluations, while those who return to their own countries are generally ignored. Most of the well-constructed works take the form of doctoral dissertations; the journal literature has almost nothing on these topics.

This paper is intended to help fill this gap by directing readers to relevant resources. Part I begins by viewing cross-national student migration and the process of choosing a school. Some of the theoretical lenses in this section include push and pull factors, the role of social networks, and school choice theory. Part II investigates the literature on international student acculturation and adaptation, including research on the acculturation process and a model of cross-cultural learning developed by Mehra (2004). This section also includes an investigation of friendships between international and domestic students.

The acculturation process and cognitive dissonance can cause extreme amounts of stress and mental health issues for international students. Part III tackles this topic with research on cognitive dissonance, self-efficacy, worldview, and acculturative stress. This information is valuable not only for international student offices, but also for counselors who may be called upon to provide treatment to international students.

Part IV discusses differences in library use between international and domestic students. This section also includes a discussion of teaching techniques that should be used when providing information literacy instruction to international students. Part V is a discussion of educational socialization, which is one of the primary outcomes of graduate education. This section discusses the interaction between social processes and education.

Part VI discusses the career trajectories of international students. The section begins with research on career motivation and the decision to stay in the U.S. or return to the home country. Next is an investigation of the post-departure career trajectories of international students who return to their countries. The section closes with an exploration of the career trajectories of foreign-born faculty members who stay in the U.S.

Most of the research on these topics comes from doctoral dissertations. Almost nothing on the topic has been published in journals, although bits and pieces show up from time to time. Nonetheless, these doctoral dissertations provide significant resources for readers who are trying to understand the international student experience.

Table 1: U.S. International Graduate Students by Selected Country of Origin.

Rank	Place of Origin	2003-2004	2004-2005	% change
1	India	79,736	80,466	.9
2	China	61,765	62,523	1.2
3	Korea/Repub.	52,484	53,358	1.7
4	Japan	40,835	42,215	3.4
5	Canada	27,017	28,140	4.2
6	Taiwan	26,178	25,914	-1.0
7	Mexico	13,329	13,063	-2.0
8	Turkey	11,398	12,474	9.4
10	Thailand	8,937	8,637	-3.4
12	Indonesia	8,880	7,760	-12.6
14	Brazil	7,799	7,244	-7.1
16	Kenya	7,381	6,728	-8.8
19	Pakistan	7,325	6,296	-14.0

Source: Ruby, 2007, p. 7.

I. Cross-National Student Migration and the Institutional Choice Process

The graduate school process begins before students even make application. There are a variety of factors that lead students to study abroad, and some are related to career trajectories and outcomes. Zucca (2007) noted that students have both personal and professional reasons for undertaking international study.

A. Push-Pull Factors

The foundational work in this area was done by McMahon (1992). McMahon conceptualized home country issues that contribute to international study as “*push*” factors. The economic and non-economic aspects that draw international students to come specifically to the U.S. are known as “*pull*” factors. McMahon found that economic strength and educational opportunity were negatively related to international study, while involvement in international trade and national emphasis on education were positively correlated (McMahon, 1992, p. 472). The finding on economic strength was contrary to the author’s hypothesis.

For higher-income countries, McMahon found that economic strength was strongly negative with significance at the $p > .05$ level and an R^2 of .75. In the group of lower-income countries, the significance level was .05, with an R^2 of .53 (McMahon, 1992, p. 472). The author attributes this finding to a positive correlation between national income and the level of educational opportunities. The effects became more pronounced when using income directly rather than as a dummy variable. (McMahon, 1992, p. 473).

Sahasrabudhe (2007) reported that among Indian students studying engineering, the most important push factor was dissatisfaction with the undergraduate experience in India (Sahasrabudhe, 2007, p. 71). This dissatisfaction could be classified in one of six categories, namely: “quality of faculty, factors related to the curriculum, infrastructural issues, reservation policies, undergraduate admission process, desire to pursue graduate education and limited opportunities for graduate programs in India” (Sahasrabudhe, 2007, p. 72).

For the pull factors, McMahon (1992) reported that comparative economic strength and U.S. institutional support were highly significant at the $p > .01$ level. While concentration of trade was also positive, it did not reach statistical significance. The receipt of U.S. foreign aid was negatively related (contrary to the author’s hypothesis) and not statistically significant (McMahon, 1992, p. 474). The R^2 was .69 for the higher-income group and .52 for the lower-income group (McMahon, 1992, p. 474).

According to Sahasrabudhe (2007), pull factors that made the U.S. a destination of choice included highly-ranked universities, degrees that would be recognized internationally, the opportunity for practical experience in industry, and highly-regarded faculty members (Sahasrabudhe, 2007, pp. 92-93). Many subjects had family or friends who were already in the U.S. (Sahasrabudhe, 2007, p. 93).

The U.S. learning system was also appealing for some students. The flexibility of the curriculum was a big draw, just as inflexibility had been a significant push factor at home. In fact, some students were interested in being able to take courses such as general education electives outside their field of study (Sahasrabudhe, 2007, p. 94). Finally, students felt that the prestige of studying in the U.S. would help to enhance their career trajectory upon return (Sahasrabudhe, 2007, p. 96).

Students chose the specific university because of its proximity to Silicone Valley and because of the climactic region. However, all subjects unanimously explained that the high academic reputation of the university and the program was a big draw (Sahasrabudhe, 2007, p. 99). Several students had gotten information from friends or family who attended the institution. Also, some students were drawn by particular specializations that were available (Sahasrabudhe, 2007, p. 99).

B. The Role of Social Networks in Institutional Choice

Migrant networks are “sets of interpersonal ties that connect migrants, former migrants, and non-migrants in origin and destination areas through ties of kinship, friendship, and shared community origin” (Tanyildiz, 2008, pp. 24-25, *quoting* Massey, 1993, p. 448). These networks pass along assistance and information, which both reduces costs and risks. In addition, each migration sets up further migratory networks, which then encourage more migrants. Meanwhile, the educational differences between migrants and non-migrants causes non-migrants to desire more education, thereby encouraging them to move (Tanyildiz, 2008, pp. 25-26).

Studying Turkish students at Georgia Tech, Tanyildiz (2008) found that students knew about the school because of friends who had studied there. Two universities in Turkey had a large number of professors and research assistants who had also attended Georgia Tech. At these schools, “they even referred to Georgia Tech as ‘Georgia Turk’” (Tanyildiz, 2008, p. 38). Both Turkish professors at Georgia Tech and professors in Turkey had recommended the school. While some students felt segregated by having a complete Turkish community, others liked having people from the home country around. They felt that having other students who spoke the same language allowed for clarification of classroom questions in the native language.

The second stage of Tanyildiz's study investigated the social networks of faculty members born in China, Korea, India, or Turkey who directed research labs across the U.S. He found that in labs headed by a Chinese faculty member, 37.8% of the students were Chinese. The number was 36.3% for labs run by a Turkish faculty member, 29.0% for labs run by a Korean faculty member, and 27.1% for labs run by an Indian faculty member (Tanyildiz, 2008, p. 62). One problem with Tanyildiz's study is that students were only identified as being (1) from the same ethnicity as the director, (2) native to the U.S., or (3) other foreign-born students. This was a design flaw that meant potentially valuable data was not collected, as there was no differentiation. A Korean student in a lab headed by a Turk would have been listed as "other foreign," as would a student from Canada or any other country (Tanyildiz, 2008, p. 64).

Sahasrabudhe (2007) analyzed the social capital networks that led students to choose graduate study in the U.S. and at the specific university. She found that there were five networks that played a role in the decision: parents, peers, undergraduate faculty, educational consultants, and information sessions (Sahasrabudhe, 2007, p. 102). Parents were important because they provided moral support and listened to dissatisfaction about the undergraduate experience. Peers provided important feedback about their own experiences abroad and about specific universities and departments. There was also a peer effect on the desire to obtain graduate education (Sahasrabudhe, 2007, p. 105).¹ Peers also played a large role in disseminating information about the application process and visa regulations (Sahasrabudhe, 2007, pp. 105-106).

While undergraduate faculty played a much more minor role than parents or peers, some undergraduate advisors did recommend U.S. institutions for graduate study (p. 106). Some students also used consulting services to learn about institutions, for assistance with application forms, and to help facilitate visas (Sahasrabudhe, 2007, p. 107). However, several students were either dissatisfied or knew people who had bad experiences with consulting services (Sahasrabudhe, 2007, p. 107).

Over half the subjects had attended at least one information session conducted by a U.S. university. However, most felt that the sessions were too general and not helpful because they covered all programs rather than just the ones that students were interested in. These sessions did play a minor role in explaining the application process, but for the most part were not helpful in actually recruiting students to specific programs (Sahasrabudhe, 2007, pp. 109-110).

¹ This is similar to the "fictive kin" peer effect in the college decision process discussed by Tierney and Venegas (2006). Tierney, W. G., and Venegas, K. M. (2006, August). Fictive kin and social capital: The role of peer groups in applying and paying for college. *American Behavioral Scientist* 49(12): 1687-1702.

Networks were also important for students who came from the People's Republic of China. With the combination between Confucian and Communist worldviews, the collective was an important source of information. However, social networks also led students to financial support and permission to study abroad. In 1980s and 1990s China, it was who you knew that mattered (Buys, 1992, pp. 88-89).

C. School Choice Theory

The third part of Tanyildiz's study investigated the school choice process, based on Hossler & Gallagher's (1987) three-stage model. This was integrated with social network theory to include the role of professors, students, and alumni from the same country (p. 73). In some cases, faculty had relationships with undergraduate institutions in the home country that led to student enrollment. Other times, students contacted faculty from their ethnic group directly for information before applying. Also, students indicated that having others from the same ethnic group was an important factor because it eased the way to finding ethnic foods, speaking their own language, and finding housing (Tanyildiz, 2008, p. 74).

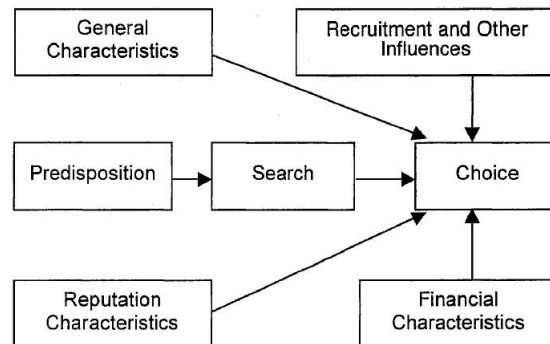
The final part of Tanyildiz's study tried to determine whether there were other variables responsible for bringing students to specific universities. A large number of potential variables ranging from weather and size of the urban area to crime rate were used. One interesting variable was that the top 10 institutions that receive foreign doctoral students are not located in the top 10 metropolitan areas that have Chinese, Korean, Indian, or Turkish residents. Those who came to the U.S. for education did not come to the same places as low-skilled migrants from the same countries (Tanyildiz, 2008, p. 107). The non-academic community was just not as important to these educational migrants.

Ruby (2007) applied research on college choice to the realm of international graduate students. Her theoretical framework was based on the combined economic and status attainment model of McDonough (1994) and the three-stage framework (predisposition, search, and choice) developed by Hossler and partners in numerous studies (i.e., Hossler & Gallagher, 1987; Hossler, Schmit, & Vesper, 1999). These work in tandem with other factors such as institutional and program recruitment efforts, social and cultural capital, peer effects, *habitus*, etc. to explain the college choice process (Ruby, 2007, p. 22).

Ruby sought to determine whether sex, age, country of origin, or academic program influenced perceptions of institutional or program characteristics, whether they influence perceptions of marketing and recruitment characteristics, and whether these they influence their perceptions of significant others' characteristics (Ruby, 2007, p. 13). Her findings confirmed Hossler & Gallagher's (1987) combined college choice model. In addition to

the three stage process and general factors, the author added two new stages for international graduate students, namely reputation characteristics and financial characteristics. Institutional and program effects were combined in general characteristics, and the other effects were placed in the “recruitment and other influences” category.

Figure 1. The Ruby Model of College Choice of International Graduate Students.



Source: Ruby, 2008, p. 105.

II. International Student Adaptation and Acculturation

One of the biggest issues faced by international students is adaptation to a new culture. In many cases, this also means adaptation to a new language. Acculturation can involve significant amounts of stress which domestic students do not have to face.

A. The Acculturation Process

Huxur et al. (1996) examined how foreign graduate students at U.S. and Canadian universities adapted to their new institutions. The authors are four doctoral students and one faculty member at the University of British Columbia. The project began with a series of informal discussions among the authors about their experiences in Canada and the U.S. as foreign students. This led to a conference presentation, then to this paper. Huxur et al. used their own experiences, but wrapped them in the framework of theory and existing literature. The graduate students are from China, Canada (earned his Master’s degree in the U.S.), Nigeria, and Japan. The faculty member is from Germany, and studied in France and the U.S.

Huxur et al. (1996) began by exploring their decisions to study abroad and their pre-sojourn expectations, along with the actual arrival. While two of the authors had accurate expectations, they still encountered a great deal of culture shock and a feeling of social loss. One author had very inaccurate expectations, and felt out of place, humiliated, and desperately unhappy. The German co-author had trouble finding a place to live. Even the Canadian co-author, who thought that the U.S. and Canada were

very similar, experienced social isolation. He felt more affinity with other international students “from Nepal, China, and South Africa” than with Americans (Huxur et al., 1996, p. 5).

Huxur et al. (1996) wrap up the paper with some suggestions for policy. Suggestions include making more information and assistance available before and at the time of arrival, providing information about social resources. They recommend using students from the same culture to help orient new arrivals. Linguistically speaking, the authors recommend helping students to acquire more of the symbolic meanings of the language. Pairing students with host families or peer mentors familiar with the student’s culture can help with social integration. Academic assistance, including in the native language, is also needed. Teaching and learning styles and instructor-student relationships also need to be made clear to new arrivals. Finally, the authors recommend that institutions create networks of alumni mentors who can help students prepare for their reentry into the home country. This can help students to avoid shocks and can also help lead to career opportunities.

Mehra (2004) investigated the process by which doctoral students learned, acculturated, and adapted to their new culture. He discovered that many contextual factors shaped their enactment of experiences (2004, p. 103). The experiences were a combination of factors, and participants were not able to break these out into discrete categories because they were related. Many of these factors related to the discipline of library and information science as a whole. For example, one student was unable to follow a class with a sociological perspective because he had not taken an introductory sociology class in college and had never been introduced to sociological concepts.

Mehra (2004) also found that different people often perceived the same situations differently because of cultural background. For example, some students viewed the relationships with their professors in a more hierarchical fashion, and participation in class was also viewed differently (Mehra, 2004, pp. 107-108). Buys (1992) noted that Chinese students view the institution through the lens of a Confucian family, with the professor as the “Father-Teacher” (Buys, 1992, p. 63).

Mehra (2004) noted that “Past cultural experiences shape both participants’ pasts and futures” (p. 118). The educational system of the home country, other countries the students had lived in, prior academic work, past work experiences, and methodological assumptions had an effect on the students’ learning experiences. Responses to the study indicated that students wanted to have “interventions that allowed for past cultural experiences of students to be linked to their present and future cross-cultural learning process” (Mehra, 2004, p. 122).

Womujuni (2007) reported that international students felt isolated from American students. Even those who tried to live with Americans had difficulties. There were many problems finding housing. Students did not know at first about the resources at the university. They did not understand how to find information at the library. Financial issues came up constantly. Students were unhappy with restrictions on the number of hours they could work and their inability to obtain jobs off campus because of Federal laws. Most did not have enough money, and were constantly struggling.

Womujuni's suggestions included more mentoring (and more social connections) from departments and advisors, orientations to the library, individual departmental orientations, more academic counseling from the departments, and a more comprehensive graduate student handbook. Ongoing orientation was suggested as well, as was counseling services for international students. Students recommended that the university pick up the international students at the airport and give them some temporary accommodations for the first few days until the student found a place to live. Students recommended that more senior international students be assigned as peer mentors, and that more career guidance be offered.

Gonzales (2006) found that "several interconnected components converge to characterize the acculturation experience of international graduate students" (2006, p. 59). In his model, the initial stage consists of a social and cultural assessment whereby the subject recognizes the similarities and differences between the home and host countries. The comparison causes cognitive dissonance, which is resolved in turn by changes in beliefs, attitudes, or behavior (Gonzales, 2006, p. 60). There are four ways in which subjects handle acculturation changes. These consist of language proficiency, social support, cultural learning, and individual growth.

Students first acquire language proficiency in order to communicate. But language also provides a tool for understanding the cultural framework (Gonzales, 2006, p. 68). Misunderstandings can also cause academic problems, such as a student who was 30 minutes late for an exam because she misheard the room number, hearing "room 118" instead of "room 180" (Gonzales, 2006, p. 69). Lack of language proficiency can also prevent students from fully engaging and establishing relationships. It can lead to embarrassment and unpleasantness. Those who have higher levels of English proficiency found themselves better able to engage in social relationships (Gonzales, 2006, pp. 69-70).

Social support is an important part of the acculturation process, and language is a key to creating supportive networks. With family, friends, and sometimes spouses half a world away, it becomes

necessary for students to develop new support. This could be provided by university offices, departmental faculty or staff, informal or formal mentors, or advisors. Cultural and social events help to connect the international student both to domestic and other international students (Gonzales, 2006, p. 71). In fact, students with strong social networks were more emotionally satisfied, while those without strong network ties were more prone to stress (Gonzales, 2006, p. 72).

Cultural learning not only means learning about the new culture, but also acquiring insight into the students' own background. Cultural learning is a specialized type of experiential learning, in that the students learn through hands-on contact with the new culture (Gonzales, 2006, pp. 74-75). This process caused students to revise opinions and impressions, and to create accurate perceptions. Again, however, an important prerequisite is both technical and social proficiency in the English language (Gonzales, 2006, p. 76).

Graduate students of all backgrounds undergo individual growth during the course of their programs. However, international students have an additional impetus for growth as they learn to successfully navigate a new culture. Students become more mature. They are more self-reliant and learn to navigate many cultures simultaneously. While there is also the danger of becoming *too* self-reliant and being isolated, most graduate students become more assertive and less shy over time. According to Gonzales, Part of this process of becoming less shy seems to revolve around the development of the belief that the participants' views and needs are important and will be received by members of the new culture” (2006, pp. 81-82).

B. Mehra's Model of Cross-Cultural Learning

Based on his research, Mehra (2004) created an eight-stage model of the cross-cultural learning experience. This work provides a comprehensive framework through which to view the process of intercultural adaptation and acculturation. The model contains the following phases:

- *Phase 0: Post-admission before the first semester starts.* This is a period of excitement mixed with fear and uncertainty. While some participants contacted faculty directly, many relied upon the website for information. This is a planning stage (Mehra, 2004, p. 141).
- *Phase 1: Program initiation.* Involves orientation and registration, the logistics of moving to a new place, obtaining housing and bank accounts, finding out where the grocery store is located, etc. (Mehra, 2004, p. 142).
- *Phase 2: “Gathering” experiences.* Students “consciously and/or subconsciously observe, mentally record, and try to make sense of their realities in order to navigate . . . [their] cross-cultural learning process” (Mehra, 2004, p. 143). Students are overwhelmed with information and find it difficult to sort out what is important. Those with peers from the same culture were better able to navigate this stage (Mehra, 2004, p. 144).
- *Phase 3: “Triggers”—realization of differences.* Triggers “awaken the student to the reality that things are different from their earlier expectations and experiences. . . . Triggers can range from an

innocuous comment by an instructor in class, perceived verbal and/or non-verbal behaviors of others, someone's response to something the participant says or does, or something the student symbolizes to represent a certain meaning" (Mehra, 2004, p. 146).

- *Phase 4: Dyslexic stage of existence.* Mehra calls this the "Dyslexic state of existence" because of international students' "inability to make connections between incomplete and isolated pieces of information that can be connected only through cultural knowledge and experiential understanding that students lack" (Mehra, 2004, p. 149). This stage is not only for international students in a new culture, but also for any student in a new discipline. The dyslexic state can be alleviated in part through the addition of outside readings that help to place things in context (Mehra, 2004, p. 150).
- *Phase 5: Conditioned awareness comparison—contrast to "home."* Students begin to compare their experiences to their memories and perceptions of "home" in order to make sense of the new culture. During this stage, make comparisons based on similarities or differences. However, understanding is limited because "feelings tend to either completely disregard or nostalgically romanticize their past experiences" (Mehra, 2004, p. 151).
- *Phase 6: "De-conditioning" of expectations based on the past.* At this point, the student is able to view their experiences without having to compare and contrast with past experiences. "It recognizes each experience on its own terms and begins to draw broader connections between various seemingly disparate experiences (cultural and/or academic). The phase is marked by a gradual process of realization of broader interconnections in the discipline and the relationship of those to the participants' own area of research" (Mehra, 2004, p. 152).
- *Phase 7: Enlightened adaptation.* This stage is "a phase of understanding the different cultural and/or academic experiences on their own terms. Students are able to see the similarities and differences between experiences in terms of a larger understanding of the interactions between the individual, people, culture, and the environment (the context). These express themselves in making connections between the local and the global, home and host, and other realities of experience (Mehra, 2004, p. 155).²

C. Friendships Between International and Domestic Students

Much has been written about the social networks of international graduate students. Generally these focus on institutional or professional relationships, or on relationships with other students from the same culture (i.e., Tanyildiz, 2008). However, few studies have analyzed relationships between international and domestic students. Perkins (2004) provides a rare insight into this aspect of cultural contact.

Students who have social networks within the host country tend to report lower stress levels and greater levels of cultural understanding. Cross-cultural friendships also help to reduce social segregation.

² In my experience, these stages are not only applicable to international graduate students, but really to all. Having entered the field of education with no education degree, but with a background in a closely related field (library science) and a very different field (law), I have indeed found myself going through each of these same stages. Certainly I now understand the differences, but I spent a fair amount of time relating and comparing education to library science. However, this was tempered by the fact that I have worked in higher education now for many years and have participated in many conferences, symposia, and training sessions dealing with some of the concepts I have studied.

The experience of going from law school to my Master's program, however, caused me to go through the same stages that are reported in this study. I especially tried to relate everything to the law school experience, and encountered numerous triggers. In the years since, however, I have actually made my career writing about the intersection between law and librarianship, thus indicating that I finally reached the end stage of enlightened adaptation.

Research also indicates that they help with student adjustment (Perkins, 2004, pp. 28-29). Some research indicates that international students with American friends had higher language proficiency, although it could have been the other way around (Perkins, 2004, p. 32).

In addition to simple communication, language can form a barrier because the meaning of words is often culturally-based. Words do not always mean exactly what the dictionary says, and assumptions can be unspoken (Womujuni, 2007, p. 58; Hurur et al., 1996, p. 8; Martin, 1996, p. 16). Thus, proficiency is more than just a technical fluency, it is an acculturative process.

There are several barriers to cross-cultural friendships in addition to language. American students often don't know enough about the home country to carry on a conversation (Perkins, 2004, p. 37; Gonzales, 2006, p. 74). Self-efficacy and independent identity can also be issues, as they relate to how "outgoing" the student is in seeking to establish social relationships.

Perkins' research involved interviews with 25 international students and 25 American students at the University of Alabama. The initial subjects were students who participated in an international coffee hour program. The "snowballing" technique of referral was used to find additional subjects. Perkins chose the final group based on the number of international-American friendships each student reported (Perkins, 2004, p. 47).

During the research, students were allowed to define friendship in their own way. However, it soon became apparent that a common definition was shared by all. Respect, empathy, and identification were required by friendship. Perkins defined this as "A personal connection with someone with whom you feel truly comfortable and with whom you can be yourself. Friendship requires respect, trust, and caring" (2006, p. 59).

In fact, identification and empathy on the part of the American students seemed to play a large role in the establishment of friendships. Many American students wanted to help the international students adjust. Often this led to a mentor-like relationship. However, the mentoring went both ways, as American students also learned about their international friends' cultures. Each person genuinely wanted to learn from the other. Cultural differences were much less important in forming friendships than language barriers. These were a huge problem. However, once past the language it was a strengthening experience because both parties had to contend with language to the same extent (Perkins, 2004, p. 78).

While many friendships started with American students helping new arrivals, in some cases the opposite was true. International students were so grateful for the assistance that in future years they

reciprocated with new American students (Perkins, 2004, p. 65). Many international students indicated that they desired to assist non-native students in their home countries as well. And one American student described how his relationships with international students had helped him when he studied abroad (Perkins, 2006, pp. 63-64).

Cultural and social events played an important role in establishing and solidifying friendships. In addition to the international coffee hour, many people met through a program that connected ESL students to host culture students learning that language. Paid conversation partners (which was basically a tutoring situation for the international students) also led to friendships. But events were more than just a forum to meet people. For friendships to develop, people needed places to hang out and things to do. The events also provided activities for new acquaintances.

Advantages of intercultural friendships included an increase in open-mindedness and tolerance among both participants, as well as an increase in confidence. International students gained important language skills. In some cases, American students gained language skills as well, or were inspired to study abroad (Perkins, 2004, p. 77). Culture began as an interesting and fun thing, but eventually “faded into the background” as the relationships solidified (Perkins, 2004, p. 84). This led to an acceptance of multiple cultures for both international and American students (Perkins, 2004, p. 85).

One minor theme was the location in the Southeast. International subjects understood that other areas of the country were very different, and that there were different cultural practices elsewhere that were still distinctly American. While some American students made sure to point this out, some international students reported that their American friends did not realize that their attitudes only represented one region of the U.S. One Latin American student reported that the Southeastern male aversion to Salsa dancing meant that only American female students came to dance parties, even though these were important social events for Latin students (Perkins, 2004, p. 88).

A second minor theme was difficulty in establishing boundaries between friendship and romance for cross-gender relationships. Both American and international students reported that they thought about the possibilities for misinterpretation. An American student stated that “You don’t know if it is a big deal to get lunch or coffee. . . . But in some cultures you wouldn’t do it unless you were interested in him.” In the same vein, an international student noted that “in her culture people are often closer physically with friends and that Americans sometimes misinterpret that closeness” (Perkins, 2004, p.

90). Since the signals that help delineate friendship from romance are culturally based, clear communication is a necessary element in these situations (Perkins, 2004, p. 96).

Cross-cultural friendships deliver a lot of benefits to both parties. International students improve their language skills, find themselves less isolated, and learn more about American culture. But these friendships are not only one-way relationships. Both parties gain in acceptance and open-mindedness. And both parties have mutual exchanges. Perkins' work fills an important need, and more studies need to be undertaken on this topic.

III. Cognitive and Mental Health Issues

A. Cognitive Dissonance, Self-Efficacy and Cultural Adjustment

Cognitive dissonance is the uncomfortable feeling that people have when they encounter “Cultural experiences that [are] inconsistent with the expectations of the participants. . .” (Gonzales, 2006, p. 90). When people encounter cognitive dissonance, they must either find a way to resolve the discomfort or they can suffer extreme stress, depression, culture shock, and other psychological or physiological symptoms. In his study, “participants appeared to become more distressed when they engaged or encountered behaviors, values, or attitudes that did not align with their previously held attitudes and beliefs” (Gonzales, 2006, pp. 90-91).

While there has been much research on U.S. and European populations, little work has been done with international students. According to Gonzales, this is in part because of the relationship between cognitive dissonance, self-efficacy, and individual identity. Many international students come from cultures that “traditionally emphasize a collective group identity. . .” (Gonzales, 2006, p. 91). Collective identity involves a sense of duty to the collective—to the professor, the school, the family, and the nation. Doing something wrong and losing face is a grave violation of norms because it shames the collective (Buys, 1992, pp. 77-78).

On the other hand, North American culture is very individualized and self-sufficient, as several studies have noted (i.e., Huxur et al., 1996; Womujuni, 2007). U.S. culture tends to “emphasize independent thinking and identities that are at least partially distinct from other members of the cultural group” (Gonzales, 2006, p. 91). This mode of thinking is totally incomprehensible to students from Confucian cultures (Buys, 1992, p. 61). Gonzales' subjects reported this in the qualitative interviews:

The new behaviors and individualistic orientation were, at least to some extent, incongruent with the prior cultural experiences and expectations of the participants. As participants interacted with the new cultural environment, they recognized that certain behaviors did not lead to the same results as those that

they obtained when they enacted the behaviors in their culture of origin (e.g., methods of establishing and growing friendships). The incongruities between their expectations for behaviors and the consequences of their behaviors resulted in cognitive dissonance . . . [which] was accompanied by a negative emotional state (Gonzales, 2006, p. 92).

Cognitive dissonance causes “cultural tensions created by differences in educational systems, in cultural norms of civilization, and in constructions of identity” (Martin, 1996, p. 5). For example, when students come from collectivist cultures, “Asking challenging questions might ‘disturb’ social order. . .” (Martin, 1996, pp. 8-9).

There are three ways to alleviate the stress of cognitive dissonance. Subjects can either change their actions, change their beliefs, or change the perception of their actions. In Gonzales’ study, some subjects whose English language skills were not sufficient enrolled in classes. Participants became more outgoing, and gained a more independent self-identity with individual growth (Gonzales, 2006, pp. 92-93). Enrolling in English classes was a change in behavior, becoming more outgoing was a change in attitude, and changing self-identity was a change in perception of actions.

The students’ sense of self-efficacy increased over time. International students “have more clearly defined their educational and career pursuits and have developed a much clearer definition of their talents and limitations” (Gonzales, 2006, p. 85).

Self-efficacy is therefore an important part of the acculturation process. Self-efficacy is also related to social integration, student retention, and academic performance. Theorists such as Bandura (1997), Tinto (1993), Weidman, Twale, & Stein (2001), and Bowen & Rudenstein (1992) use self-efficacy as part of their models of student retention and outcomes (Gajdzik, 2005, pp. 19-22).

In a study of the relationship between self-efficacy and cultural adjustment, Gajdzik (2005, pp. 50-51) found no significant differences between U.S. and international students level of self-efficacy. The only significant difference ($p > .001$) was level of cultural adjustment. “The American graduate students’ responses on the Socio-cultural Adaptation Scale revealed their better adaptation to the socio-cultural environment of the university and the surrounding community” (Gajdzik , 2005, p. 52). The study found that academic performance, social networks, institutional fit, perceptions of satisfaction are positively related to adjustment for both domestic and international students (Gajdzik, 2005, pp. 71-73).

B. Acculturative Stress and Mental Health

Most work on the acculturation of international students is done either to inform theory in multicultural education, or to inform practice in departments or offices of international student education. However, the work by Chung (2004) is different. It is aimed at informing the clinical practice

of psychology and counseling for international students as well as international student offices and departments.

In Chung's (2004) study, the concept of worldview is based on the work of Erik Erickson (1950). This is a view of civilization that is based on the person's national identity. Worldview consists of "man's cognitive view of the universe, man's relation to it, and man's relation to other men" (Chung, 2004, p. 9, *quoting* Bois, 1955). The worldview helps to define cultural interpretations on a national or ethnic level in the same way that *habitus* does at the level of the family.

Acculturative stress occurs when subjects see their worldview clashing with a new culture. First-year international graduate students are especially subject to this stress, which can cause declines in mental and physical health. Acculturation can sometimes also include discrimination and stereotypes (Gonzales, 2006, p. 79). Psychological symptoms which affect 15-25% of international students include "confusion, social anxiety, interpersonal difficulties, social isolation and loneliness, depression, feelings of marginality and alienation, frustration due to verbal and nonverbal language barriers, financial stress and employment hardship, dietary adjustment, homesickness, and worries about domestic problems in their home country" (Chung, 2004, pp. 23-24). Culture shock, in which all familiar signs and symbols are gone, is a related state that results in "depression, loneliness, anxiety, frustration, and hostility toward host members. . . . Physiological symptoms [include] . . . epigastric pain, colds, headaches, fatigue, insomnia, and generalized neurasthenia" (Chung, 2004, p. 24). These are also symptoms that tend to arise when subjects have unresolved cognitive dissonance (Gonzales, 2006, p. 92).

Womujuni (2007) found that entering students felt lost and isolated. They didn't understand what to do or where to go. There were difficulties with the language. Some subjects had been out of school for a while and had to adjust to being students again. Both American and foreign-born faculty from different cultures had accents that were hard to understand. Expressions and symbolic meanings were also very difficult for the international students. Faculty expectations were also difficult to fathom at first, and the teaching styles were totally different. One student "was angry and frustrated at myself because I could not effectively participate in class" (Womujuni, 2007, p. 58).

Socio-linguistics includes unspoken rules and norms. For example, students may not understand that "give me a call" or "let's do lunch" are general expressions for "goodbye," not specific invitations (Hurur et al., 1996, p. 8; Martin, 1996, p. 11). Language can thus be a cultural tension in addition to everyday communication (Martin, 1996, p. 16).

Socio-linguistic norms are a key part of social identity (Martin, 1996, 10). One quote from Huxur et al. (1996) is telling: “Having to express myself in English, I felt like a small child, or worse, a grown up with a severe speech defect who was reduced to very basic communication. I realized that the special features of my personality, like my sense of humor, or my linguistic subtlety, were very much linked with my own cultural and linguistic background, and were not familiar to most of the people I came in contact with” (Huxur et al., 1996, p. 8).

In Chung’s (2004) study, stress and worldview were assessed using published instruments. A published instrument was also used to measure acculturation, including language, loyalty, social domain, and personal identification. A pre-test was administered at the start of the school year, followed seven months later by a post-test. She found no significant changes in worldview during the time of the study. The author interpreted as meaning that temporary sojourns would not change worldview (Chung, 2004, p. 103). The level of acculturative stress steadily increased from time of arrival (pp. 105-106). Asian students reported significantly higher levels of stress than European students (Chung, 2004, pp. 108-109). Self-confidence decreased greatly for Asian students during this time.

Chung (2004) found that social interactions with families remained steady over time for both Europeans and Asians. During the pre-test, Asian and European students reported similar levels of interaction with the international office. For European students, this interaction declined over time. However, it remained steady for Asian students, who used this office as part of their social network (Chung, 2004, pp. 109-110).

IV. Educational Socialization

Socialization of international graduate students can mean several different things. It can track acculturation to the U.S., engagement to the institution, or professional socialization within the discipline. Aagard (1991) and Ni (2005) both focused on the relationship between social processes and educational outcomes.

Aagard (1991) studied a pre-departure orientation program for students from Malawi which was intended to help with both acculturation and educational socialization. The report was a critique of a previous program evaluation. The original study evaluated a pre-departure orientation program for government officials who were leaving to take part in graduate study in the U.S. Subjects came from various ministries. All were studying some field related to rural or agricultural development. Their study was sponsored by different agencies, ministries, or NGOs, and the length of program varied. While the

evaluator found some strength in the ex-post-facto design, he also noted the problems of internal validity that this created; spurious factors could have been discovered and controlled with a pre-test feature (Aagard, 1991, pp. 7-8).

Participants spent two full days in the training program. Each session was conducted within a month prior to departure. There was also a two-day computer training component that was done independently.

The objectives of the training program were as follows:

- Develop an understanding of USAID, USDA, GOM and University regulations, policies, and procedures.
- Increase understanding of how to develop strategies and techniques to adjust to American culture.
- Increase understanding of how to adjust to the U.S. universities [including]
 - the academic advisor
 - program of study
 - study habits
 - thesis/research
 - student organizations
 - international student office (Aagard, 1991, pp. 20-21).

There were significant differences between participants and non-participants in the relevance of graduate education to career. However, this can partially be accounted for by the much larger percentage of doctoral-seeking students among the non-participants. An analysis of these students showed that many had already completed Master's degrees in the U.S., which may have substituted for the effects of the orientation program (Aagard, 1991, pp. 26-27).

Only 50% of non-participants received any academic counseling whatsoever before departure, and only 21% deemed their counseling adequate. However, 37% of the program participants reported having had adequate pre-departure academic counseling (Aagard, 1991, p. 27). Using a scale of 1 = no needs met and 5 = all needs met, the evaluator ranked the program 4.5 (Aagard, 1991, p. 21).

Aagard's critique pointed out numerous problems in the evaluation, mostly due to the ex-post-facto nature of the project. The reviewer also felt that the survey instrument was not adequate for the task, and that not all variables were controlled. He recommended using experimental or quasi-experimental methodology to help overcome some of the deficiencies in the program evaluation (Aagard, 1991, p. 28). Aagard also suggested that a cross-national evaluation be done on similar programs to help determine outcomes and effectiveness.

Ni (2005) drew heavily on the theoretical literature of graduate student socialization and outcomes, while focusing on the special case of Chinese students at an American university. The author

specifically viewed socialization through the Thornton and Nardi's (1975) four stages of socialization (anticipatory, formal, informal, and personal), along Tierney's (1995) research on organization in higher education, Austin's (2002) work on new faculty socialization and preparation, and the graduate socialization model proposed by Weidman, Twale, & Stein (2001).

Ni found that while U.S. students went through all four of Thornton and Nardi's (1975) stages of socialization, the Chinese students only fully reached two of these stages. There was no anticipatory socialization stage (Ni, 2005, p. 169), and the subjects "[reached] the personal stage of socialization without a full development of the informal stage socialization" (Ni, 2005, p. 172). The students did not have informal contacts with other students and professors, yet they still managed to move to the end-game of personal socialization.

The formal socialization inherent in advisor relationships also proved to be different for two of the Chinese students, in part because they lacked anticipatory and informal socialization (Ni, 2005, p. 174). These students were assigned advisors after being in the program for a year. These students viewed their advisors as the boss, an authority to be listened to (or in some cases gotten around).

On the other hand, the other two subjects had specifically chosen their advisors, and had a more mature mentoring relationship. One student communicated with the advisor prior to applying to graduate school, while the other student did a series of rotations before choosing an advisor. The relationship with the advisor in both cases helped to compensate for lack of anticipatory socialization (Ni, 2005, p. 181).

V. Library Use by International Students

One issue that international students face is how to use the library. Other than those from Canada, Australia, New Zealand, and the U.K., most students are from countries in which the libraries do not have items out on the open shelves. If you want a book, you fill out a slip and the worker gets it for you. Those that are on the open shelf often use a different classification system from American university libraries.

Also, in most of these countries there is only one "Librarian"—the director of the library. The sole purpose of the library workers is to retrieve the books and enforce the rules. The staff is not there to help people. This is true even in Europe, although somewhat less so in India, which has an extensive system of public and university libraries. Many international students under-utilize the library because they don't know that they are allowed to ask librarians for information. Nonetheless, the use of libraries is culturally based, and these perceptions do not change upon arrival in the U.S. (Song, 2005, p. 32).

Once students begin to use the library, however, they still face many difficulties (Womujuni, 2007). Some students have not been exposed to advanced databases (Kamhi-Stein & Stein, 1998). Library information literacy instruction can also be problematic since students are being asked to learn a specialized vocabulary in a non-native language (Conteh-Morgan, 2002; Kamhi-Stein & Stein, 1998). Indeed, Kamhi-Stein & Stein call this process “Teaching information competency as a third language.”

Song (2005) found that there were differences in library use between international and domestic students. Among domestic students, 72% used the library for research projects, while 24% used the building as space for personal or group study. Among international students, 33% used the library for research and 54% used the building as space (Song, 2005, p. 29).

In addition, there was a significant difference between which sites the students used for research. Among the domestic students, 50% used Google, 33.3% used Yahoo, and 16.7% used the library’s webpages. However, among the international group 75% used Google and 19.2% used Yahoo, while only 5.8% used the library’s Webpage (Song, 2005, p. 31). This finding indicates that international students are significantly less familiar with the library than domestic students.

In teaching information literacy skills to international students, it is important for librarians to pay attention to theories of language learning. Some of these theories are in accordance with good pedagogical practices, while others require additional thought to implement. For example, the *interactionist* theory of language acquisition involves a negotiation between speaker and listener. “Curricula based on the interactionist, communicative approach to language teaching stress the use of authentic, real-life language materials in the classroom, rather than simulated, decontextualized ones, and the creating of situations through which meaningful interaction enhances learning. The instructor does not control learning, but acts as a facilitator” (Conteh-Morgan, 2002, p. 192). Also, catering to a range of learning preferences, including the use of visuals, is highly effective (Conteh-Morgan, 2002, p. 194). This is in accordance with the role of the instructor as the “guide on the side” instead of the “sage on the stage,” and with current research in library information skills instruction (i.e., Dewald, Scholz-Crane, Booth, & Levine, 2000).

However, there are other challenges for international students and library learning that are not faced by domestic students. For example, the social context of libraries (as mentioned above) can be a huge barrier. Librarians can achieve breakthroughs by relating instruction to familiar concepts. Hands-on learning tends to be very helpful as well with international students (Conteh-Morgan, 2002, p. 195).

And it is very important to ensure that students receive input in language that they are able to comprehend (Kamhi-Stein & Stein, 1998).

Amsberry (2008, p. 355) recommends using short sentences with proper grammar and frequent pauses between thoughts. Researchers have shown that slow talking only helps students at the most basic level of comprehension, but student learning is increased when teachers use simplified vocabulary and avoid jargon. Idioms and cultural references should also be avoided.

Kamhi-Stein & Stein (1998) recommend the following principles of good practice for teaching information literacy skills to international students:

- Use language that is in accordance with the students' current level of development. Use graphic illustrations, talk slowly, explain in multiple ways, define new terminology, and use in context.
- Provide students with scaffolding. Break library tasks into sub-tasks, model activities for students, and engage in "activities that ensure a gradual shift in responsibility from the reference librarian or subject specialist to the students" (Kamhi-Stein & Stein, 1998).
- Tie information literacy instruction to the course content and make sure that it is relevant to the students' academic needs.³ The information should be "grounded in the demands of content classes" (Kamhi-Stein & Stein, 1998). Stand-alone library classes make little sense, as students are less motivated and are unlikely to remember their instruction. The context and content definitely matters.
- International students should receive complete training in implementing information search strategies, not just a tour of the library.
- International students should receive hands-on training. This not only helps to provide context, but also serves multiple learning style preferences.

Amsberry (2008) recommended a different set of good practice guidelines:

- Amsberry's guidelines for good practice with international students include the following:
- "Know the level of the students. For course-related instruction, talk with the instructor before the library session and ask about the linguistic proficiency of the students."
- "Advanced-level students will need fewer speech modifications than beginners to facilitate comprehension. Be aware that input modifications are linguistic, not intellectual. Although a library instructor may alter the content of an instruction session somewhat for international students to include more international examples and fewer references to American culture, the intellectual level remains the same."
- "Plan extra time in the lesson for questions and explanations about vocabulary and cultural references that the students may not understand. . . ."
- "Avoid idioms and cultural references, or be prepared to explain them if they are used. . . ."
- "Limit the use of library jargon. If it is necessary to use technical terms, provide students with a written list of common library-related terms and definitions. Consider developing a library vocabulary game or quiz to use as a review at the end of class."
- "Speak clearly at a normal rate, using normal sentence structure. Pause at the end of thought groups to allow students to process what has been said. . . ."

³ In the model by Kamhi-Stein & Stein, tying information literacy instruction to the course content and ensuring its' relevance to students' academic needs were separated into two different categories. I combined them into one because there is a great deal of overlap.

- “Use feedback to draw students into discussion. In addition to evaluating a student's response, the instructor can elaborate on a student's answer in order to bring it into a larger discussion.”
- “Allow sufficient wait time after posing a question to the class before calling on a student or giving the answer. If no one volunteers an answer at first, try posing the question again.”
- “Provide linguistic scaffolding. If a student appears to be struggling with an answer, try providing a word or phrase that the student may need, rather than guessing the rest of the sentence.”
- “Ask open-ended questions rather than yes-or-no questions. Avoid assuming that a nod or a yes from a student indicates comprehension” (Amsberry, 2008, pp. 356-357).

Most of the material on international students and information literacy is dealing with ESL classes. However, what happens with library session in a regular disciplinary class, which happens to contain a mixture of international and domestic students? In a comparison of international and domestic business students at the University of Illinois, Song (2005) found that international students found library sessions to be more useful than did domestic students. The instruction session dealt not only with vocabulary and strategies, but also with the kinds of information and services available at the library. The international group was significantly more likely to use library services and to recommend library workshops than domestic students (Song, 2005, p. 29). It is thus important for international students to not only learn information literacy skills, techniques, and vocabulary, but also to learn about the services that are offered by U.S. academic libraries.

VI. Career Trajectories of International Students

A. Career Motivation and the Decision to Stay or Leave

Do different cultures have differences in career motivation? Lopes (2006) sought to answer this question using London's (1983) concept of career motivation, which “is defined as the set of individual characteristics and associated career decisions and behaviors that reflect the person's career identity, insight into factors affecting his or her career, and resilience in the face of unfavorable career conditions” (London, 1983, p. 620, *quoted in* Lopes, 2006, p. 2). London's framework consists of three domains, namely career identity, career resilience, and career insight.

Lopes (2005) used published survey instruments from Noe, Noe and Bachuber (1990), London (1993), and Carson & Bedian (1994). The population consisted of all graduate students (N=8,402) at Pennsylvania State University, who were invited to participate via email. The completed response rate was 16% (n=1,380). The data was analyzed using multivariate multiple regression.

Lopes (2005) found no significant differences in career motivation between domestic students and international students. There were no differences between women and men. However, there were differences based on age among women, but not men (Lopes, 2006, pp. 45-49). Lopes speculated that

the respondents may have already been upwardly-biased, as these were the very students who had enough motivation to study internationally. Also, the decision to treat the international students as a homogeneous block meant that between-country data was lost. Thus, Lopes recommends that future studies dis-aggregate the students (Lopes, 2006, p. 49).

Career motivation may be related to the international students' decision to stay in the U.S. or return to their home country. Sahasrabudhe (2007) reported that the subjects were unanimous in wanting to remain in the U.S. immediately after graduation (Sahasrabudhe, 2007, p. 117). Many cited the need to obtain high-paying jobs in order to repay student loans. Others mentioned the experience that they would receive in U.S. jobs, which would be helpful for their future careers. However, students were much more ambiguous about whether they wished to remain in the U.S. permanently. Most wished to return to India one day, but none were willing to commit themselves one way or the other (Sahasrabudhe, 2007, p. 117).

The reasons for returning to India included family and friends, raising their children in India, opportunities from the high rate of economic growth, the social and economic development of the nation, and an emotional attachment to their home country (Sahasrabudhe, 2007, pp. 117-120). Reasons for staying in the U.S. included types of employment opportunities, priorities of life, and standard of living. Some students also noted that their parents desired them to live in the U.S. (Sahasrabudhe, 2007, pp. 121-122). Whether students stay in the U.S. or return to their home countries thus seems to be a combination of personal and economic factors (Sahasrabudhe, 2007, p. 123).

Muach (1982) discussed the Fundacion Gran Mariscal de Ayacucho, a 1970s and 1980s program for Venezuelan students. The fields of study were petroleum and petrochemicals, agriculture, the sciences, education, and engineering. Over 11,000 students received the scholarship, with one-third studying in the U.S., one-third studying in other countries, and one-third studying in Venezuela (Muach, 1982, p. 2). Over half the students came from low-income or rural families (Muach, 1982, p. 5).

Unfortunately the program encountered a number of issues. Socialization and language problems, always present with international study, were not the only issues with the program. Some of the problems that arose with the program included lack of understanding about the American higher education system. Students were unhappy about having to take liberal arts courses that wouldn't have been offered in Venezuelan institutions. Students were confused by the different types of U.S. institutions and didn't understand accreditation or institutional measures of quality. Also, the curriculum

was often inappropriate for the level of development at home particularly at the doctoral level (Muach, 1982, pp. 12-14). The author also pointed out that there were placement problems upon return to Venezuela, and that many degrees had to be “re-validated” (Muach, 1982, pp. 17-18).⁴

Muach suggested that many of these concerns could have been eliminated by restructuring the program (1982, p 15). Instead of allowing students to pick their universities individually, the author recommended that the scholarship foundation establish relationships with a limited number of selected institutions. Using pre-vetted institutions would help with recognition of degrees. The author recommended that students be given contracts for employment after their study. Finally, Muach recommended better preparation for the students before they departed for their studies, both in terms of language and socialization (Muach, 1982, pp. 15-20).

Upon return to the home country, students often discover that both they and their world have changed. In the paper by Huxur et al. (1996), the Canadian co-author reported that “it was not our old way of life we went back to in Canada. The deaths, marriages, or migrations of friends and family members . . . had changed our family and social networks, and our places in them. . . . We had assumed when we migrated that it might take us awhile to ‘fit’ into the new environment, but we never imagined that we would be required to fit back into our old environment upon return” (Huxur et al., 1996, p. 10). This is partially because time doesn’t stand still, but also because acculturation into the new land means that the student’s outlook has changed as well. There was both a sense of loss and a gaining of new perspectives and insights.

B. Post-Departure Career Trajectories of International Students

Rhea (1997) studied the career trajectories of international faculty, visiting scholars, and doctoral students at the University of Virginia after they left the U.S. using Astin’s I-E-O model, in which the student learning outcome is a function of the relationship between inputs and the environment (Rhea, 1997, p. 50). In Astin’s work, the environment means not only the human, financial, and physical resources of the institution, but also the student’s own perceptions and behavior (Hu & Kuh, 2003, p. 186). The relationship between inputs, environment, and outputs forms a triangular relationship, as each factor both affects and is affected by the others (Rhea, 1997, p. 51). Rhea used each individual subject’s

⁴ I talked with an anonymous source who had been part of this program in the 1970s. One of the biggest problems with placement was that engineering and other technical degrees from U.S. institutions were not recognized upon return. Those who studied in the U.S. had to complete substantial amounts of additional coursework in order to qualify for licensure. Until completing this coursework, the U.S. graduates were basically unemployable. (Personal communication with anonymous, November 25, 2008.)

demographic factors as the inputs, the graduate school experience as the environment, and post-departure development (both personal and professional) as the outcomes (1997, p. 50).

Eighty-six percent of respondents reported that their educational studies at Virginia were related to their current occupation. Three subjects reported that they worked in different areas because the technology they used in the U.S. was not available in their home countries (Japan, Italy, and Turkey). This is interesting because all three were from industrialized countries (Rhea, 1997, pp. 85-86). In fact, 87% reported that the curriculum was useful in the home country, including many faculty members. Among doctoral recipients, this number increased to 96%. (Rhea, 1997, pp. 140-142).

Although only 16% of faculty reported promotions or job title changes after returning to the home country, this number increased to 48% for visiting scholars (Rhea, 1997, pp. 89-91). Additionally, several subjects reported that their international experiences had caused changes in research interests, methodology, or teaching behavior which eventually led to promotions or new jobs. Other subjects reported an increase in publication productivity after their time at Virginia (Rhea, 1997, pp. 92-93).

Some of the benefits reaped by international visitors included networking with professional colleagues, working with well-known principals at Virginia, enhancement of professional prestige, development of new job skills, and an increase in publishing productivity (Rhea, 1997, p. 98). Interestingly, even those who were engaged as faculty members emphasized that it was a “learning experience” (Rhea, 1997, p. 99). For many visitors from homogeneous countries, the ethnic diversity at Virginia was eye-opening. Several subjects also pointed to their increased knowledge of the higher education system in the U.S. as being beneficial. Many remained in contact with people they had met at Virginia, and a number mentioned that their families had also benefited from the experience.

In order to create a balanced instrument, the author also elicited comments on the “worst” part of the international experience. While 31% said that they had “no worst” experience, the most frequent faculty and scholar responses dealt with the issue of feeling isolated and excluded. One scholar from Japan and two from China mentioned racial discrimination (Rhea, 1997, pp. 121-122). Interestingly, doctoral students did not report the same kinds of issues.

Many subjects reported remaining in touch with friends and colleagues after leaving the University of Virginia. 86% of respondents reported that their experience helped to improve international relations, and 167 subjects had subsequently visited the U.S. The response rates to these questions were similar among faculty, scholars, and doctoral students. Half the respondents reported that their attitudes towards

the U.S. had changed as a result of their experience (Rhea, 1997, pp. 128-134). The ones whose attitudes didn't change "unanimously" indicated that they were already very familiar with the U.S.

One interesting finding was that 75% of faculty, 64% of scholars, and 43% of doctoral students brought their family with them to Virginia. This is an important finding because separation from family can exacerbate the culture shock of living abroad. Faculty members "unanimously" reported that this was a positive influence. Those who did not bring their families reported that the separation had negatively impacted their visits—one scholar from Italy mentioned spending \$300 per month in phone bills! (Rhea, 1997, pp. 151-152).

C. Career trajectories of Foreign-Born Faculty Members

There are very few works which investigate whether there are differences or similarities between foreign-born and native-born faculty. Most authors simply deal with the immigrant experience without regard to profession, while most works about early-career faculty tend to lump foreign-born and domestic subjects together into a generalized "early career" status. Theobald (2007) and Sabharwal (2008) provide the only studies that deal with this issue. Theobald's study dealt with the experiences of early-career faculty in the field of geography, while Sabharwal (2008) studied the satisfaction of foreign-born faculty members in science and engineering. Rank and career stage were among the attributes that Sabharwal controlled in the study.

International faculty members are often subject to some of the same kinds of push factors as international graduate students (Theobald, 2007, p. 29). There may be limited opportunities in the home country. Often the education system is simply not developed well enough to accept all who wish to teach. Some faculty experience problems based on ethnic, religious, or gender status. Economic, social, and political conditions also provide push factors (Theobald, 2007, p. 29).

The results showed that "level of chairperson support, rating of department collegiality, and gender are the strongest indicators of faculty attitudes and perceptions. Knowing that a faculty member is foreign-born is informative, but other factors affect performance and attitude to a greater degree" (Theobald, 2007, p. 118). While respondents varied based on institution type, research productivity, race or ethnicity, and teaching load, the differences between foreign-born and native-born faculty were not significant (Theobald, 2007, p. 119). The respondents also varied slightly based on field of specialty (Theobald, 2007, p. 235).

While there are immigration and acculturation issues that other early-career faculty members do not face, the concerns, experiences, and perceptions are similar to all (Theobald, 2007, p. 234). The level of English was cited as a concern, although the pool did contain many native English speakers. There was a mismatch between expectations of students from foreign-born and native-born faculty, which was in accordance with the literature on foreign-born teaching assistants (Theobald, 2007, p. 240).

Foreign-born faculty manage their research time slightly differently, and find tenure-based research requirements to be more burdensome than do native-born faculty (Theobald, 2007, p. 236). Foreign-born faculty members have a significantly higher output of research productivity than U.S.-born faculty (Sabharwal, 2008, p. 90). However, this finding may be accounted for by the fact that foreign-born faculty are more likely to be at research universities than the population as a whole. Interestingly, naturalized citizens have the highest production rates, followed by permanent residents, while temporary faculty have a lower productivity rate than native-born faculty (Sabharwal, 2008, pp. 90-91).

Interestingly, faculty members with doctorates from foreign institutions were more likely to be mentored by departmental colleagues than those who did their doctoral work in the U.S. The author speculated that this may be because colleagues believe those with U.S. Ph.Ds have already been socialized (Theobald, 2007, p. 241).

Sabharwal (2008) reported some differences between foreign-born and U.S.-born faculty. Foreign-born faculty members are significantly less likely to hold administrative positions. As a whole, foreign-born faculty have lower satisfaction levels than U.S.-born individuals (Sabharwal, 2008, p. 107). Naturalized citizens are the least satisfied group. Sabharwal attributes this to naturalized citizens being more integrated into the culture, yet holding less administrative positions (2008, p. 115). The amount of time spent teaching was negatively correlated with satisfaction (Sabharwal, 2008, p. 119). However, those on the tenure track were the most satisfied, with tenured faculty close behind. Temporary faculty members were the least satisfied. Administrators and full professors were more satisfied than associate or assistant professors. Salary also had a positive relationship with satisfaction (Sabharwal, 2008, p. 120), as did marital status (Sabharwal, 2008, p. 153) and language proficiency (Sabharwal, 2008, p. 154).

With only a few exceptions, Theobald found that foreign-born early-career faculty were not significantly different from early-career faculty as a whole. Each group experienced the same stresses and tensions, and varied along the same attributes. "When considered by demographic and educational

factors, the experiences of early-career foreign-born faculty are very similar to the experience of native-born early-career faculty” (Theobald, 2007, p. 168).

Conclusion

International students have a variety of experiences, starting from the day they decide to study abroad. This paper has been a selective description of the challenges and decisions these students face. International students are a unique group. Not only do they often represent the *crème* of their countries, they also are adventurous individuals who endeavor to attend graduate school in a strange country, often studying in a foreign language. Their challenges can lead to triumphs, but not without struggles along the way. Hopefully the insight revealed by the research literature can be used to help minimize these struggles and increase the probability of ultimate triumph—a goal that is worthy of higher education.

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⁵ This list of references contains the works included in the annotated bibliography as well as items from these works which are referenced in the descriptions. While I did consult a few of these works themselves and discussed some in my annotations, most are simply listed here for the purposes of connecting the reader to the works each author cited.

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