

THE COSMOPOLITAN GURU: AN ANALYSIS OF INDIAN FACULTY MOBILITY AND
CAREER TRAJECTORY

by

Annette Orozco Bhatia

Copyright © Annette Orozco Bhatia 2015

A Dissertation Submitted to the Faculty of the

DEPARTMENT OF EDUCATIONAL POLICY STUDIES AND PRACTICE

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

WITH A MAJOR IN HIGHER EDUCATION

In the Graduate College

THE UNIVERSITY OF ARIZONA

2015

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Annette Bhatia, titled *The Cosmopolitan Guru: An Analysis of Indian Faculty Mobility and Career Trajectory* and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

Date: (12/17/2015)
Jenny J. Lee, PhD

Date: (12/17/2015)
Gary Rhoades, PhD

Date: (12/17/2015)
Jeffrey Milem, PhD

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Date: (12/17/2015)
Dissertation Director: Jenny J. Lee, PhD

STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of the requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that an accurate acknowledgement of the source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the copyright holder.

SIGNED: Annette Orozco Bhatia

Acknowledgements

I thank God for His grace and mercy. Without Him, none of this would be possible. Thank you for giving me strength and light in all those valleys and for sending the Holy Spirit to comfort me when I needed it the most. I will always endeavor to trust in You completely because only You know the plans You have for me (Jeremiah 29:11).

I am indebted to Dr. Jenny Lee, my chair, for her understanding, patience and critical feedback that made this project happen. It was not easy doing this from a distance but you stuck through this with me until the end and for that I am forever grateful. To Drs. Gary Rhoades and Jeffrey Milem, thank you for dedicating your time and mentorship to complete this process and for serving on my committee. I appreciate your comments and contributions that have made this final project so much stronger.

To Dr. Maria Teresa Velez, for always believing in me and for giving me a chance back when I was just a misguided undergraduate, thank you and all of those who worked with me through the Ronald E. McNair program. You have cultivated another Latina scholar.

I am so grateful for the BADASS group: Ruthann Coyote, La Monica Everett-Haynes, Mika Galilee-Belfer, Danielle Miner-Anderson, Tanisha Price-Johnson and Blanca Minerva Torres-Olave. Our “private” group was one of the pillars of support throughout this process. I cannot imagine having finished this without your constant support, kind words of encouragement and availability during times of frustration.

To Kimberly Chu and Deborah Harte, my colleagues at BMCC, thank you for always listening and encouraging me. You are next! I hope I can be as much of a source of support for you in finishing your degrees as you both have been for me. Thank you for always being supportive and encouraging me to finish.

Bob Mittan, I am so glad to have found you. Thank you for spending time to read and re-read this project. Your advice has gone far above what I would have expected from any editor. To Michael Renning, your advice and guidance has made this project happen on time. Thank you!

To my parents, Aaron and Thelma Orozco, thank you for pushing me to go to college and for supporting me throughout graduate school, even when you did not understand what I was doing. To my sisters, Raquel Castro and Zobeida Orozco, thank you for understanding this difficult process and sharing the victories with me. To my nieces, Samara and Shirin, and nephew, Aaroncito, I hope that I can serve as an example to you and that you always strive for the best in life. Hard work pays off. Thank you for always making me laugh.

To Liz Rangel, this all started with you. I should have jumped off the cliff! Thank you for being a constant source of support throughout all this. My life would be so different without you in it. Our friendship has endured many obstacles, celebrations and sorrows. I thank you so much for being there. You are more than a friend, you are my soul mate.

To my husband, Mohit Bhatia, there are not enough words on this earth to describe my appreciation for you. You have been incredibly patient throughout this whole process and it was truly because of you that it is finally finished. Thank you for supporting me through mutual frustrations, celebrating the small victories and for always taking care of our son so I could write. Thank you for always pushing me to finish this so we can start our life. This is as much your work as it is mine. We are FINALLY finished!

To my son, Arvaan Bhatia, this project is testament to the hope I have that I am never the reason you give up on your dreams. Perseverance, diligence, dedication and hard work—may you always have those qualities. Mommy can play with you now! No more work.

To all the participants in this project, thank you for sharing your stories with me. I understand how busy your schedules are and without your participation, none of this would be possible.

Dedication

To my parents, Aaron and Thelma Orozco, for your support and guidance in my journey from illiterate to scholar.

To my husband, Mohit Bhatia, you are my everything.

To my son Arvaan Bhatia, for your unconditional love.

Contents

Abstract.....	9
Chapter 1: Introduction.....	10
Overview of the Topic.....	10
Statement of the Problem.....	13
Statement of the Purpose.....	14
Structure of the Dissertation.....	15
Chapter 2: Review of Literature.....	17
Globalization and Higher Education.....	18
Internationalization and Higher Education.....	25
Brain Drain, Brain Gain and Brain Circulation.....	31
Higher Education in India.....	34
Literature Gap.....	38
Conceptual Framework.....	38
Cognitive Evaluation Theory and Intrinsic Motivation.....	40
Organismic Integration Theory and Extrinsic Motivation.....	41
Chapter 3: Methodology.....	47
2008 Graduate Student Pilot Study.....	48
Research Questions.....	51
Qualitative and Phenomenological Study.....	54
Purposive Sampling.....	56
Snowball Sampling as a Methodology.....	56
Geographical Selections.....	60
Research Participant Selection: Science, Technology, Engineering and Mathematics.....	61
Recruitment and Data Collection.....	64
Data Analysis.....	68
Positionality.....	72
Validity and Ethical Considerations.....	73
Limitations to Research and Expected Findings.....	75
Summary.....	76
Chapter 4: Findings.....	77
Section 1. Job Motivation.....	77
Graduate School.....	80
Research Interests.....	86
Job Search Process.....	88
Graduate Students and Mentorship.....	92
Section 2. Resources for Mobility and Networks.....	95
Professional Organizations.....	97
Funding and Connections to Industry.....	100
Section 3. Connections to India.....	103
Institutional Relationships.....	104
Indian Academic Climate.....	108
Return Migration and Cultural Adaptation.....	114
Section 4. Other Findings.....	123
Access to Resources.....	124

Support.....	126
Gender and Racial Dynamics.....	127
Chapter 5: Discussion and Conclusion.....	132
Statement of the Problem.....	132
Summary of Findings.....	132
Contributions to the Literature.....	138
Implications for Future Research.....	142
Closing Thoughts.....	146
Appendix A: Recruitment Email, Purposive.....	148
Appendix B: Recruitment Email, Referral.....	149
Appendix C: Interview Questions.....	150
References.....	152

Abstract

Through a qualitative investigation, this study explored what motivated Indian faculty to seek academic positions at universities in Canada, the U.S. and the U.K. instead of returning to India after completing their doctorates in one of these countries. Twenty-four in-depth, semi-structured interviews were conducted over a two-year period with STEM Indian faculty who received their undergraduate degrees in India but their doctorates abroad and who were currently teaching at universities in one of the three aforementioned countries. While there have been several studies investigating trends in international student mobility, few studies have investigated mobility trends amongst faculty, especially those faculty who leave developing nations, such as India, for jobs in first world countries. Theories on globalization, internationalization and brain drain/migration studies guided this study and several theoretical lenses, such as Self Determination Theory, Transnationalism and Social Network Theory, were used to analyze the data. While push-pull literature argues that individuals might be pushed from their home countries because of poor salaries, lacking infrastructure, and lack of access to resources, this study revealed that it was poor communication on behalf of the Indian universities, departmental politics and rigid academic systems that demotivated these participants from returning. This study provides a framework for future research on the complicated process involved in faculty decision-making with regards to career trajectory and possibly how to approach future studies on the complicated job process for international faculty seeking employment outside their native countries.

Chapter 1: Introduction

Overview of the Topic

Mobility is not just about a one-time cultural and social exchange; rather, it is the continuous interaction between governments, institutions, societies and people. The National Science Foundation (NSF) data show that India makes up 13% of all Science and Engineering degrees earned by all foreign nationals, second only to China (NSF, 2014). Despite the number of foreign-born Indians receiving their degrees from U.S. institutions, the number of foreign-educated academics at Indian institutions is still low.

Casey, Mohroum, Ducatel, and Barré (2001) argue that many Western institutions and researchers are unsure of the validity and qualifications of faculty from Indian universities and colleges aside from the Indian Institutes of Technology, Science and Management, limiting research opportunities and international collaborations for Indian-born and -educated faculty members at large. The establishment of professional networks becomes important for these faculty members who desire to eventually return to India after completing academic work abroad. Most importantly, these networks become invaluable for faculty members who reside in India and work for less popular Indian institutions.

The mobility of Indian faculty, then, relies heavily on international networks and relationships, particularly when there is no international standard for quality control. There have been a handful of studies that focus on Indian faculty directly with much of the literature concentrating on faculty within the medical (Ananthkrishnan, 2007) and science and engineering fields (Bhattacharya, 2004; Khadria, 2003). Because India's massive system of higher education is complex and in some cases fragmented, the mobility of Indian faculty has not been thoroughly researched. Despite the gap in literature, Krishna, and Khadria (1997) argued

that Indian faculty migration is not a recent phenomenon. The authors have traced Indian faculty mobility in three phases—the 1940s through 1960s, the 1970s through 1980s, and the 1990s and beyond—finding that specific Indian governmental policies aimed at addressing the expansion of Indian higher education during each time period influenced Indian faculty mobility.

In the first phase following British independence, the Indian government felt it necessary to create a strong scientific community, which eventually led to the establishment of many scientific and technical institutions, most notably the prestigious Indian Institutes of Technology (IITs), Indian Institutes of Sciences (IISc) and Indian Institutes of Management (IIMs). During this period the number of scientific and medical universities more than doubled across the country, which created a demand for highly qualified Indian faculty and staff. Faculty members who had left the country previously were now being recruited to return to India to teach and manage these new institutions and often were offered substantial pay packages. Furthermore, the government supported and encouraged faculty to travel abroad for training, encouraging many to build strong academic networks globally and then return to impart that knowledge to other academics.

The Indian government continued to attract qualified Indian faculty from abroad through the 1980s as the Indian educational system continued to expand. However, approaching the 1990s (the third phase), the government saw a decline in faculty coming back to India and began to experience outward faculty migration despite a growing higher education system. The authors suggested that this decline in return faculty was driven by a decline in the academic profession as well as a lack of professional growth opportunities. During this period the United States welcomed more Indian scientists and engineers than any other country at the time, due in part to

the immigration policies of other countries as well as the demand for these specific professionals during the technology boom in Silicon Valley.

While the expansion of the higher education system in India demanded highly qualified faculty, the spaces in which these faculty members were working or expected to work were not built uniformly, nor did they mirror the spaces these academics had worked in abroad. As a result of India's overall infrastructure, technological and academic advancements were hindered. However, while many Indian returnees had invested in terms of capital, some professionals had returned to teach or mentor India's promising scholars, strengthening global networks. With recent advancements in the science and technology fields, Indian professionals are returning to invest in India, contributing directly to economic revitalization. Government programs such as the Obama-Singh initiative promote global networking as Indian and American academics work together to provide faculty with mentorship opportunities.

Through my 2008 pilot study, I learned that Indian students who seek colleges and universities in the West tend to begin their search through already established networks. The migration of Indian faculty is much like the migration of other professionals (Agrawal, 2014; Kerr, 2013; Madhavan & Iriyama, 2009; Walton-Roberts, 2011). Knowledge of the spoken and written language, English, further eases the migration from India to these Western English-speaking countries. While it can be argued that there are several other English-speaking countries such as those in the United Kingdom that offer quality education and institutional resources, several factors including a colonial history (England) and less knowledge of the types of schools and programs or smaller networks make these destinations less attractive (Khadira, 2003). Australia and Canada are the top receiving countries for Indian faculty as a result of location and less restrictive migration policies.

In a 2007 article published by *Forbes* magazine online, Andrew White interviewed several Indian PhD students about the increasing presence of Indian students (and later workforce) in the U.S. Many of those interviewed were attracted to study and later work in the U.S. because of the better research opportunities, faculty salaries, infrastructure and overall experience than those they might have had staying in India. The interviewees pointed to the amount of information about education in the U.S. as well as procedures for student visa applications as more readily available and accessible than in other countries. My research investigated these claims as well the motivating reasons for migrating or mobilizing to Canada, the U.K and the U.S.

Statement of the Problem

The literature argues that India is victim to a systematic decline in quality faculty due to the process in which faculty are recruited, trained and later demoralized by the lack of adequate salaries and infrastructure (Jayaram, 2003). Furthermore, as Indian colleges and universities struggle to fill vacant faculty posts, student enrollment continues to rise, as does demand for a quality education. With faculty shortages now encroaching on even the elite private institutions, the struggle to find and hire qualified faculty is no longer solely a problem of India's struggling public institutions.

As previously mentioned, despite having one of the largest higher education systems in the world, India remains the world's third largest sender of students to study abroad with many of them migrating to the United States (Altbach & Bassett, 2004). Indian university and college websites reveal that Western-educated faculty members teaching at Indian universities received their PhDs from U.S. schools. Even with the high number of students receiving their degrees abroad, few faculty positions in India are filled by Western-trained PhDs.

This study addressed why Western-trained Indian faculty members are choosing academic positions in Western countries (or those at the center of academic production) instead of returning to India. While much of the literature on international mobility focuses on socio-political factors for migration flows, little is yet known about the effects that social and cultural factors have on migration (Lee & Kim, 2010). Furthermore, while the discussion of transnationals presented by Saxenian (2005) offers insight about professional mobility for Indian IT professionals, little is known about how Indian faculty use their academic networks to stay abreast of educational and academic opportunities in India while abroad. This study researched the networks that Indian faculty members use when making academic career decisions.

Statement of the Purpose

This study will add to the literature on academic mobility by examining how Indian faculty career trajectory is connected to wider changes in migration and brain drain studies. The research explored what motivates Indian faculty to pursue academic positions in the United States (U.S. hereafter), Canada and the United Kingdom (U.K. hereafter) after graduation and why faculty members choose to stay or leave these positions.

This study explored what resources Western-educated Indian faculty use to become internationally mobile before, during and after their career searches. And finally, this study researched the methods that Western-trained and -employed Indian faculty use to stay connected (if at all) to colleagues and research in India. Using a qualitative research design along with purposive sampling, tertiary institutions from these three countries were used as the sites of

investigation to obtain initial participants. The study then employed Snowball Sampling¹ to gain access to additional participants as well as future referrals.

Semistructured interviews were used to better understand the “why” behind faculty career aspirations and motivations as well as to guide the research. The unit of analysis was Indian faculty born and raised in India to narrow the focus and to highlight why Western-trained Indian faculty are not filling the need for similar positions in India. Aggregating Indian with other Southeast Asian academics will not answer the question as to why there is no return migration for India specifically; furthermore, each population in Southeast Asia carries with it different cultural, social and economic perspectives and, by disaggregating these populations, the focus remains solely on India and Indian academics.

Structure of the Dissertation

This research is organized into five chapters. Chapter one introduced this study by explaining the problem and the need for conducting this research beyond filling a gap in the literature on academic mobility. Chapter two will provide a more thorough literature review on the topics of globalization, internationalization, brain drain, and push-pull theory and will introduce the conceptual framework used to guide this study. Based on the review of literature regarding academic mobility, I will use Self Determination Theory (SDT) (Deci & Ryan, 1985) as the overarching conceptual lens to evaluate motivations behind Indian faculty career trajectory including why they are motivated to choose specific places of employment to grow their academic careers outside the Indian system of higher education. SDT explores how socio-cultural factors (e.g., communal, familial and professional) and external conditions (e.g., perceived vs. actual job descriptions) influence an individual’s decision-making, often changing

¹ Also known as chain referral sampling where one participant refers another who refers another thus gaining momentum like a snowball (Cohen and Arieli, 2011). Snowball sampling, as a method will be explained further in the section discussing research methodology.

why individuals make certain choices. In their career search, Indian faculty members may not be aware that they are motivated by external influences. I will also briefly discuss how theories of transnationalism and social networks can influence migration patterns and cultural assimilation for the participants in this study.

Chapter three will discuss the relevant methodology used and the research design and will explain the researcher's positionality within the study itself. Chapter four will analyze the findings of the 24 interviews conducted and discuss the findings as they relate to other data such as faculty websites, institutional missions and so forth. Chapter five will discuss the research conclusions, relevance and importance of this study for academic mobility literature specifically and higher education generally and will provide recommendations for further research.

Chapter 2: Review of Literature

While literature on academic mobility is mounting, there remains much we do not know about faculty career trajectory. There have been some studies on faculty mobility directly yet still as it relates to international student mobility (Marginson & van der Wende, 2007; Hoffman, 2007, 2009). This study explores how Indian faculty mobility is connected to changes in the globalization, internationalization and expansion of higher education. As such, it is important to provide a comprehensive review of the literature on higher education to gain a better perspective on the global movement of faculty. In viewing this on a larger scale, this study is about globalization and how academics (in this case, Indian faculty) move across geographical and political borders to pursue first their graduate education and then their careers. This study also examines not only as to how these individuals mobilize, but why they mobilize to specific geographical locations or institutions.

Interchangeability between the terms *globalization* and *internationalization* presents a challenge when attempting to situate the problems within higher education on a global scale. To understand how both concepts affect Indian faculty mobility, I must first explore each term independently and then explain why together both provide an important catalyst for understanding the role of faculty mobility within higher education. This section will go on to explain how brain drain studies have been used in the past to explain the specific mobility of highly qualified individuals and how push-pull theory has been used to analyze global or international migration. Available literature on Indian faculty are presented to better explain the problem being researched. This section will conclude with a holistic overview of the framework that will guide the rest of this study.

Globalization and Higher Education

Coined in the 1960s, the term *globalization* has been used as all encompassing to describe the cultural, economic, political and social relationships worldwide. The term has been used to define the expanding or diminishing of physical geographic and spatial boundaries that normally define individual nations (Beck, 2000; Hirst & Thompson, 1999; Waters, 1995); to describe the creation and integration of a more accessible trade market for increasingly diverse economies (Wolf, 2004); and to promote a global understanding of a unified world culture and language, mainly Western and English, respectively (Maurais, 2003). With the tendency to attribute everything to globalization, the term has begun to lose its meaning and some argue that globalization is no longer a fashionable “catch-all” phrase (Held & McGrew, 2007). So the question becomes, what is globalization? For one to understand the impact of phenomena on higher education generally and faculty specifically, it is necessary to first define globalization and then explain its relationship to higher education.

This project will not attempt to provide a new definition to the term because globalization has already been defined in many different academic circles. To delve into and provide a new meaning would be another project in its entirety. The definitions provided by Malcolm Waters (1995) and Ulrich Beck (2000) will guide this study. Their definitions capture the general consensus from many academic circles. Waters (1995) defines globalization as:

[A] social process in which the constraints of geography on economic, political, social and cultural arrangements recede, in which people become increasingly aware that they are receding and in which people act accordingly. (p. 5)

Globalization is an interrelationship between various types of boundaries. It is an unbounded space in which human interaction takes place. The increase in and the use of

advancements in technology have further integrated the world as individuals can interact with one another worldwide, crossing geographical boundaries without ever leaving their homes or offices. However, while globalization is transcending, it is also intangible and not something that can be measured physically or that can be contained.

Beck (2000) defines globalization as:

[T]he *processes*² through which sovereign national states are crisscrossed and undermined by transnational actors with varying prospects of power, orientations, identities and networks. (p.11)³

This definition of globalization concentrates on the notion of political rather than physical boundaries where geographical spatiality is negotiable through state transformation and colonization. Without the political boundaries and laws of nation states, space is amorphous, constantly moving around and redefining political borders, affecting the way individuals act locally, internationally and globally. With shifting political boundaries, the relationship between state constituents and individual citizens is constantly changing and power often transfers from the governments to the individuals.

From these definitions, we can derive three themes that characterize how globalization is defined and how it will guide this study. The first is the notion of globalization as a process or set of processes that are strongly driven through trade activities in a global competitive marketplace by individuals (Robertson, Bonal, & Dale, 2002). This definition of globalization is often used in economic and business fields to define market integration as well as how local, regional and

² Italics in original

³ Beck's definition of globalization further implies that in moving to a place driven by capitalistic means individuals are creating irreversible risks to themselves and others by promoting individuality. As the world becomes more individualistic, Beck's definition of globalization captures the risks the process of globalization presents beyond the local sphere by explaining how individualism operates in an expanding global world.

international trading affects individual economies worldwide. Driven by market demand, globalization (and to some extent internationalization) has increased market and economic competitiveness in many countries by tearing down trade barriers for goods beyond textiles and food and enabling a process of global change.

The process of globalization has facilitated the integration of many world economies, which became clearly evident in the wake the 2007–2008 fiscal economic crisis in the U.S. and the domino effect it had, triggering the worldwide economic recession of 2009–2013 (Bown, 2011). This does not imply that all economies are linked to the U.S.; rather, it shows how vulnerable economies worldwide are as they become more economically dependent on one another through various trade activities. Within the context of higher education, globalization has shifted accessibility to education. Organizations such as the World Trade Organization's (WTO) General Agreement on Trade in Services (GATS) have changed how individual governments around the world regard education from a public to a private good that can very much be traded on an international market along with others such as textiles. GATS, amongst other organizations, has redefined what educational services mean in terms of higher education globally by encouraging and supporting higher education as a trade commodity with a market potential of more than 2 trillion dollars annually (Schugurensky & Davidson-Harden, 2003), a potential profit pool many private investors are anxiously waiting to tap into. Susan Robertson (2006) argued that while education as a trade in services accounts for one fifth of the global trade, it benefits the world's largest economies such as Canada, the U.S. and the U.K. Treating higher education as a tradable service shifts the traditional view of higher education as a public right to a privilege accessible only to those who can afford it.

The shift in viewing education from a public good to a private good has had an effect on academics within the system as they begin to diversify their skills in teaching, research and service to become more marketable in an international trading market (Schugurensky & Davidson-Harden, 2003; Tilak, 2008b). Education as a commodity has also given more power to individuals, primarily students, who want the best value for their money (Slaughter & Rhoades, 2004). This has in turn changed the way that universities market themselves to students, staff and faculty globally, which in turn affects how these educational actors both produce and consume within higher education.

The second theme is the idea that globalization transcends geopolitical borders. The increase in the use of technology to transfer information, to communicate and to conduct business has allowed individuals to transcend borders without having to physically move. This has become a milestone in business development allowing multinational corporations to offshore costly production activities to less expensive locations. Similarly, globalization has facilitated the accessibility of higher education worldwide. Altbach and Knight (2007) suggest that the movement of programs and education across national borders will significantly grow as the global community becomes smaller. The movement of programs across national borders exemplifies how institutions mimic corporations' offshore activities. Technology transfer has also allowed tertiary institutions and actors to communicate and connect with their peers by using technology to form distance and/or online learning programs, academic and research collaborations throughout the globe.

Universal access to education, especially to higher education, is not always fair, but there are standardizations in products that allow it to be available to everyone even though they may not be able to access it. By opening trade and liberalizing markets, access to higher education

becomes more available through competition. Marginson and Sawir (2005) argued that flows can be seen as academic collaborations (within the context of globalization and higher education). Students participate in academic mobility, not just by physically studying abroad but also by enrolling in online courses with other students from various countries via internet or video conferencing. As physical borders and space begin to recede worldwide, university managers, academics and students alike are beginning to change the way they participate in the consumption of education. Fahey and Kenway (2010) illustrated this change in academic consumption in writing that “[t]ransnational mobility is now considered an essential part of an academic career path and is integral to an academic’s recognition and reputation” (p. 564). Students are no longer the only population seeking study abroad; globalization has created a process for other actors in academia to pursue their educational, teaching and research interests on a global scale. Many established universities, especially those in peripheral countries, are not large enough nor do they have adequate resources to accommodate this worldwide demand for quality education. This in turn affects how institutions evolve and change both culturally and socially as they respond to these technological advances.

Finally, globalization is about people or individuals and how they interact and integrate with one another in a world whose borders are becoming physically irrelevant. Social relations between individuals and their political and economic leaders have been altered through globalization as many governments are often subjected to answer to “non-domestic based economic actors and processes” (p. 6) to keep national economies competitive (Jarvis, 2007). Individuals are the main drivers of economic competition and are responsible for receding borders so much so that many governments have had to rethink and readjust their immigration

policies (Kim, 2010) and reduce barriers to trade at all levels (Jarvis, 2007) highlighting both Waters (1995) and Beck's (2000) focus on individual power within globalization.

Globalization creates wider access and participation across the world. Marston, Woodward, and Jones (2007), however, argued that higher education across the world is becoming less democratic because there is a fundamental tension between access and democracy and the university. We want to have both but we find them as a scale. Mandatory study abroad would not become an activity of learning but of controlled consumerism and not lead to the same democratic outcomes. While campus study abroad programs increase this notion of mobility, there will be conditions on mobility that will become unsymmetrical, where English-speaking students won't have to learn another language (such as traveling to Latin America but studying in Belize or other primarily English-speaking countries/attending institutions). English will become a privilege factor in moving across educational institutions, giving power to a certain group of people and contradicting the purpose of higher education in society.

Globalization has facilitated individual migration, shifting traditional patterns of academic mobility. While academic research still shows that the bulk of academic migration is from South to North or peripheral to center (Altbach, 1998, 2004) the research points to a shift in the way we look at the physical one-way loss of intellectuals towards the new circulation of knowledge facilitated by globalization (Khadria, 2001; Saxenian, 2005). As markets and societies become more connected with global forces such as trade and education, countries in the periphery continue to face obstacles to obtaining a competitive advantage while suffering from a loss of talent (Altbach, 1998, 2004). Many peripheral countries lack the trained faculty and/or internal infrastructure to develop and produce research and consequently the bulk of academic production still takes place at the center.

Neoliberal policies facilitate the ability of countries at the center to dominate wealth, power and education while continuing to invest in these areas (Puiggrós, 1999). This cycle perpetuates the Matthew Effect, which implies that the stratification between the advantaged and disadvantaged populations will continue to grow as wealth creates more wealth. By having an advantage in resources, faculty, knowledge production and better facilities, institutions at the center will continue to produce more, make more money, and have a greater competitive edge than those institutions located in the periphery, or as Trow (1984) states, it will create a “virtuous cycle in which advantage begets advantage” (p. 149). Relationships between international organizations and emerging economies often limit endowments that governments can contribute to higher education as social and economic programs are given priority during economic restructuring plans and in those cases where money is allocated for education, it tends to go mainly towards primary and secondary educational programs and/or institutions.

Globalization has impacted the mission of higher education in some countries more than others as these institutions seek higher prestige. Most of the literature assumes how individuals act in the social system with regards to globalization and yet it is difficult to make generalizations on globalization because there are a variety of complex systems and contradictions within the term itself. Another problem is with the institutions, or universities, themselves. Fundamentally, colleges and universities are institutions with bureaucratic processes that answer to some semipolitical board of trustees or state constituents and tend to change very slowly, except when responding to technological advances. There is an international market for higher education that tends to be concentrated in areas such as science, technology, engineering and mathematics (STEM). In this market, students become both the producers and consumers of higher education as they navigate the global space, seeking the best deal for both their money

and their time. Students want to attend the best schools and often use various international school ranking systems to narrow down their choices. This in turn has an effect on higher education as faculty and researchers push to produce more research and increase publications with the expectation of improving global institutional rankings.

There is a schematic division between globalization and internationalization. Universities are being challenged on the global education market place and they need to change and engage in battle or globalization will tear them apart as each institution of higher learning makes changes to its academics, its faculty and to some extent its student composition to gain higher rankings. Dussel, Tuma, and Krauel (2000) would argue that higher education is an integral project of modernization. Higher educational institutions are a space for emancipatory situations where people can contest these ideas of modernity.

Internationalization and Higher Education

While globalization is argued as the process that creates a space in which the production and trading of knowledge happens, internationalization is the physical vehicle that moves knowledge from one locality to another. Internationalization is not about theoretical movements in and across space and time; rather, it is the politics and laws involved in physically and legally enabling trade and movement across geographical and political boundaries. Knight (2004) differentiated these terms in her conceptualization of internationalization as important at the institutional, national and international levels, yet argued that the actual process of internationalization for colleges and universities takes place at the institutional level. Knight's definition of internationalization is widely used in higher education literature as it encompasses all aspects of internationalization as related to higher education. Knight (1994) first defined internationalization nearly three decades ago, stating that it is "the process of integrating

an international dimension into the research, teaching and services functions of higher education” (p. 16). Ten years later, Knight (2004) redefined internationalization as the “process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education” (p. 11).

Knights’ definition does not overgeneralize what internationalization is ensuring an understanding of this term as focused on the sovereignty of national states. Unlike globalization, where individuals hold a lot of power, internationalization shifts that power back to institutions and governments. Her definition also includes what the functions or purpose of tertiary education is at all levels of government.

Similar to globalization, internationalization involves a process; however, this process is aimed at integrating all aspects of tertiary education into a competitive force in the global market. Internationalization allows the creation of policies that are going to legally guide institutions to respond to globalization. In terms of higher education, internationalization is influencing the way universities produce knowledge and capital to increase their presence worldwide as evident through the emergence of established institutional satellite campuses and programs globally. The growth of traditional brick and mortar institutions is being replaced by the development of virtual ones. Internationalization also changes the way institutions market themselves to attract academic staff and students. In terms of academic mobility, internationalization allows academics to become mobile as new collaborations form globally, allowing many to navigate migration policies worldwide.

Marginson and Rhoades (2002) argued that the American model of higher education is becoming more capitalistic, changing the dynamics of for-profit and not-for-profit institutions. Their research suggests that institutions can no longer afford to be stagnant in a globalizing

world. Institutions have to constantly reinvent or rearrange themselves to maintain a competitive edge as they are no longer competing for national or even regional rankings. Institutions are more aware of global competition and are looking to attract the best and brightest individuals globally. One way institutions are accomplishing this is by internationalizing themselves through their curricula, faculty, students, research and services (Aigner, 1992; Scott, 1994). Through the recruitment of international individuals and selling of their educational products, or by creating cross institutional collaborations, institutions are internationalizing and encouraging academic mobility while creating new academic standards in global teaching, research and service.

Literature on academic capitalism (Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004) suggests that as higher education adapts to more international market-oriented policies, many areas within higher education would be privatized, alleviating individual states of the burden of providing public funds for education. Lack of funding from state and local governments may inhibit a public institutions' desire to become more international (Altbach & Teichler, 2001); however, such individuals within the institution as faculty members are still able to diversify their skills to become more marketable (and sometimes profitable⁴) in a changing academic environment. Many institutions have increased the recruitment of international students as an alternative method to internationalize their campus. Healey (2008) argued that the rise of an international student body is what makes universities more capitalistic in orientation.

As universities engage more in international student recruitment, they begin to mimic corporations as they internationalize the diversity of their student body. Institutions also become engaged in many functions traditionally found in multinational corporations such as exporting

⁴ This is supported by the increase in applications for patents by faculty members in the medicine, science and engineering fields as well as participating as paid consultants for various programs and services requiring their expertise, which authors argue often makes academics more marketable outside higher education (Dietz & Bozeman, 2005; Zeebroeck, van Pottelsberghe de la Potterie, & Guellec, 2008).

and license and patent production. Healey (2008) argued that these corporation-like activities mimic what the business world terms the “Uppsala Internationalization Model” which describes how corporations internationalize (Johanson & Vahlne, 2009). Often, the first step towards internationalization is recognizing that there is a capacity for knowledge production abroad. These knowledge opportunities push institutions to build networks outside their geographical borders. An institution moves into the second phase of internationalization by making a commitment to build meaningful, mutually beneficial relationships with one or more institutions. The third phase of internationalization involves institutions learning from these relationships while building trust. Finally, the last step of internationalization is growth of network opportunities, which leads to market knowledge in other locations.

Perhaps one of the easiest ways to see how institutions internationalize themselves abroad is through the growth of offshore campuses globally. The 1980s saw an increase in offshore institutions, mainly from Australia and New Zealand to several Asian countries with the majority concentrating on Malaysia and Singapore (Robertson, 2006). While nearly one third of offshore colleges are now located in the Middle East, with the United Arab Emirates hosting nearly 61% of these institutions within its borders, the expansion of offshore programs and institutions did not occur until the early 2000s (Miller-Idriss & Hanauer, 2011). As demand for higher education continues to grow in the periphery, institutions at the center will continue to fill the need by internationalizing their programs on a global scale. Institutions at the center have the resources and influence to continue growing.

Cross border consumption and the mobility of scholars and students across intuitions is very common in developed nations. In developing nations we see only a one-way flow in which students (and faculty) pursue study abroad and stay in the host nation. Scholarly mobility is

another obstacle institutions in the periphery struggle with as the commodification of education enters the global market. It can be argued that higher education institutions have been part of a globalized world since their creation, with many of the faculty coming from various areas and backgrounds and learning and teaching in a language other than English. Yet, one of the problems affecting higher education in the global context is the unevenness in the power struggle. Many developing countries and some postwar institutions lose autonomy and intellect due to the introduction of corporations as sponsors in higher educational institutions (Altbach, 2004).

Heffernan and Poole (2005) emphasized the role of collaboration in increasing mobility in a global world. They used case studies of Australia's higher education system and argued that the ways in which these institutions formed collaborations both in developed and developing countries and the corporate sponsorships for their offshore institutions created mobility not only for students but faculty as well. Tannock (2007) emphasized the role that globalization plays in a decreased or increased sense of nationalism. He discussed the importance of maintaining the American sentiment number one despite changes to higher education's global positioning. Globalization (and to some extent internationalization) has increased competitiveness for many countries, especially the U.S.

As markets and societies become more connected with global forces such as trade and education, developing countries continue to face obstacles to obtaining a competitive advantage. Many emerging nations have obtained either the trained faculty or internal infrastructure to develop and produce research and knowledge societies but their efforts continue to be hindered by the power wielding dominant countries such as the U.S. and U.K. Neoliberal policies allow the continuation of these countries as dominant power holders due to their competitive edge

within higher education as their financial wealth and investment in higher education is greater (Puiggrós, 1999). Emerging economies often struggle with government and public programs in which the amount allocated to higher education is often overlooked.

Within the context of internationalization, there is discourse on mobility or the movement of money (capital) and bodies. There is also a transferability of academic researchers within the notion of “visiting scholars” and students studying abroad (previously mentioned) across institutions in various countries. Yet there is a lack of standardization of academic credentials globally. The consumption of higher education worldwide is globally segmented because of different structures within social classes and the idea of education as a global trade commodity. There is no one organization that can accredit all these institutions and make each institutional degree transferable from one higher education institution to another.

While it can be argued that internationalization helps institutions and academics respond to the effects of globalization, there is much we can take from the globalization and internationalization literature to understand the topic of mobility. Specifically, we can use globalization as the lens through which to analyze how mobility is affected by academic capitalism and neoliberal trade policies as higher education becomes more competitive in the global marketplace. Furthermore, with the diminishing of borders and transparency of geographical boundaries, it is becoming easier for faculty and scholars to participate in overseas academic collaborations via technological advances.

The increasing interest placed on the effects of academic mobility in terms of increasing social and cultural capital through study abroad programs has also prompted research on different areas of academic mobility and on how the movement of scholars across institutions can increase their social, cultural and educational capital while working towards creating what

the literature coins as a new global citizen. Marginson and Rhoades (2002) explained the concept of the glonocal (an individual who is global, national and local) to exemplify how the idea of power being dispersed in different directions and coming from different places is important. As globalization shrinks the academic community, and topics such as academic mobility gain momentum, an understanding of the distribution of power amongst the various higher educational institutions worldwide will affect the ways in which research is conducted and how faculty move from institution to institution.

Brain Drain, Brain Gain and Brain Circulation

Much like globalization, the term *brain drain* was popularized in the 1960s and 1970s. In tracing the origins of the term, Gaillard and Gaillard (1997) found it to be used as a catch-all phrase popularized by the media to define the problem of lesser developed economies (LDEs) losing highly qualified individuals (HQIs) to first world countries, a definition further cemented by the United Nations as a one-way relationship from less developed to more developed countries. Once these HQIs left their home country, many did not return. As a result, the concept of brain drain was seen as a permanent problem of LDEs, precluding a solution. Thus, many brain drain studies are inextricably linked to discussions of migration as both involve the physical relocation of bodies from one geographical region to another.

The Organization for Economic Cooperation and Development's (OECD, 2002) Policy Brief on the International Mobility of the Highly Skilled highlighted several factors of international migration, including the type of individual mobilizing, reasons behind migration, impacts of migration on both sending and receiving countries and how migration policies between countries are changing the definition of migration from brain drain to brain circulation. The brief argued that historically the bulk of traditional one-way migration or brain drain

occurred amongst individuals seeking asylum from war and politically unstable countries and only recently has the migration of highly skilled individuals increased due to other reasons, such as scientists and engineers who left their European homes for more stable research centers in the U.S. following the Second World War (de Hass, 2008; Galliard & Galliard, 1997; Hunter, Oswald, & Charlton, 2009).

The growing demand for HQIs in the advancing STEM sectors in many OECD countries also led to an increase in one-way migration from south to north. However, international data on brain drain is difficult to capture as no one central database exists to show global migration patterns. Often, numbers are taken from several population surveys, foundation databases or organizational databases like Open Doors, the OECD studies on Migration and so forth. Furthermore, much of the data available on migration mainly captures the one-way physical migration, leaving the potential for errors when individuals return or move to another country. In terms of capturing information on the flow of academics, much of the data that exists has traditionally captured only student mobility, such as study abroad, international studies and so forth with relatively little focusing on postdocs, visiting faculty and permanent faculty mobility.

Brain Drain theory continues to define the physical movement or loss of HQIs yet it fails to capture this new phenomenon of knowledge circulation via modern technological advances occurring as a result of globalization. The neoliberal trade era of the 1980s and 1990s changed the way former expatriates participated in the socio-political-economic discussions back home without relocating or returning. Saxenian (2005) argued that the technological boom of the 1990s provided a new way for expatriates “to collaborate in real time even on complex tasks, with counterparts located at great distances” (p. 35). This new form of collaboration and communication by Indian professionals in Silicon Valley influenced economic development in

India, changing how technology transfer is used in business and social communication. Again, brain circulation is difficult to measure as many of the ideas and relationships occur using advances in technology such as the Internet, email, teleconferencing and so forth. Saxenian argued that many of these foreign-born scientists and engineers whose migration contributed to coining the term brain drain are now the very ones circulating knowledge back home. These individuals in turn become transnationals as they economically (and sometimes politically) participate in more than one country while often having loyalty to both (Saxenian, 2005).

These transnationals, after becoming well established in their host countries, continue to work and maintain residence in their host country and begin to invest in their home country. Having already learned valuable lessons and insights in their respective fields, many serve as mentors and entrepreneurs back home. Saxenian argued that this is a trend seen amongst many Indian foreign-born nationals living in the U.S. These investments lead to the building of better infrastructures to promote research back home.

In the past brain drain studies have been used to explain one-way migration flows from peripheral countries (or developing and/or emerging economies) to those at the center (wealthy or rich economies), arguing that there are more resources, better infrastructure and prestige or recognition worldwide (Altbach, 2004; Lee & Kim, 2010); however, brain drain studies leave many unanswered questions about individual internal and external motivations for migrating. Furthermore, brain drain studies have traditionally focused on the physical, one-way migration of individuals as a permanent loss for sending countries (Oommen, 1989) and few recent studies have argued that while there is a physical loss of bodies, knowledge is circulating back home via technology transfer (Saxenian, 1999; Teferra, 2005). Literature focusing on this new wave of brain circulation has concentrated mainly on working professionals in the Silicon Valley and on

scientists (Saxenian, 1999, 2006; Teferra, 2005) with some focusing on faculty specifically (Lee & Kim, 2010).

Brain drain and brain circulation have been argued to also occur despite physical mobility. Teferra (2005) argued that virtual intellectual diaspora allows the migration of talent through virtual space without requiring individuals to physically relocate. This virtual flow of talent allows HQIs to participate in business and research opportunities worldwide. In terms of academic research, faculty are allowed more academic freedom through the use of these virtual networks. This type of virtual mobility can serve as a welcome alternative for those HQIs who have been denied country-specific entrance visas, or those who lack the funds to travel and so forth.⁵ Brain drain and brain circulation studies highlight the problems that plague the academic mobility of HQIs worldwide. While there is yet no one solution to the problem of brain drainage, these studies allow academics opportunities to investigate reasons for academic migration as well as provide a new way to see how the same brains that are leaving their homes are in fact able to reconnect and give back to those economies without having to physically return.

Higher Education in India

According to a governmental study by the India National Knowledge Commission (National Knowledge Commission, 2008), India's global competitiveness in a knowledge economy relies largely on an underqualified and disconnected national system of higher education. The University Grants Commission (UGC) oversees all degree-granting powers and accreditation methods for Indian tertiary education; however, the politics of how each individual system operates and receives public funding is left up to the individual states in which

⁵ It should be noted that despite the freedoms given by Internet usage, telephone or video conferencing or other virtual methods, many governments still impose certain embargos on even the most advanced communication technologies. In China, for example, public information systems and Internet use are closely monitored by the government.

institutions are located. The state politicization of higher education in India has left many institutions disconnected from one another and often from the central government (Altbach, 1998), resulting in a decentralized method of recruiting faculty, paying them, offering benefits, job responsibilities and academic freedom in research and teaching.

The NKC argued that if Indian higher education is to be taken seriously on a competitive global scale, the Indian government must impose drastic measures to improve both structural problems within the tertiary system and most importantly set a uniform *de jure* standard for recruitment of qualified faculty and policies for institutional accreditation (Agarwal, 2007; Stella, 2004). Government reporting shows that in the ten-year period from 1991 to 2001, the academic profession (growth in qualified faculty) in India grew only 20% compared to China's 85% growth of the same professionals during the same period (p. 5). Relying on a large set of faculty whose teaching and research qualifications are becoming questionable on a national level only perpetuates the lack of growth within Indian higher education. The authors further argued that while current efforts by the national government to implement and promote cross-border faculty mentoring and (re)training programs, it is also important to understand the invaluable perspective, knowledge and skills that Indian faculty trained abroad can bring to the Indian educational system.

Faculty shortages have been a constant problem affecting higher education institutions in India (Mukul, 2009; Neelakantan, 2008a, 2008b). As Indian colleges and universities struggle to fill vacant faculty posts, student enrollment continues to rise as does demand for a quality education. With faculty shortages now infecting the elite institutions, the struggle to find and hire qualified faculty is no longer solely a problem of India's public institutions. The slow growth in the academic profession also affects research and development opportunities for the Indian

higher education system, as evident by the number of unsatisfied current Indian faculty who argue that the lack of growth and money given to higher education results in a lack of research (Sharma & Sharma, 2009). Despite numerous attempts to lobby the country's current and past prime ministers, recruitment efforts to attract quality faculty remain virtually nonexistent as do efforts to improve the general higher education system in India.

While India has one of the largest systems of higher education in the world (second only to China) (Altbach, 2009; Jayaram, 2006; Tilak, 2008a), India remains amongst the top five senders of students to study abroad in countries such as Australia, Canada, the U.S. and the U.K. (OECD, 2004, 2011). A 2011 study by the OECD shows that the number of Indian students going to study in the U.S. and Canada has decreased slightly as more Indian students are drawn to closer Western countries such as the United Kingdom and Australia. The study argued that changes to national immigration policy and stricter visa regulations may be responsible for the shift in migration.

A study conducted by Finn (2010) on the stay rates of foreign doctorate recipients in the U.S. stated that nearly 81% of Indian graduate students in 2007 stayed behind to seek jobs in the U.S. after completing their PhDs. While this number seems relatively high, the study further revealed that there is an overall 10% drop in the total number of Indian PhD graduates who stayed behind in 2003. This study implied that Indian graduates are returning home after completion of PhD programs, albeit at a slower rate. Finn argued that recent studies on migration show that the return rate of Indian doctoral recipients is higher 5 years post graduation. While data show that many Indian PhD graduates who study in the U.S. do eventually return to India, there remains a gap in the literature explaining why some return and some do not. Furthermore, the literature does not explain which fields or markets returning PhD graduates enter

(professional or academic), making the documentation of returning academics difficult to measure.

Meanwhile, unlike the majority of Indian academics, Indian IT professionals have managed to maintain various international networks and relationships allowing them to stay internationally mobile and connected, transforming them into what Saxenian called transnationals or individuals with social and cultural ties to more than one country (Saxenian, 2002). Saxenian argued that because of these transnational networks, Indian professionals stay abreast of important social, cultural and political issues back home, making knowledge of investment and return opportunities more available.

There have been several recent initiatives such as the Indo-U.S. Collaboration for Engineering Education (IUCEE) to form academic partnerships with Indian tertiary institutions to provide academic mentorship for graduating or new professors in science and engineering fields. IUCEE's strategy is to build a transnational academic network for engineering scholars to mentor each other and increase research collaborations between India and the U.S. Because universities at the center have the resources to allow for innovative forms of teaching and research and because much of the world's wealth is still concentrated in core countries such as Australia, Canada, the United Kingdom, and the U.S., peripheral countries such as India, find themselves losing more qualified academics every year (Khadria, 2003); however, by engaging in these types of academic networks, Indian academics are able to build strong academic relationships and be a part of a high quality research culture without perpetuating the faculty shortage problem affecting many Indian institutions.

Literature Gap

Push pull models argue that individuals are pushed by certain conditions in their home country, such as lack of professional opportunities and rewards and lower salaries, and pulled to a country abroad by better working conditions, higher salaries and a diversity of professional opportunities. Push-pull models have been used to explain aspects of academic mobility such as student attrition (Tinto, 1982) and international student mobility (Altbach, 1998; Mazzarol & Soutar, 2002; Rodríguez González, Bustillo Mesanza, & Mariel 2010; Varghese, 2008). While push pull models have been able to identify why some individuals leave their home countries, they have yet to explain why individuals are motivated to choose specific countries, places or institutions (Lee, Maldonado-Maldonado, & Rhoades, 2006; Li & Bray, 2007).

Thorn and Holm-Nielsen (2008) argued that gaps in the literature on the push-pull theories for migration point to *how* the decision to move is made and argue for a deeper understanding of the underlying or psychological motivations that influence these individuals to migrate or why individuals are motivated to choose specific locations to migrate, even if those locations have no a priori networks established. Instead of looking at the tangible reasons that influence Indian faculty to move from one institution or country to another, this research investigated the psychological motivations behind their individual choices to move to a specific location or institution.

Conceptual Framework

Faculty members are an integral part of academic institutions. In addition to scholarly contributions and teaching, their research often generates revenue through grants and other funding resources for institutions experiencing budget problems, especially those funded by state or national governments. Faculty members serve their institutions (and to some extent the public

at large) through such activities as consulting on educational committees for various government and international agencies.

Attracting quality faculty and scholars with global academic and social networks lends to the mission of many higher educational institutions in providing a *world class* educational experience for their students and the communities they serve. But what motivates faculty to seek positions at specific institutions or to move from one institution (and possibly one country) to another? The frameworks guiding this study follow the conceptualization of Indian faculty career trajectory intersecting with personal and professional choices guided by motivation theory (intrinsic and extrinsic; Deci & Ryan, 1985) transnationalism (Dasgupta, 1998; Kivisto, 2001; Portes, Guarnizo, & Landolt, 1999; Vertovec, 2003) and social networks (de Stefanis, 2007).

Self Determination Theory (SDT), a macro theory of human motivation, explores the basic organismic behaviors of individual motivation to complete everyday tasks (Deci & Ryan 1985, 2008; Ryan & Deci, 2000a). SDT argues that there are intrinsic (autonomous) and extrinsic (controlled) motivations behind all individual choices. These motivations result from an individual's inherent need to possess three distinct needs, the need for competence, relatedness and autonomy (Ryan & Deci 2000b). These needs come from an internal, biological desire for individuals to feel good about themselves in everything they do whether or not there is a tangible reward attached to that activity. SDT is divided into three parts: Meta Theory, Formal Theory and Other.

Under the Meta Theory, SDT asserts that from a biological perspective, humans as biological organisms are inherently motivated to choose certain paths for basic survival. This is drawn from several drive theories by Clark Hull (1943) that postulate that organisms are motivated to change their environments when an innate need, such as hunger, is presented and

once that need is satisfied the organism will remain inactive until the need is presented again (Deci & Ryan, 2000). The Meta Theory in SDT differs from drive theory in that it argues that humans, as biological organisms, not only engage in self-satisfying activities, but also seek to create and maintain social connectedness with other groups and/or networks (Deci & Ryan, 2000). Thus, intrinsic motivation is a natural, biological process.

SDT Formal theory is comprised of several mini theories that are concerned with differentiating how different types of motivation (intrinsic and extrinsic, controlled vs. autonomous) affect individual actions (Hernandez, 2011). For the purposes of this research, I will discuss only two of those mini theories, Cognitive Evaluation Theory and Organismic Integration Theory, as they relate to motivation and social connectedness.

Cognitive Evaluation Theory and Intrinsic Motivation. A subtheory of SDT, Cognitive Evaluation Theory (CET), hypothesizes that intrinsic motivation can be boosted in individuals if participation in events or structures promotes feelings of autonomy and competence (Ryan & Deci, 2000b). However, according to CET, feelings of competence and satisfaction will not be boosted through external structures if the individual's autonomy is compromised. In SDT, autonomy is not the same as ideas of individualism and separation and isolation from others; rather, it focuses on the individual's volition in deciding which activities to pursue without external influences (Deci & Ryan, 2000).

CET builds on the works by de Charms (1968), which looked at self-determined behavior as an internal force qualified by an *internal perceived locus of causality* (IPLOC). The argument that de Charms made under IPLOC is that all individual motivation is internally self-determined and autonomous, whether or not individuals are subjected to external pressures (Ryan & Deci, 2000a). As a result, CET focused on further researching the relationship of individual needs for

competence and autonomy as it related to intrinsic motivation as an autonomous, self-determined behavior.

Several studies have looked at the relationship between a feedback/reward system and intrinsic motivation in educational settings (Deci, Vallerand, Pelletier, & Ryan, 1991; Early, Rogge, & Deci, 2014; Kiemer, Gröschner, Pehmer, & Seidel, 2015; Vallerand et al., 1992), career motivation (Deci, 1972; Gagné & Deci, 2005; Kluger & DeNisi, 1996; Wiersma, 1992) and among athletic performance (Duda, Chi, Newton, & Walling, 1995; Frederick & Ryan, 1995; Pelletier et al., 1995; Vallerand & Reid, 1984). What resulted was a deeper look at the *external perceived locus of causality*. In instances where rewards were internalized as supportive and not controlled, individuals exhibited greater intrinsic behaviors (Deci & Ryan, 1985). Thus, *external perceived locus of causality* can undermine intrinsic motivation when competence and autonomy are compromised.

Organismic Integration Theory and Extrinsic Motivation. Another subtheory of SDT, Organismic Integration Theory (OIT), looks at the various external influences on extrinsic motivation. As previously defined, extrinsic motivation refers to participating in an activity to reach some tangible reward or separable outcome (Ryan & Deci, 2000a). OIT looks at four distinct types of extrinsic motivation which have varying degrees of individual autonomy (Gagné & Deci, 2005; Ryan & Deci, 2000a, 2000b). The less autonomous of OIT motivating behaviors are *externally regulated* and *introjected regulation*. The formal definition argues that individuals engage in a specified behavior specifically to meet some mandate or requirement and the behavior is externally controlled. For example, a student may take a chemistry class that he or she finds uninteresting but do well in it because it is a prerequisite for engineering major coursework. Thus, *externally regulated* motivation is contingent on the type of reward.

Introjected regulation or ego involvement (Nicholls, 1984; Ryan, 1982) occur when an individual does a task to avoid feelings of guilt or loss of pride. An example of this would be a student who pursues a law career because his or her entire family studied law and it makes him or her feel pressured to keep up the family's legal legacy.

On the other side of the spectrum are *identified regulation* and *integrated regulation*. *Identified regulation* is slightly more autonomous than those behaviors exhibited under *externally* and *introjected regulation*. When individuals find a task that fits with their own personal beliefs, goals or identities, they are able to find important value in the task (Ryan & Deci, 2000a). An example of this would be someone who begins exercising because they see the value of living a healthy life as opposed to preventing obesity. The last and most autonomous of OIT's extrinsic motivations is *integrated regulation*, the most intrinsic of behaviors as individuals internalize an activity because it is important to their personal goals (Gagné & Deci, 2005).

When an individual internalizes an extrinsic behavior and assimilates the behavior, it becomes a part of the person's own cultural values and beliefs. An example of this is persons who regularly volunteer at a shelter not because they want to feel good about themselves (not guilty), but because they see the value in connecting with their community and ensuring that there is access to safe housing. OIT taxonimizes the various forms of extrinsic motivation that can influence individuals to internalize behaviors that are not intrinsically self-determined. Thus, OIT supports the need for relatedness as individuals internalize and assimilate extrinsic behaviors to feel socially connected to places, groups or activities.

Self Determination Meta Theory highlights the types of motivations that can influence Indian faculty to pursue academic positions in countries outside India. Moreover, through

Cognitive Evaluation Theory, we can explore further why Indian faculty are “pulled” to pursue an academic career generally and, through the lens of Organismic Integration Theory, we can explore what “pushes” these same faculty members to seek positions in countries outside India and what factors they internalize that keep them rooted in Western institutions.

To gain a better insight into the migratory conditions of international academic faculty, this study looked at transnationalism theory to understand the impact that cultural and linguistic duality play for Indian faculty who begin families outside their native home. Transnationalism, as framed by Portes, Guarnizo, and Landolt (1999), refers to individuals who live dual lives: they speak two languages, have homes in two countries and make a living through continuous regular contact across national borders (p. 217). Thus, transnationals are often individuals who maintain ties and identify culturally, economically and socially to both home and host country. De Stefanis (2007) argued that examining the migrants’ ties to both countries is vital to understanding the current brain drain/circulation studies as these transnational migrants often maintain a lifelong dual identity.

Transnationalism complements the globalization and internationalization literature as it describes how relationships are built and sustained despite geographical location and political citizenship. In defining transnationalism, Vertovec (1999) identified six conceptual premises: (a) *social morphology*, (b) *consciousness*, (c) *mode of cultural reproduction*, (d) *avenue of capital*, (e) *site of political engagement* and (f) *(re)construction of place or locality*.

Social morphology is concerned with the definition of the term itself. In the case of transnationalism, Vertovec traced when the term entered the academic vocabulary and how it was derived from several studies on migrant diaspora by academics in the 1990s (Cohen, 1997; van Hear, 1998; Tölölyan, 1996; Vertovec, 1998). When Manuel Castells wrote *The Rise of the*

Network Society (1996), his work looked at the transnational networks beyond physical interactions to the network society built by technology and how these relationships created new cultures and subcultures globally mainly through nodes. A node is defined not as a network or central location within a network but as an information hub where all information passes through, is digested and processed (Castells, 2004). As a result of the interconnectedness of individuals through globalization, internationalization and technology, migrant diasporas have become global transnational communities with large interconnected networks.

Consciousness in transnationalism refers to the identification crisis that some (if not all) transnationals often experience turmoil over. Vertovec (1999) looked at this from the perspective of identifying what “home” means to these individuals. The more interconnected individuals become to their new “home,” the more the cultural boundaries are blurred (Dahinden, 2010). As transnational communities build their networks globally, they take their morals, culture, values and belief systems with them while acculturating those same values of their new “home.”

Transnational consciousness redefines what *nationalism* and *patriotic* mean (Levitt, 2004). When arguments about immigrant assimilation versus acculturation are made, many generally fail to understand the complexities and psychological turmoil these populations endure as they relate to both host and home country as “home.” Often as a result of understanding or the awakening of consciousness, transnational migrants begin to build new cultures that mix both old and new customs. The creation of this hybrid culture permeates everything in the networks transnationals are a part of. As a result, notions of power, society, culture and belonging shift from a nationalistic point of view to a globalized point of view (Levitt & Schiller, 2004).

In an increasingly interconnected world, transnationalism is impacting how culture is defined, produced and explained. Many of the faculty members that I interviewed emigrated

from India more than 40 years ago; as such, their perceptions of what Indian culture is varies greatly from those who emigrated in the last decade. Regardless of migration period, all Indian faculty members interviewed exhibited some degree of transnational identity that incorporated traditional Indian cultural practices with those they acculturated in their new “home away from home.” When asked what factors they would weigh as the most important for them to consider returning to India, their family took precedence over everything else. Many who had already started raising families outside India perceived that it would be difficult for their children (and sometimes non-Indian spouses) to adjust to life in the periphery.

Avenue of capital and site of political engagement refer to the economics and politics of transnationalism. Specifically, these concepts look at the role transnational networks play in the global exchange of money and power. As transnational communities expand and their nodes of information increase, the political occurrences in peripheral countries become global issues.

Michael Smith (2003) looked at how migrant communities from central Mexico play a role in the political occurrences of their home states. He further argued that the expansion of these migrants’ networks has allowed Mexican politicians to build their campaigns across the border and the role that media have played a role in reaching these networks through technology. Being involved, albeit from afar, allows transnational migrants to feel connected to their “home away from home.” Dasgupta (1998) argued that, in the case of Asian Indian immigrants, their biggest challenge is successfully transferring cultural identity and behavior to their children, often born in the host country. Within the study of Indian career trajectory, transnationalism plays an important role as Asian immigrants’ identity may often conflict with their children’s identity, influencing career mobility.

Reconstruction of place and locality refer to how individuals' perceptions of space have changed through migration (Vertovec, 1999). Furthermore, the idea that globalization and internationalization have made it easier for individuals to interact and travel through space has allowed us to see how the idea of "locality" is viewed in a globalized world (Velayutham & Wise, 2005) and what it means to those transnational individuals. The idea of *translocality* as introduced by Velayutham and Wise (2005) looks at how an extended sense of belonging is created through home country/town expanded relationships and cultural reproduction of migrant networks. This research looked more deeply at three of these premises as they relate primarily to Indian faculty mobility: consciousness, mode of cultural reproduction and (re)construction of place or locality.

Finally, the study of social networks was central to guiding this research as employers are increasingly relying on the social capital of prospective employees to fill vacant positions, thus seeing individuals with large social networks as good investments (Fernandez, Castilla, & Moore, 2000). Social networks and transnationalism go hand-in-hand with migrant literature. De Stefanis (2007) maintained that international social networks motivate migration to certain geographical locations as referrals are often based on familial, friendship or professional connections. De Stefanis's research found that family social networks were critical to career mobility patterns for Asian Indians, often shifting career strategies as individuals factored families into their decisions to return home (p. 137). The incorporation and focus on family networks is important in researching career trajectory motivations as traditional push-pull models have mostly looked at professional factors for motivating individuals to mobilize.

Chapter 3: Methodology

The research took place internationally across three countries, providing a better understanding of the different influences that affect career motivations for Indian faculty. Only faculty members who were born in India and completed at minimum their undergraduate degree in India were interviewed. For the purposes of this study, it did not make sense to interview faculty who were born outside India as they may not have had much understanding of what the academic system or job market in India was like; furthermore, faculty born outside India would not have had insight to the graduate education system of the country and would be unable to explain why they choose to receive their graduate education outside India. In this section, I will present the project design and methodology. It will be organized as follows: First, I will introduce and briefly discuss a pilot study conducted during my research methods class that gave birth to the purpose of this study. This is followed by a presentation of the research questions that guided this study. I will then give a brief overview of why a qualitative phenomenological research design was chosen. Finally, I will explain the research site and population sample as well as the methods for data collection and analysis.

This research project used a combination of purposive and snowball sampling as a methodology to recruit a specific population within higher education: foreign-born Indian faculty. A brief overview of these methodologies will be discussed to highlight how participants were recruited. In the following section I will discuss the geographical locations and why Canada, the U.S. and the U.K. were chosen as countries of study. I will then provide an overview of the participant selection and why STEM fields were chosen. An overview of data analysis and a section explaining the researchers role, or positionality, within the study will follow this

section. Sections discussing validity and ethical considerations relevant to the proposed study will be followed by an overview of research limitations.

2008 Graduate Student Pilot Study

In 2008, I piloted a case study of five Indian graduate students pursuing doctorates in the U.S. to better understand why they would pursue a degree in the U.S. and what their career goals were after graduation. Four of the graduate students were in a STEM field and one graduate student was pursuing her doctorate in education. One interesting theme that I encountered in all pilot study interviews was a shared view of the lack of strong graduate degree programs across Indian universities. The participants in the pilot study mentioned that for them as aspiring STEM professionals, the only graduate programs worth applying for would be at one of the Indian Institutes of Technology (IIT), Science (IISc), or Management (IIM) and the difficulty of obtaining admissions to a doctorate program in any of these colleges would be extremely competitive.

Participants also expressed concerns over the availability of quality faculty mentorship and the opportunity to obtain a faculty or research position, whether at home or abroad, after graduating from an institution in India. Their concerns were mainly centered on the inability to find a position that would not only allow them to pursue their interests with academic autonomy, but also one that would provide the necessary academic freedom, funding, resources and salary to support an aspiring academic career.

Interviews with these students were semistructured and held in my office, at the time, lasting between 30 and 45 minutes. From these initial interactions, I developed the interview questions for this study with more clarity. I also observed during these interviews that female graduate students were more careful to answer questions about their own career aspirations than

their male counterparts as they hesitated before answering and often took additional follow-up questions to have them explain why they chose a certain career path. When asked what motivated them to pursue a doctorate, the responses remained similar, “because I want to do my research.” When asked if she could pursue research interests in India, one graduate student indicated that at the specific institution where she received her master’s degree, students were generally not expected to think outside the box. When asked to elaborate, she recounted her own experiences. Often, lectures consisted of students copying notes from the professor and memorizing those same notes for the exams. There was no encouragement to question the material or deviate to explore a topic further. The faculty notes were often passed down from previous faculty who taught the course and in such bad shape that missing sections were not uncommon.

In another interview, the student indicated that often graduate students in India are not sought out by faculty members. Instead, students receive a stipend directly from the government and then they must take it upon themselves to find a faculty member who is willing to work with them. Because the pool of willing faculty mentors in India was small, the participants mentioned several times that it was not uncommon for Indian graduate students to end up with faculty mentors who generally were in their field of study but may not have had expertise on the student’s specific research interest. Working with faculty mentors who were unfamiliar with their research interests created obstacles to pursuing interests thoroughly, providing critical feedback and limiting the mentee’s research freedom.

Hiring graduate students in India differs from the U.S. model of graduate assistantships where, in my own experience, faculty tend to hire graduate assistants directly and pay them through their own grant monies. In addition, across many U.S. universities, it is standard practice

to award graduate students with graduate teaching assistantships and then pair those awardees with faculty members of similar research or academic interests to assist in teaching sections of courses or in some instances entire undergraduate courses on their own. Students in these teaching assistantships are paid directly by the university or the individual college with funds from the department or through generally available graduate funds. In addition to providing a salary, many graduate assistantships offer other benefits, depending on the scope of work and the institution/departments offering the positions. Pairing graduate students with faculty using this model allows graduate students to find faculty mentors or dissertation advisers who will not only understand the student's research interests but also provide objective advice to grow as an academic.

Several themes emerged as a result of this 2008 pilot study. First, the participants shared a perceived lack of good *faculty mentorship* as previous or potential graduate students. Second, there was a general consensus among the interviewees that there was *limited funding* for graduate studies both in terms of financial and personnel resources. Third, the interviewees mentioned several times that *inadequate research training* and *limited academic freedom* to pursue independent research were prevalent across graduate programs, independent of type of institution in India. Finally, absent from all discussions was a concise career trajectory plan to pursue academic positions in India.

Some of the preliminary findings from the pilot study indicated that there were alternate reasons for moving abroad to pursue doctorates and eventually academic positions. According to Altbach's (1998) push-pull theory, students are pushed by conditions in their home country and pulled by opportunities abroad, especially from industrialized countries at the center, and the results of this pilot study were in line with that theory. However, when probed more deeply about

what motivated them to choose specific places or continue to pursue graduate education and eventually academic positions, the participants exhibited emotions and aspirations beyond salaries, prestige and resources. Of the four themes that emerged from the pilot study, three of them (faculty mentorship, academic freedom and research training) are not generally considered push or pull factors under traditional migration theory.

Participants indicated that they enjoyed doing research and that they felt much more freedom to explore different topics and directions with the full support of their current U.S. faculty mentors. Furthermore, while three of the five graduate students relied heavily on student loans and faculty research funding, the other two were considered “well off” in their cities and were funded primarily through family wealth. In addition, the participants’ descriptions of graduate study and limited faculty mentorship were in line with one of the four motivating factors of migration that Mazzarol and Soutar (2001) found: The understanding or experience of study at their local institutions and within their country, India, was not as good as pursuing education abroad.

Research Questions

The purpose of this study was to understand and explore the motivations behind faculty career mobility. Specifically, this research sought to look at what motivates Indian faculty to choose careers outside Indian institutions of higher education and why many choose specific intuitions in Western countries. To guide this research, three main research questions and one sub-research question were carefully formulated based on the 2008 pilot study and a thorough review of the literature on globalization, internationalization, brain gain/drain/circulation, academic mobility and Self Determination Theory. The intention was to focus not on the tangible reasons such as salary, space or research dollars by which faculty are pushed or pulled into

specific countries, but to understand the more intangible measures of motivation. This study also intended to provide first hand accounts as to why individuals from peripheral countries choose specific locations or institutions in pursuit of their own overarching career goals. This study was guided by the following research questions:

RQ1: What motivates foreign-born Indian faculty to seek jobs at academic institutions in the U.S., Canada and the U.K.?

SRQ1: What motivates Indian faculty to stay or leave academic jobs in these countries?

RQ2: What resources do Indian faculty use to become internationally mobile throughout their career trajectory?

RQ3: How do Indian faculty abroad stay engaged or participate in academic research in India?

The first research question and subquestion intended to explore what it is about working and living in Western countries that attracts Indian faculty members to choose careers in those places as well as to highlight what internal and external motivators influence their career decisions. The question goes beyond the traditional push-pull paradigm to explore what other motivators aside from salary, resources and infrastructure and location influence career trajectory. The subresearch question was aimed at exploring what professional and social conditions motivate faculty to return to their home country and why some may wait longer than others to return home. This question resulted from several studies on return migration literature (Dustmann, Fadlon, & Weiss, 2008; Gibson & McKenzie, 2011; Lee & Kim, 2010; Mayr & Peri, 2008) and the notion that Indian institutions would attract faculty trained abroad. In their study, Lee and Kim (2010) looked at what factors influenced Korean faculty who had received their

education in the U.S. to return to Korea for employment. Using brain drain and diaspora frameworks, the authors argued that extrinsically, Korean faculty understood what value a degree from the U.S. had in returning to Korea. Furthermore, Korean faculty began their graduate education abroad with the intention to return to Korea upon graduation. Like the Korean faculty interviewed in Lee and Kim's study, the Indian faculty who participated in this study had strong familial and cultural ties to India and indicated some desire to return "home" after finishing their doctorates and gaining some teaching and research experience abroad.

The second research question was designed to capture the many ways that faculty can become internationally mobile. The literature on academic mobility has shown many instances of faculty mobility taking place without the actual movement of bodies. As explained earlier, this is made possible through technological resources such as Internet, phone conferencing, international publications and the formation of international research collaborations. While these "actions" may not seem as if an individual is contributing to mobility on the surface, Hoffman (2009) argued that some academics may not view themselves as mobile either because of some predisposed definition of the term or because they may have moved once (outside their native country) during their career and not moved again but continue to collaborate with colleagues across the world. Faculty participating in local, national and international research conferences often do not consider that action as mobile because it is a short-lived action; traditional mobility involves physical travel or migration for longer periods of time, often crossing one or more geographical borders. The second research question investigated mobility concepts in further detail and from the perspective of those taking part in the movement.

The final research question intended to explore the resources and, more importantly, the networks that Indian faculty used to stay engaged and up to date with research in India. This

question also aimed to explore underlying motivating factors that may influence return migration such as those found by Lee and Kim (2010). This question challenged how knowledge eventually circulates back home either through mentorship, consultation or research collaborations despite a physical loss of talent. As previously mentioned, brain drain studies have traditionally been viewed through the lens of push-pull theories, which can be incomplete in rendering a conclusion on reasons for migration. Furthermore, recent studies have argued that many Indian professionals in the STEM fields eventually return to India after studying and working abroad. The final research question further explored this phenomenon by investigating how the use of personal and professional networks enables return migration and opens opportunities for continued collaboration with professionals in India and worldwide.

To explore these questions, I interviewed 24 Indian faculty members at over 15 different institutions across three countries. Institutions ranged from public to private, and from little to heavily intensive research, to those that specialize in the STEM fields. Along with the interviews, which provided first hand accounts of these faculty members' own career trajectories, I used information I gathered on personal and college websites and field notes to assist me with the data analysis and validity.

Qualitative and Phenomenological Study

Maxwell (2005) stated that the context and issues the researcher studies lead to final decisions about which research methods one will use. As such, wanting to know the *why* behind the data on migration and mobility studies led to a qualitative research design. A qualitative research design allows the participant or focus group to insert their own voice into the research, which is something often missing from quantitative studies (Creswell, 1998; Denzin & Lincoln, 2000; Maxwell, 2005) that focus on using numbers to explain phenomena or test a hypothesis.

The use of a qualitative methodology allows the researcher to probe for a deeper meaning to the research questions through the use of interviews, field notes and observations. These interviews and the resulting dialogue provided insider knowledge and a new perspective on the reasons behind global faculty migration.

Creswell (2009) argued that qualitative methodologies tend to make the researcher more aware and sensitive to data during collection and analysis through the examination of documents and behavior observation. The use of multiple sources of data allows the researcher to establish a comprehensive set of themes as data are analyzed and sorted into various categories. Qualitative methodologies also allow the researcher to focus on the meaning of the participants' knowledge and tell the story from their point of view, a core aspect of this research.

A concept developed from the work of Edmund Husserl, phenomenology studies how individuals perceive the world around them (Willis, 2007). A phenomenological study was relevant for this research as it tells the shared experiences of several individuals (in this case academic mobility) with similar backgrounds and career aspirations. "Phenomenology focused on the subjectivity and relativity of reality, continually pointing out the need to understand how humans view themselves and the world around them" (p. 53). Phenomenology interprets this shared experience by allowing the participants to elaborate on academic mobility phenomena from their own point of view and their own experiences. Phenomenology also allows the researcher to participate in this shared experience by connecting participants' stories, deriving meaning and interpreting themes to connect and contribute to the literature of this shared experience. In this study, I wanted to understand not just why Indian faculty pursue their graduate education outside India, but also what motivated them to move to specific locations outside the country.

One of the problems I encountered with push-pull theory is that it can provide a tainted interpretation of academic migration patterns, often making assumptions about similar groups based on singular narratives or individual studies about different groups such as students and study abroad experiences. In addition, much of the literature on academic mobility clusters various groups under pan-ethnic labels and when disaggregated and applied at the micro level, push-pull theory can miss important cultural nuances that drive migration patterns for specific subgroups, such as faculty versus students versus professionals. Student mobility patterns could be driven by different means than those that drive faculty mobility. Finally, legal obstacles or visa issues vary from country to country and from student to professional. It is because of these open-ended questions that I pursued this study using a different conceptual lens.

Purposive Sampling

The general definition for purposive sampling implies that the researcher is choosing a specific research population with a plan already set out. Purposive sampling establishes the necessary criteria before beginning the research to ensure that the right population is targeted and sought out. For the purposes of this research, the necessary criteria were to find foreign-born Indian faculty working at Western institutions in the U.S., Canada and the U.K. These faculty members were prescreened electronically using online resumes or curriculum vitae posted on departmental websites from the various universities. Once the chosen faculty members were interviewed, the researcher asked for personal referrals for other faculty members from the same background.

Snowball Sampling as a Methodology

Snowball sampling is a methodology that has been widely used in qualitative studies across various disciplines. It has been used to reach nonvisible populations not normally

accessible for research such as in finding nonheterosexual women (Browne, 2005), drug addicts (Griffiths, Gossop, Powis, & Strang, 1993) or abused women (Raj & Silverman, 2003). Some studies have used this methodology to look at not-so-hidden groups such as elites (Atkinson & Flint, 2001), a population who are also often difficult to reach. Atkinson and Flint (2001) argued that snowball sampling can break down the barriers to access elitist information through chain referral sampling and the researcher builds rapport with potential interviewees, thus allowing the researcher into their social networks. Snowball sampling as a methodology can be used with a variety of populations including targeting specific populations as in this study.

Snowball sampling uses chain referral techniques to gather participants from people who know others in similar situations. It relies heavily and thrives on the social networks of individuals. Noy (2008) argued that the use of snowball sampling as a method can provide unique social knowledge of an interactional quality. The methodology allows for social knowledge to develop constantly and to flow between the researcher and the participant. Snowball sampling creates (or recreates) a unique type of insider knowledge by activating the social networks of the participants being interviewed. The quality of the referral process is inextricably linked to the process of previous interviews because a bad interview with one participant can potentially lead to a bad referral.

Biernacki and Waldorf (1981) were perhaps the first to discuss snowball sampling as a methodology in highlighting the many problems associated with using this procedure in a qualitative research design. They described and provided solutions to the five most common problems in using this specific methodology. The first is finding initial respondents. Because traditionally this methodology has been used to research hidden populations, the visibility of these groups is not always clear and finding a well-represented sample can be challenging.

However, they argued that by employing other data-gathering methods such as purposive interviewing, initial contacts can be made. Developing a good relationship with initial contacts will lead to additional good contacts. Thus, the researcher must be diligent and careful in choosing the initial participants.

The second problem is verifying the eligibility of potential respondents (Johnston & Sabin, 2010). Because snowball sampling can grow rather quickly through the chain referral process, the researcher may often become overwhelmed by respondents. One way to verify that potential participants are legitimate and pertinent to the research at hand is to have other group members verify them. The third problem with snowball sampling is using initial or key informants as research assistants. Because these participants are involved in the research (through chain referrals), the researcher has to trust that these individuals can uphold the veracity of the research at hand and refer only participants who will be pertinent to the study.

The fourth and fifth problems with snowball sampling pertain to control and pacing (Goel & Salganik, 2010; Heckathorn, 2011). How does the researcher know when the correct number of cases has been reached? Glaser and Strauss (1967) offer one solution, arguing that representativeness of a sample becomes apparent when the data begin to repeat. Thus, the production and reproduction processes allow social systems to recreate themselves, implying to the researcher that s/he has reached a point of saturation in the data (Giddens, 1984). Finally, the researcher must learn the proper pace in collecting and analyzing data using snowball sampling. Often, because the number of participants can grow faster than the researcher can keep up, the time between interview and transcription can become so great that valuable information can get lost in translation. The researcher must be as diligent in recording his/her interviews as s/he is in collecting them so as to stay true to the participant's dialogue and the study at hand.

Biernacki and Waldorf (1981) argued that the use of open-ended interviews can also be counterproductive to gathering quality data. One solution for this is to offer structured or semistructured interviews to guide the conversation. Despite the many problems with snowball sampling, Noy (2008) argued that it still contributes to an invaluable type of knowledge. By using sampling trees⁶ to keep track of the participants, snowball sampling provides more data than the interview alone. These sampling trees can highlight those who dominate the group's social network as well as give the researcher a different perspective on the group under study (Noy, 2004, 2008). Sampling trees provide a visual map for the researcher and display how well the research is progressing.

Because Indian faculty is not a group normally studied in the literature on higher education, this methodology, in conjunction with purposive sampling, was chosen to gather participants. While snowball sampling relies on individual social networks and contacts for future participant referrals, it is necessary for the researcher to initiate contact; as such, initial contacts were chosen from several institutions in the U.S., Canada and the U.K. Initially, I looked for foreign-born Indian faculty purposively at selected institutions⁷; later, I relied on referrals from these faculty to build the interview pool. In instances where I ran into dead ends or no leads, I returned to the initial process of finding new faculty at sister institutions or as in the case of the U.K., searched every STEM department website to identify faculty based on publically published curriculum vitae and/or biographies.

⁶ Sampling trees act as visual aids and are drawn similarly to family trees. Instead of parents, there are initial participants who are connected to referrals like children and so forth. Links can also be made to connect multiple referrals to the same person. Unfortunately, I discovered that the participants I contacted did not have enough "limbs" or referrals to create a large or relevant sampling tree visual.

⁷ The preselected institutions were chosen because they provide online faculty profiles, allowing the researcher to ensure that they met the correct criteria, being native to India and having received a PhD from one of the Western countries listed or from another Western country located at the center of knowledge production.

Geographical Selections

Canada, the U.S. and the U.K. were chosen as countries of interest based on an extensive literature review regarding Indian migration. The literature showed that these three countries, plus Australia, are the top receivers of foreign-born Indian talent (Eisemon, 1974; Khadria, 2001, 2002, 2003, 2009; Sengupta, 2006; Wadhwa et al., 2009), especially among those pursuing STEM careers. Fahey and Kenway (2010) suggested that the reason for migration to these countries is because the universities and colleges housed there are located at the center of knowledge production and are therefore “empires of knowledge” attracting the brightest talent worldwide. The authors further argued that the geographical location of these knowledge empires greatly influences how migration flows from the periphery to the center.

The U.S. and the U.K. have been traditional centers of migration for years and the establishment and growth of Indian communities in these countries continue to attract migrants. Canada, like Australia, has experienced a recent growth in Indian migration due in part to immigration friendly policies and laws as well as the country being host to a number of increasingly world-renowned tertiary institutions. Thus, Canada, the U.S. and the U.K. were chosen as countries of focus due to traditional Indian migration patterns and geographical location (closer to the researcher). Finally, according to the most recent data from the *U.S. News and World Report Best Global Universities Rankings*, nearly 41% of the top 500 global colleges and universities are located across Canada, the U.S. and the U.K.⁸ While Australia emerged as a high receiver of Indians, the substantial time difference between the U.S. and Australia limited the researcher’s ability to conduct a reasonable search for willing research participants and there

⁸ Best Global University Rankings. <http://www.U.S.news.com/education/best-global-universities/search?region=&subject=&name=>, retrieved on January 21, 2015.

simply was not enough common “awake” time convenient for both the researcher and the participant to conduct interviews.

Research Participant Selection: Science, Technology, Engineering and Mathematics

STEM faculty members were selected due to the high number of Indian faculty found in these fields at many tertiary institutions worldwide. Worldwide the number of Asian immigrants has exploded in the past 30 years, according to a study by the Migration Policy Institute (2015), indicating that Indian citizens are the top recipients of professional work visas when compared to other immigrant groups. Furthermore, not only are Indians the largest foreign-born population with science or engineering degrees, they are the second largest population in the U.S. with doctorates in one of those areas (NSF, 2014).

STEM definitions tend to vary across geographic location, industry and educational institution. For example, while STEM stands for Science, Technology, Engineering and Mathematics, what constitutes “science” can vary widely as can what types of mathematics (applied vs. theoretical) qualify as STEM. In addition, defining STEM at a micro level can mean something very different to an academic institution with philosophical debates on the evolution of academia and scholarship than to governmental agencies with laws that impact immigration flows for those researching and studying in the STEM fields they relate to certain industries (NASA, Nuclear, Aircraft, etc.). To ensure that the widest net possible was cast, I turned to government agencies for each country to research how they defined STEM and the results were interesting.

In the U.S., under the Department of Homeland Security, the United States Immigration and Customs Enforcement (ICE) agency published a 14-page document of approved STEM

degree programs.⁹ Interestingly, I saw some fields that I never expected to see listed as STEM, such as Business and Management as they relate to statistics. In 2011, ICE further expanded the definition of STEM degree programs to increase the number of qualified graduates on student visas who would eventually become a pool of highly skilled professionals in the workforce. The expansion of the definition of STEM to include fields within medicine, pharmaceuticals and theoretical mathematics and sciences would allow additional highly trained immigrants to continue training in the U.S. after graduation.¹⁰

The U.K. breaks up the definition of STEM into three categories: Education, Society and Economy.¹¹ While the list is not as lengthy as ICE's, the U.K. defines STEM in a more traditional way with areas such as educational and social statistics not falling under the STEM umbrella. The U.K. government uses, loosely, the definition of STEM provided by the Higher Education Statistics Agency (HESA); however, the government body recommends that STEM skills such as the ability to critically analyze data, understand and implement scientific principles using logical reasoning to solve complex problems¹² are more important than the degree an individual has earned. A comprehensive review of STEM definition literature has concluded that STEM definition in the U.K. is more appropriate to applied science than to theoretical fields.

Similarly, Canada defines STEM fields as those that advance education through innovation and competition¹³ and does not include fields that may use STEM applications such as social and behavioral sciences (in terms of statistics and applied science, excluding theoretical science). As such, cognizant of the differences in STEM definition, I used caution when

⁹ <http://www.ice.gov/sites/default/files/documents/Document/2014/stem-list.pdf>

¹⁰ <http://www.ice.gov/news/releases/ice-announces-expanded-list-science-technology-engineering-and-math-degree-programs>

¹¹ http://www.delni.gov.U.K./report_of_the_stem_review.pdf

¹² <http://www.publications.parliament.U.K./pa/ld201213/ldselect/ldsctech/37/3705.htm>

¹³ <http://www.scienceadvice.ca/uploads/ENG/AssessmentsPublicationsNewsReleases/STEM/STEMFullReportEn.pdf>

searching for potential faculty to ensure that they met their country's definition of a STEM field before recruiting them. It should also be noted that there is a high demand for STEM professionals in all three countries and legal obstacles to immigration have changed over the years to accommodate the growth of STEM professions by attracting highly skilled and trained professionals in both industrial and academic areas.

It has been argued that immigrant populations, especially those in the STEM fields, have contributed greatly to the science and engineering workforce in the U.S. (Stephan & Levin, 2001); however, the aftermath of 9/11 led to a tightening of visa policies in the U.S. and subsequently stemmed the flow of immigrants entering the country on student and professional visas. At the same time, other countries such as Australia and Canada changed their recruitment policies for international students seeking higher education (Lee et al., 2006). With the increased cost of student visas and the stringent application process to study in the U.S., the attraction of immigrant friendly places like Canada and Australia became greater. Furthermore, changes to the H-1B visa, the U.S. foreign worker visa, limited job mobility for non-native immigrants seeking employment after graduation in the U.S. In addition to having a low application acceptance rate, the H-1B visa requires immigrants to be sponsored by their employer for a minimum of five years, which means job mobility is severely limited (Han, Stocking, Gebbie, & Appelbaum, 2015) and there is no guarantee that the employer will sponsor a visa or path to citizenship after the five years are up. This leaves very little opportunity for immigrants to expand or diversify their career portfolio.

The U.K. government recognized the importance of the influx of foreign talents into their higher education system and adopted policies to support the international immigration (Ackers & Gill, 2005) that led to an increase in international students studying in the U.K. After the 2010

General Election, attitudes changed and immigration and visa policies have since made it increasingly difficult for immigrants, especially Indians to secure visas post gradation.¹⁴ It is even more difficult for universities to attract and retain qualified Indian faculty because the salary requirements set by the government often do not meet the minimum standards to provide a livable stay.

While many European universities encourage their junior faculty to teach and work in other countries with international colleagues and expect that they will bring their research productivity and teaching quality in order to compete in the prestige battles by creating a highly skilled and trained workforce, the truth is that current immigration policies, time allotted to find a job and minimum salary requirements have greatly stemmed the flow of Indian faculty to the U.K. According to another study, enrollments in the U.S., Canada and Australia showed significant increases from international students from India when compared to immigration flows of these same students to the U.K.¹⁵ Stringent and complicated visa issues in the U.K. could also explain why I found it difficult to find foreign-born Indian faculty at universities there.

Recruitment and Data Collection

Canada has over 90 universities, the U.K. over 100 and the U.S., the largest, has over 4,000 tertiary institutions. In spite of an identified target population, it was important to narrow down specific institutions to recruit from. As previously mentioned, to carry out this study I employed two recruitment methods, purposive and snowball sampling. Initially selected institutions in all three countries were chosen based on an accumulation of university rankings from the *U.S. News & World Report Best Global Universities Rankings*, the *Times Higher*

¹⁴ <http://www.britishfuture.org/wp-content/uploads/2014/08/BRFJ2238-International-Students.WEB-FINAL.Embargo-25.8.14.pdf>

¹⁵ <http://www.universitiesuk.ac.uk/highereducation/Documents/2014/InternationalStudentsInHigherEducation.pdf>

Education World University Rankings and the *Shanghai Jiao Tong University Academic Rankings of World Universities* reports. Base on these rankings, I identified a total of 200 potential participants using publically posted information on departmental biographies, lab or personal websites.

If information such as education history or contact details were missing from their departmental websites, I used other sources such as Google and LinkedIn to further research and narrow down the list of potential participants. Surprisingly, many faculty members do not list their education history on their departmental website or publicly posted curriculum vitae. A total of 171 initial emails were sent to faculty using a combination of purposive and snowball sampling methods. One of the most difficult parts of this process was getting a date for the interview after faculty confirmed that they were willing to participate. Of those contacted, seven faculty members declined to interview, two were deemed ineligible either through self-reporting or follow-up questions before scheduling an interview. Additionally, 123 never answered an email or phone message despite repeated attempts to obtain a definitive yes or no and requests for referral to potential participants.

When I began recruiting from the U.K., I found that faculty were less likely to have academic and career information (such as biography and curriculum vitae) posted online other than university contact information, which made the recruitment process difficult. Even with snowball sampling and the large number of STEM departments, I often found myself starting from the beginning at new institutions across the U.K. In the end, I visited every single college and university website for the U.K. listed in Wikipedia and searched every single department to find U.K. participants. A total of 39 eligible faculty members agreed to interview and, after scheduling conflicts, 25 interviews were scheduled. Due to miscommunication, a total of 24 final

interviews were conducted and the process took well over 24 months, much longer than the time I had initially anticipated and allotted for interviews.

My initial goal was to recruit between eight and ten faculty from each country. Even after going through every STEM department at every university in the U.K., I was able to recruit only six faculty members and this low number was due in part to the lack of publically available information and the high number of U.K.-born Indian faculty within the academic system. Even with the six faculty members I interviewed, I did not receive referrals except for two participants who had happened to work in the same department and referred one another at the end of their interviews. All but two of the faculty members interviewed were male. A third female faculty member was scheduled to interview; however, she had given birth just before the interview date and it became understandably difficult to coordinate a 30- to 45-minute window for her interview. Table 1 shows the participant attribute breakdown for faculty who were interviewed for this project.

Table 1

Participant Attributes

Participant	Gender	Institution Type	Country PhD	Country Teaching
1	M	Senior, Public, Research	U.S.	U.S.
2	M	Senior, Public, Research	U.S.	Canada
3	M	Senior, Public, Research	U.S.	Canada
4	M	Senior, Public, Tech	Canada	U.S.
5	M	Senior, Public, Research	U.S.	U.S.
6	M	Senior, Public, Research	U.S.	U.K.
7	M	Senior, Public, Research	U.K.	U.K.
8	M	Senior, Private, Research	U.S.	U.S.
9	M	Senior, Public, Research	Canada	Canada
10	M	Senior, Public, Research	U.S.	U.S.
11	F	Senior, Public, Research	U.S.	U.S.
12	M	Senior, Public, Research	U.S.	Canada
13	M	Senior, Public, Research	U.S.	U.S.
14	M	Senior, Public, Research	U.S.	U.K.
15	M	Senior, Public, Research	U.S.	U.S.
16	M	Senior, Private, Tech	U.S.	U.S.
17	M	Senior, Private, Research	U.S.	U.K.
18	M	Senior, Private, Research	U.S.	U.K.
19	F	Senior, Public, Research	U.S.	Canada
20	M	Senior, Public, Research	U.S.	Canada
21	M	Senior, Public, Research	U.S.	U.K.
22	M	Senior, Public, Research	U.S.	Canada
23	M	Senior, Public, Research	Canada	Canada
24	M	Senior, Public, Research	U.S.	U.S.

Due to travel constraints, most of the interviews were conducted via telephone and Skype at the interviewees' availability. When possible, a few of the interviews were conducted in

person at a location chosen by the interviewee. Conducting the interviews around the participant's availability allowed participants to feel more comfortable during the process and feel involved in the research and (ideally) not just as subjects under study (Creswell, 2003). In addition to recording the interviews, I took notes. Notetaking is an important method of data collection not only during interviews but also throughout the research process. Notetaking allows the researcher to take time to organize thoughts, concepts and ideas. Notetaking also allowed me to concentrate on the participant's nonverbal cues such as pauses, hesitations in answers and facial expressions (when available) during the conversation.

Data Analysis

Unlike quantitative methodology which seeks to measure certain aspects of data gathered by testing a hypothesis through mathematics or statistics, interviewing as a method seeks to understand the why and how of an occurrence, not measure an individual's experience or frequency. Unlike structured interviews with more rigid guidelines, semistructured interviews allowed both the researcher and the participants to follow up on or further explore important concepts or those that needed further explanation. The interview questions were carefully formulated based on an extensive literature review of migration, globalization, academic mobility and Self Determination Theory. The interview questions were revised several times after receiving feedback from colleagues, faculty and newly minted doctorates in similar fields of study.

Seidman (2006) argued that an individual's ability to make meaning of something is through the use of language and dialogue. Using interviewing as a method allows both the interviewer and interviewee to reach a higher level of understanding of the meaning behind what is said. The method in which a researcher decides to "produce" the interview to transcript

depends not only on the field of study, but also on the person transcribing and the purpose for the transcription. The most recurring theme within transcription literature (Halcomb & Davidson, 2006; Skukauskaite, 2012) points to the researcher's own interpretation of the data. To some extent, transcription depends as much on the linguistic and mechanical interpretation as it does on the individual interviewed. Knowledge of the participant's language and culture to connect with the participants and understand specific meanings beyond what is spoken can be especially helpful not only before and during the interview, but during the transcription process as well (Hammersley, 2010). As such, transcription, to some extent, is where data coding begins. Having been around foreign-born Indian nationals for the past 15 years, I was able to pick up certain cultural slang and phrases that helped tremendously during the transcription process and it was through my notetaking that I was able to use that tacet knowledge to connect the dots in analysis.

After all the interviews were complete, the data were transcribed verbatim, as suggested by Rubin and Rubin (2005). Once interviews were transcribed, I analyzed the data using NVivo software and looked for themes by running query and text searches. By categorizing and recategorizing the data, I was able to fully immerse myself in the respondents' answers. Throughout the data analysis, words that the respondents used became part of the codes that evolved from this study such as motivation, satisfaction, freedom and opportunity. These emerging codes were then organized around the intrinsic and extrinsic aspects of the theoretical framework (SDT Theory) and research questions guiding this study. Table 2 highlights some of the codes that emerged from the guiding research questions. During my initial run through the interviews, I looked at the data through my conceptual framework lens and coded certain phrases into two categories, intrinsic and extrinsic values. After reviewing through the lens of Self-Determination Theory, I ran through the data again using transnationalism and social network

theory, coding the conversation through each lens separately. In a second phase, I then separated each respondent's answers by interview question, looked for similar stories and began coding the interviews based on how the participant answered the interview question. I then took these two separate codes and looked for common themes throughout, which are the themes explained in my findings.

Table 2

Interview Codes by Research Question

Research Questions	Intrinsic Values	Extrinsic Values
RQ1 What motivates foreign-born Indian faculty to seek jobs at academic institutions in Canada, U.S. and U.K.?	Graduate school	Cost
	Academic Freedom	Resources
	Research Freedom	Program availability
	Opportunity	Legal/Visa
	Mentors	Funding
	Funding	Bureaucratic Process
	Graduate Students	Infrastructure
	Satisfaction	Infrastructure
SRQ1 What motivates Indian faculty to stay or leave academic jobs in these the countries?	Academic Freedom	Resources
	Familiarity	Process
	Family	Politics
	Passion	Salaries
	Feels Good	Tenure
	Communication	Research Caliber
	Teaching Load ^a	Teaching Load ^a
RQ2 What resources do Indian faculty use to become internationally mobile throughout their career trajectory?	Conferences	Institutional agreements
	Collaboration	Publications
	Visiting Scholarships	Academic Service
	Graduate students	Citizenship/Visa
	Networks	
RQ3 How do Indian faculty abroad stay engaged or participate in academic research in India?	Graduate students	
	Collaborations	Institutional commitments
	Conferences	Institutional collaborations
	Visiting scholarships	Funding sources
	Mentorships	
	Research Interests	
	Closeness to family	Geographic location
Other Codes	Cultural integration	Industry research
	Quality of life	Competition

^aTeaching load is counted both as an intrinsic and extrinsic value because while it is a job requirement for almost every faculty position and something that faculty “have to” do, many faculty members find it an intrinsically rewarding aspect of the position.

Positionality

It is without a doubt clear that my personal connection to this topic has shaped my research agenda. As a Mexican American, I grew up with a cross border identity neither fully belonging to the U.S. nor to Mexico. Having been raised in both countries, I was exposed early on to the differences in career mobility for certain professions and that while some professions such as engineering are considered prestigious in certain parts of northern Mexico, they can be very common in the U.S. Growing up as a first-generation college graduate, I experienced education as an important and constant part of my family expectations.

My parents, who never went to college (my mother barely graduated from high school and my father never made it past the sixth grade), made it clear that obtaining a college degree was important and my initial desire to pursue scholarly research was fully supported. In Mexico, where I grew up, the academic profession was revered and considered an intellectually prestigious occupation. I never fully understood the problem of academic brain drain until I started graduate school and participated in conversations with international students who wanted to pursue faculty positions in their native country but would be unable to due to various reasons. As such, throughout my graduate career I have been interested in understanding the decisions of foreign-born graduate students as they consider returning to their home country as faculty members after graduation.

Furthermore, dating and later marrying an Indian citizen, I realized that there has always been a possibility that our family might someday return to India, his native country. The open possibility of moving to a foreign country that I new very little about catapulted me to research what types of careers would be available to me as an American-born and -educated woman with a Mexican ethnic background. Furthermore, through various interactions with international

students, hearing foreign-born Indian nationals' hesitance about returning to India for their careers caused me to question the job opportunities in Indian higher education for someone like me, a female American outsider.

As I started my initial research probing, I realized that this was not just a concern for an American outsider; I began to hear similar statements from other international students and faculty vis-à-vis career opportunities in their native countries and to have conversations with them about academic opportunities. And while I find myself an outsider to the Indian higher education system as a whole, as a fellow academic and colleague, I can closely relate to the career expectations that the participants in this research seek. As a bicultural individual who maintains a transnational identity with connections to both a central (U.S.) and peripheral (Mexico) country, I can understand and relate to the cultural conflicts that nonnative Indian faculty encounter in choosing a career path that is intrinsically rewarding yet extrinsically motivated. As such, my goal with this study was not just to contribute to a gap in the literature on academic mobility generally, but also to explore potential career options specifically. This research has allowed me to better understand how Indian institutions have evolved over time and what opportunities current Indian faculty see back "home" and how to pursue them, or not.

Validity and Ethical Considerations

As with many qualitative case studies, validity is often difficult to guarantee. However, the growing body of literature now available regarding qualitative methodology gives the researchers various options to validate their processes for data collection, analysis and interpretation. One of my main objectives during this process was to portray a high degree of accuracy, staying true to each participant's voice. Member checking is one method endorsed by Creswell (2003) to validate the accuracy of qualitative interview methods. The interview

questions were formulated based on the results of my 2008 pilot study, in addition to an extensive literature review, and checked by faculty members within my department. Their feedback was incorporated into the final version of the interview questions, included in Appendix C. In addition, feedback from colleagues during the course of the proposal writing process and in my research design class also shaped many of the interview questions to ensure that they met the purpose of the research questions guiding this study.

Rarely can any research conducted with humans be free of ethical considerations. Conducting a qualitative study required a high level of ethics to ensure that neither the researcher nor the participants were harmed (physically or emotionally) during the research process. This research proposal was approved by the University of Arizona Human Subjects Committee to protect the ethical and psychological well-being of the participants. Participants were not given any monetary incentive to participate in this study. The participants were asked to sign a consent form explaining the purpose and publication of data in direct relation to the research that was approved by the University of Arizona Human Subjects Committee. I also asked each participant if they fully read, understood and had any questions regarding the consent form or the research in general before proceeding with the interview. Any questions that participants had were not recorded and every attempt was made to ensure that they felt comfortable throughout the process.

To further protect the identity of the research participants, interviewees were given pseudonyms to protect their identity and reinforce the participant's right to privacy. In addition, pseudonyms were provided for the institutions that employed them. Participants were also given information on how, if, when, and where the results of this project would be published and accessible. Interestingly, many of the research participants were intrigued by this project and

asked to be sent a copy of the finalized product. To ensure that the information remained confidential, only the researcher kept all materials and data gathered during this research process.

Limitations to Research and Expected Findings

Recruiting study participants proved rather difficult and it took well over one and a half years to recruit and interview 24 participants of a potential 250 identified in the recruitment pool. As such, the information gathered from this study cannot fully represent the entire Indian faculty population at large. Nor will the information gathered during this process fully capture all Indian faculty member feelings, attitudes and beliefs regarding career trajectory. I was also very aware that while faculty recruitment processes might be similar across different fields of study, it would be grossly inaccurate to make assumptions about all faculty members irrespective of their chosen research or academic interests.

I was very aware of these limitations throughout this process and have attempted to hold off on making generalizations for all Indian faculty members based on the findings of this particular study. Furthermore, I acknowledge that faculty member experiences in Canada, U.S. and the U.K. vary greatly from those experienced by faculty members in other locations like Australia and even India and, in terms of migration patterns, experiences have varied greatly for faculty members who migrated 1, 5, 10, 20 or even 30 years ago.

Using tacet knowledge, the idea of understanding concepts that are difficult to verbalize, during notetaking before and after interviews allowed me to gather more comprehensive data with which to interpret and analyze the interviews while staying true to the data and participant perceptions (Wolfinger, 2002). One of the most important lessons I learned throughout the interview process was that while phone and Skype interviews can be a great alternative to face-to-face interactions, they also limit greatly other methods of data collection such as notetaking

and responding to nonverbal cues. Often, there were long pauses in the conversation and it was difficult to ascertain what the participant was thinking during that pause.

Being at the mercy of technology is not always a great thing especially when bad connections can lead to frustration or rushing through interview questions. In one interview, the connection was so bad that the phone kept dropping the call. While we were able to finish the interview, the technological difficulties affected the quality of the interview and resulted in rushed answers. Aside from the interviews conducted in person, I was unable to tell if the participants appeared comfortable and genuinely engaged during the interview for those conducted over the phone or through Skype. In a few interviews, I was able to “feel” the participants’ emotions over the phone when they spoke of their faculty experiences and overall I felt that the participants gave me honest feedback regarding their own experiences.

Summary

This study took a phenomenological approach to a qualitative study to better understand the individual experiences related to academic mobility in a globalized context. Using Self Determination Theory to conceptualize and analyze my interview data allowed me to provide a better understanding of faculty mobility and career decision motivations through 24 semistructured interviews that are presented in the next chapter.

Chapter 4: Findings

In this chapter, I present major themes that emerged from the data analysis. The constant review of data produced several codes each time I went through the interview transcriptions, notes and websites. After several passes through the data, I identified some consistent themes that brought the list of codes together to provide broader explanations about faculty migration and their career trajectory. This chapter is divided into four main sections to explain the research findings.

Section 1 presents findings on job motivations, specifically what motivated faculty to pursue academic positions outside India and then, subcategorically, what motivated them to stay at their current institution or in their country of residence. This section also explores what would have motivated these faculty members to move to a different institution or country if the opportunity were to present itself in the present day. Section 2 explores the resources that Indian faculty members used to obtain faculty positions after graduate study. This section compares findings on the differences in applying for academic positions in Canada, the U.S. and the U.K. versus positions in India and demonstrates what factors might motivate Indian faculty to seek positions in India at the current point in their careers. Section 3 focuses on the last research question, which explored how individual networks, both professional and personal, influenced faculty to continue to stay engaged in research concerning India from their respective fields. Section 4 presents other thematic findings that emerged from the study.

Section 1. Job Motivation

This section presents findings on how Indian faculty are motivated to seek academic positions outside India beginning with their graduate study. While all of the participants received their undergraduate and sometimes their master's degrees in India, none of the participants

received their doctorate from an Indian institution. Exposure to graduate school in Canada, the U.S. or the U.K. had an influence on foreign-born faculty members' attitudes towards an academic career. My first overarching research question asked, "what motivates foreign-born Indian faculty to seek jobs at academic institutions in Canada, the U.S. and/or the U.K.?" The participants were asked to describe their journey first to graduate school outside India and then as they secured their first academic appointment. Faculty were asked what motivated them to seek academic positions, including whether academia was a career option they had always considered and whether choosing such a career was the result of their experience in a Western doctoral program. Participants were also asked whether they applied for faculty positions in India while they were applying for positions abroad and what led them to choose to stay in positions abroad versus seeking opportunities in India.

One of the most prominent themes that emerged concerned the idea of returning to India. I found that the mechanics of returning home were much more complicated beyond finding a good job and having the infrastructure in place to support ongoing research. Faculty explained that having the academic freedom to explore research topics outside their primary field of study was very important during their career search. Participant 1, at the time of interview, was not currently in a tenure track position. When discussing his future career goals, he said he was open to returning to India as long as he had the freedom to pursue his own research interests. He said "it's a big thing when you can get the absolute freedom in what you can do." Participants 24 and 20 also discussed the importance of job tenure and mentioned that in India most faculty positions are permanent upon hire if you have the right contacts, otherwise it can take a while to obtain tenure. In his experience in applying for positions in India and working with graduate students in

returning to India, interviewee 20 discussed how permanent faculty positions were contracted.

He said:

So, there is, nowadays, they have this system, which is called, “three years experience” after your PhD. So, if anybody had done postdoc and anybody has a particular experience like me, they will already have those three years of experience. If you don’t, then you are given a provisional appointment and after one to two years, you are permanently appointed.

Furthermore, academic freedom and career stability are two cornerstones of the American academic system (Altbach, 2013). For participants who had applied or were thinking of applying to positions in India, not having these cornerstones well defined in potential contracts made the return to India less appealing. Participant 22 had spent a year teaching at a university in India before returning to the U.S. and said that even at the top institutions, academic freedom was not always guaranteed. He discussed how he wanted to give an essay exam in one of his classes but the long process of having to get that approved by not only the director of his department but by directors across the institution was very demotivating. He said of his experience, “there’s a lot of rigidity built into [developing new curriculum] and people seem to take pride in that rigidity and so, yes, it kind of kills the [desire for] innovation.” Not having the academic freedom to change the structure of his exam schedule and having to get approval from across the university to do so was very demotivating. In the end, participant 22 returned to Canada.

What intrinsically motivated these participants to leave India were, foremost, the opportunity for further graduate study, as well as the ability to pursue independent research interests, the increased availability of jobs and the opportunity to mentor graduate students. The participants’ own words such as “satisfaction,” “passion,” and “feels good” became codes

throughout the analysis, which suggested that these faculty members were at least partly self-motivated to pursue academic jobs because the very nature of the work in their respective fields made them feel good about themselves. As participant 11 stated, “I think I always knew I wanted to be in an academic environment. I’m not quite sure what that meant really. When you think about it enough, that’s my passion.” The inclination to pursue a doctorate as a means to an academic position may have also been motivated by extrinsic factors such as lack of opportunity and infrastructure, but the passion to pursue scholarly inquiry was a consciousness shared by most of the interviewees.

The data showed that these participants were motivated extrinsically to pursue positions abroad because of more accessible resources to conduct research, better availability of diversified research programs, fewer legal obstacles and a wide range of funding to pursue research. These findings about extrinsic factors support traditional models of the push-pull theory in that all of the participants were pushed out of India because of a lack of opportunity either in graduate programs or academic positions, diminished resources (at the time) and outdated infrastructure to support their longer term career goals.

Graduate School. One of the most prominent themes that emerged from the data was that all participants reported having an inherent desire to conduct research. Because of this desire, all of them went on to pursue a doctorate abroad to be able to pursue their interests with the greatest academic freedom possible. In their interviews, the participants often explained that it was difficult for them to pursue doctorate level research in India because doctorate programs in the country lacked the scholarly support these participants were looking for when they were applying for graduate programs. In this case, the infrastructure had less to do with buildings and lab space aesthetics and more to do with the faculty mentorship and data availability necessary to

explore research interests thoroughly. Findings on the participants' experiences with graduate programs in India will be discussed in this section.

The participants' knowledge and perceptions of the inferior and lacking doctorate level (not master's) programs in India were so consistent that they directly mentioned in seven of the interviews in almost the same phrase that "graduate school in India was not at the same level as it would be abroad." Interviewee 15, who received his doctorate from the U.S. in the late 1970s, found that the availability of good graduate programs for his field of study was limited to the highly competitive Indian Institutes.¹⁶ He said about his experience,

We're talking mid to late '70s at the time, if you wanted to do an advanced degree in engineering the U.S. was definitely the top destination. India didn't have much of infrastructure for graduate research and education at that time. The IITs were very good and have since then become quite famous, but they didn't have much of a PhD research orientation.

Surprisingly, when I spoke with interviewee 22, who received his doctorate just six years earlier in 2009, he stated almost the same problem, further elaborating that even the best schools don't really have strong PhD programs or at least that's the perception and I think for good reasons. IIT Madras does have a PhD program...but in general none of the schools in India have, I mean they have PhD programs but they're not the same quality or caliber as the PhD programs outside.

It should be noted that interviewee 22 received his undergraduate degree from IIT Madras so he was well aware of the difference in quality between undergraduate and graduate

¹⁶ In India, there are only a select few institutions, mainly the Indian Institutes of Technology (IITs), Indian Institutes of Science (IISc) and Indian Institutes of Management (IIMs), that the participants indicated were worth pursuing a doctorate from. All of these institutions have a highly competitive application process and often only students earning a near perfect score on the entrance exam are admitted.

programs at one of India's premier institutions. All of the participants knew of the Indian Institutes and many of them had applied at some point either for their undergraduate or graduate education.

This notion that graduate education was not well structured or was found lacking when compared to graduate education in the U.S. or U.K. was a consistent theme throughout the interviews. Participants 8 and 16 shared this sentiment on their experience with graduate education nearly three decades ago. Participant 8 stated,

Indian graduate schools in engineering, at least back then [late 1980s, early 1990s], you know, in lieu of the five IITs and the Indian Institutes of Science developed not very similar with that...they did have graduate programs, but I did not think they necessarily have a culture of being at the cutting edge of research. My impression was that they were quite a bit devoted to undergraduate education....

Participant 16 further supported this notion:

The degrees at the time that was way back, now you're talking about in 1980 and things have changed right now, but at that time, the programs in this country [U.S.] were far more advanced, state of the art compared to what was happening in India...The options were there, but you know you can't compare the two.

The problem OF finding good graduate programs in India was not limited to the technical or engineering programs. According to interviewee 10, the situation for graduate study in India was slow to develop. When he was searching for graduate study options, he

wanted to work on plant molecular biology, and so this was in the 1990s so about 23 years ago. At that time, the research specialization I was interested in was not well developed in India, and so I decided that, you know, in order to work in that I need a PhD

and given the opportunities are less there, I thought it will be more advantageous to do a PhD here in the U.S. and give me a leg up in securing a faculty job later on.

Findings also revealed that participants did not aspire to be a part of the graduate school experience in India, which was consistent with preliminary findings from my 2008 pilot study. Many found it easier and more appealing to apply for doctorate programs abroad, mainly because of the academic structure, the opportunity to do independent research and, most importantly, the competitive nature of getting into the best graduate schools for their respective STEM majors.

None of the interviewees mentioned any other university in India such as Punjab University or Jawaharlal Nehru University, which have appeared as top ranking Indian Institutions according to the *Times of Higher Education Ranking Surveys* in 2013, 2014 and 2015. Because all of the participants were familiar with the education system in India, they collectively indicated that it was the lack of good, available graduate institutions and programs that turned them off from pursuing a PhD in India. Furthermore, the freedom to change one's mind if admitted to one of the IITs, IIMs or IISc was very restrictive, which directly contradicted their collective desire to pursue research independently. The idea that one could start in one academic area and switch to a different field was not highly supported in the Indian education system according to these findings.

Faculty who migrated in the last 10 to 15 years shared the same problems with finding graduate programs in India. They also mentioned that the lack of graduate school opportunities and structure remained a main reason why they decided to pursue graduate education outside India. Furthermore, the desire to pursue research independently with good faculty mentorship motivated them to pursue the best graduate programs abroad. While many of the interviewees

compared graduate school abroad only with graduate study among the Indian Institutes, one interviewee indicated that the comparison was difficult to make. Participant 6 stated:

I think it's a difficult question, but simply because there are more opportunities and there was a possibility to reach out to better infrastructure [abroad]...If you look at international standards of doing research a number of places that are in India really, really small amount of places you have and the competition is extremely high. So it's really difficult to get into institutions that do world-class research within India.

Interviewee 3 supported this sentiment in further elaborating that even amongst the best institutions,

the schools don't really have strong PhD programs or at least that's the perception and I think for good reasons. IIT Madras does have a PhD program...but in general none of the schools in India have, I mean they have PhD programs but they're not the same quality or caliber as the PhD programs outside.

According to the collective shared experience of these 24 participants, the desire to pursue a good graduate education has been limited in India, and aside from the Indian Institutes mentioned, the country appears to have grown its university research programs at a very slow pace when compared to other countries with more resources and power. Collectively, participants reported that the availability of varied research programs was disappointing. While participants were intrinsically motivated to continue to pursue research, they were pushed from their native towns because of a lack of options. Interviewee 21 felt that the job outlook for faculty positions in his field—catalyst and process systems engineering—was very limited. He said, “sure, it partly had to do with my field of research...so I was looking for a place, there wasn't many options in India at the time.” The shortfall of opportunities to conduct research and

teach in those areas pushed him to leave India to find a space that would support his own research interests.

The availability of options was not limited to the technology and engineering majors. Participants like interviewee 11, who focused her research in the life sciences, shared how she was always interested in pursuing a graduate education. However, the inability to find a well-structured research program at the time she was applying for her doctorate pushed her to pursue graduate school in the U.S. She said that while she

was very interested in pursuing graduate education in the life sciences, there just wasn't much of an option for life science, especially research-based life sciences opportunities in Bangalore at the time... certainly not at the University of Bangalore. I knew that time that I did want to explore a career in research and just did not see that as being possible in Bangalore or India at the time because of the lack of resources and support structure to do good research.

So even if the interviewees considered graduate school in India, the limited number of programs comparable to options abroad made it difficult to find competitive graduate programs to attend. Furthermore, as previously mentioned, the difficulty in getting admission into any of the top STEM programs in India narrowed the pool of available research institutions.

Interviewee 5 gave an example of the limited options he had when applying for graduate school. He said of his experience:

You know, the only option at that time was to go to one of the IITs because there were not very many programs. So the only options were among the five IITs and the Indian Institute of Science in Bangalore.

When participant 5 was applying for graduate school, he felt his only option was to pursue a doctoral program at only five of the colleges in India because programs at other Indian colleges were not at a research level he felt adequate.

Research Interests. The participants indicated that the job outlook in India for industry-based STEM positions were very promising. Many knew of students or colleagues who returned to India after graduate school to become highly paid workers and managers in the STEM industry. A few study participants mentioned in their interviews that they worked in Indian STEM industries (mostly engineering firms) after having received their master's degrees. What motivated these participants to leave the industry was their inherent desire to do research. Participants who worked in the technical and engineering industry-based fields discussed how exposure to industry research led them to pursue a doctorate abroad. Finishing their graduate education abroad and being exposed to a different type of academic environment then changed their preconceived notions about the academic profession and the possibility of pursuing a faculty position as a viable career option.

In the period between finishing his master's degree at an IIT and enrolling in a PhD program abroad, interviewee 22 worked for one year in an industry-based position in India. He felt that the job outlook and career growth for his qualifications at the time were not great and he was unsatisfied with the monotonous nature of his daily duties and he wanted more job flexibility. In the interview, he discussed his reasons for pursuing a graduate degree:

I had no idea about academia back then I was going to be working in the industry as a professional, but I could not figure it out, where I would even begin to look for a job and now, having switched from my architecture/engineering degree to planning and I have no clue which companies, which places hired planners. The only one that I could think of

were government agencies, like, you know Delhi or like local municipalities and just the thought of that was just a big deterrent because it was difficult to get into an academic job.

Interviewee 22 thought that the doctorate allowed him the career flexibility he was looking for and his “understanding as [he] was applying to PhD was that PhD gives a lot of freedom to explore various things and [he] was looking for that kind of freedom at that point of time.” It was his experience working in the industry that made him realize not only that he enjoyed research, but also that he wanted to pursue research of his own volition.

Participant 17 was working on his master’s degree at the time in the U.S. and it was during that process that he was exposed to the research experience. He enjoyed research so much that he felt it was logical to pursue a doctorate to continue the experience. He said:

[I was] always taking the next obvious step in my career like when I decided to do a PhD because I enjoyed the research experience. PhD, it was the next logical step. I got sort of a postdoctoral research position and the next logical step was doing a faculty position.

There was always I think, I guess, all along something that attracted me just being able to pursue research and I enjoyed the teaching side.

The intrinsic desire to pursue research interests resulted in many of the participants’ seeking doctorate programs abroad. Interviewee 24 discussed how academic freedom—the ability to pursue your own thoughts—was important for him and one of the main reasons he chose to go to school outside India. Interviewee 1 explained that there were two things important for him in pursuing a faculty position: “getting the tenure of the school, [and] having some freedom to pursue research which I like to do.” Having been exposed to academic freedom in the

U.S. made interviewees 1 and 24 very aware of the inability to pursue the same type of work independently in India.

Job Search Process. As the interview process continued, I found that many of the participants decided to pursue a PhD instead of seeking a job after graduating with their master's degrees. The participants discussed how the job market did not allow them to explore their research interests, even in positions that were scientifically oriented. As one participant stated:

My understanding as I was applying to a PhD was that the PhD gives a lot of freedom to explore various things and I was looking for that kind of freedom at that point of time. I think my graduate degree in Canada was better than my undergraduate degree [in India]... so when I looked at the PhD curriculum, it did seem to allow a lot of flexibility, time for exploration and things like that.

Participants discussed how often jobs in the industry were very limited in terms of being able to pursue their own research interests and this was unappealing.

Many participants in this study talked about how they "fell" into academia as a result of continuing their studies into a doctorate program. Experiences resulting from pursuing their graduate degrees abroad allowed them to think about the profession in a different way. For example, when I asked participant 21 if he had always known that he wanted to be a faculty member, he responded:

I think when I've written my undergraduate degree, that was when I started thinking about it seriously and it was something that I was interested in. I realized it was something I was interested in...the ability to set your own goals. For me in terms of what I work on is very important. So I get to do multiple things. I can choose the research projects, I mean, subject to the requirements to work on them, of course, but I can more

or less choose the direction in which I do my work.

The process of applying for a job in India did not allow much flexibility for participants to return to academic positions in their home cities or at other institutions across the country. Even after receiving a doctorate abroad, some faculty members who applied for academic positions in India found the lack of structure in the hiring process frustrating and confusing. Furthermore, the highly politicized environments at Indian academic institutions left many of the participants turned off from actively pursuing a faculty position. Interviewee 12 stated, “the application process and the online process, it seemed to me a lot more opaque at least to me sitting in North America as to how decisions are made.” For participant 19, she understood that the process of applying for a job in India would take time. Having applied to some institutions in India, she commented:

The procedure was very different. I think one needs to send an application letter and the timeline is very different. You send it out and you wait for quite a few months before you hear back from anybody and it seems to be a lot less structured ...so it's never made clear if and when your application is being considered. Somehow I was much more familiar with the procedure in the U.S. and Canada, so I knew that January and February is roughly when all the interviews happen, decisions are made by mid-March and if I haven't heard back from anybody in April, then it means that the position has been filled and I should just move on with something else. It's a lot less clear in India.

Because of the long and opaque process of applying for a faculty position in India, participant 19 ended up with a faculty job in Canada, even though she was actively searching to return to India. Not knowing whether her application was received or even being considered demotivated her from continuing to apply for academic jobs at Indian institutions.

For participant 22, lack of job opportunities after switching degree majors from engineering to urban planning drastically changed his employability in India. When asked why he didn't consider pursuing jobs in India, he also indicated that the process can be very different, long, time-consuming and unclear. Interviewee 22 had this to say about the job process in India:

So about India, coming to India. One trouble was this, I was considering both cases [Canada and India]. Actually, I considered even in U.K., here or Canada, U.S. and India. So, I did apply. One of the things that I think they should improve is communication. So, I did apply to them. They didn't get back to me in six months.

For any graduate student at the end of his or her studies, finding a job is important in order to pay back any debt accrued during their degree study. As such, with such an opaque hiring process for faculty positions in India, the inability to determine where in the job search process they were forced a couple of participants (22 and 19) to accept positions abroad.

One of the claims of push-pull theory is that immigrants are further pushed from their native country and from pursuing academic positions there because of the lack of good salaries and resources. However, what this study found was that faculty were also pushed from India because of poor communication and the politics involved in the job search. Interviewee 20, for instance, had seriously considered the option of returning to India after graduate school. He had many reasons to return but mainly his decision not to return came down to poor communication from Indian universities to faculty candidates. He said about the process:

I'm married to an Indian girl and Indian families, they have families in India or which I did and because the scene is improving, research and everything is improving in India, I seriously considered going back to India. The biggest issue is communication and so, I did apply to, say, IIT Kharagpur, I applied to IIT Delhi and I applied to IIT Bombay. I'm

not sure, IIT Madras, I think. I'm confused. OK. But I got that, "Would you be available for, to give a talk in such and such IIT, within one month?" That was kind of the message I got. Then, I was already given offer at the [university in Canada]. And I had applied [to the Indian Institutes] three months before [the Canadian university]. So, basically, the communication is a problem because we don't know whether you are getting to second round or third round or not. So, if they just say that they have received your application and after two months, they say, "You are through first round, you are in second round," or something like that. That's it. There is no problem. Then, they conduct the telephone interview. That is it. So, I think communication in this thing is a problem.

All of the participants who had applied for positions in India cited poor communication and a very complicated application process as demotivators for pursuing a faculty position there. When asked if they would again consider applying, they provided mixed feedback. Reasons why they would still not consider faculty positions in India included "used to Western style of living" or "difficulty to move my new family" or "not much has changed."

Interviewee 16 commented that "there are ways in India, you can get that job, but in India it's all about the relationships, it's not like the U.S.," supporting this conclusion and further elaborating that "if he want[ed] to get a job tomorrow, [he] can call up a couple of people and can make things happen, it can happen." The job search process in India is very much based on who you know and how high up your networks go politically.

Even if the participants were fortunate enough to actually move forward in the job search process for an institution in India, the politics of the hiring and faculty contract in India are very different from those found in Canada, the U.S. and the U.K. Interviewee 16 elaborated:

I think the biggest one is that I think this whole reward systems based on, you know, in

India, all the promotions and it's not as clean cut as it is here. There's a lot of politics and the tenure system is not as well defined as in the United States. So one is the reward system there and the second are to get things done you need connections. So it becomes very difficult to implement some of the ideas. Things are very bureaucratic so that really...so in other words, I think in India at least the teaching component becomes more important compared to the research component. So I would say even almost 90-10, 90% teaching, 10% research. In the U.S. it's the other way around, 10% teaching, 90% research; you are rewarded based on your research. I think the whole measurement system in your role, you know are the same.

Many participants referenced how they did work in industry either through an engineering or research firm before seeking a faculty role. While there are plenty of industry jobs in STEM in India, there are limited numbers of faculty STEM positions. It is important to point out that findings about the faculty search process for faculty jobs in India for this group of participants was limited to those in STEM. To make a generalization about faculty recruitment processes for all fields of study (or all Indian academic institutions) based on these findings would be a gross overstatement.

Graduate Students and Mentorship. The results from this study have already pointed to a few of the reasons why participants were motivated to move to Canada, the U.S. or the U.K. instead of India. While some of these were expected (e.g., graduate school options for a doctorate, research freedom), an unanticipated finding was the value that all the participants placed on working for institutions abroad that attracted quality graduate students . As interviewee 13 stated, one of the advantages of pursuing a faculty position in the U.S. was that:

what academy offer[s] is the freedom for you to think about new problems, to interact

with students and shape their lives. You get intellectually smart students who really want to take up challenges and you get to learn a lot from your peers.

Participants who migrated to Canada, the U.S. or the U.K. more than 30 years ago also discussed how the quality of graduate students in India, in their own opinion based on direct interactions within their departments, had not changed much. They pointed out that this lack of quality was not the fault of the students; rather, the system of higher education in India does not have a more structured environment to adequately train these future academics. Interviewee 10 elaborated:

It's different and the students, I see the difference in the students that come from India as postdoc compared to [graduate students] here, that more students are they're not very confident and they're not independent both in thinking and in research.

Furthermore, when reflecting on their own experiences as graduate students in India and now as established faculty members, many participants cited how important mentorship is to cultivating a strong academic career path.

One of my research subquestions was intended to explore what motivated faculty members to continue in their current positions in Canada, the U.S. and the U.K. The ability to work with “quality students” was the second most frequently mentioned reason motivating them to stay in their current positions. Of the 24 faculty interviewed, 20 had been in their current position or institution for more than 10 years. The other five were either newly appointed faculty or had moved to a different institution within the same country (U.S.). Interviewee 5 said, “You know, you work closely with students and that's kind of an important aspect because it recharges your battery every time you come across a student who didn't have the advice or guide.” This idea of becoming good faculty mentors for aspiring graduate students has not, to my knowledge,

been mentioned in any literature review of faculty career aspirations. The following dialogue with interviewee 5 reveals how I further explored this topic.

Researcher: OK. Do you get many graduate students from India?

Interviewee 5: Sure. Yes, I do get a lot of graduate students.

Researcher: How do you feel their experiences are different from those that come from other parts of the world?

Interviewee 5: One thing though is, you know, the major advantage of Indian graduate students is the fact that all of the education until whatever level, they come to me either from bachelor directly to master's or from master's to PhD, their medium of instruction is English and that makes a big difference. And they're typically very well prepared. I recruit from only 13 schools, which I have good experience within that has continued to be so.

Researcher: Now, what is it that you enjoy working with students about? Like what is it about working with students that you enjoy with graduate students or even undergraduate students?

Interviewee 5: Well, you now in the sense that, you know, rather than making them experts in some...one very, very specific area, those are the PhD students or masters students, the primary motivation for me is to make sure that they learn how to learn new things, you know, how to pick up ideas, how to work on an idea, how to build on it, and then how to translate into use for results. So the process, this entire process is what I really enjoy to make sure that I inculcate in them good habits in developing this better methodology.

Interviewee 5 revealed that he found it intrinsically rewarding to provide good faculty mentorship to graduate students coming from India. Faculty are seeing that the quality of graduate students coming from India is slowly improving and as participant 11 elaborated, it is important that graduate students understand the critical analytical skills it takes to be a good researcher. Participant 11 explained:

I'm actually afraid of people who, I'm afraid that people don't really spend the time to kind of think about what they want and maybe they're afraid to articulate it or just being compliant and saying, "I'll just do whatever you want me to do," and that's not going to make a good scientist then, so, you know, it's interesting, but these perspectives come from very, very different angles because I can completely understand.

While she can empathize with why Indian graduate students are willing to "do what ever it is" that faculty want them to do, she recognized that, for her, providing quality mentorship and developing and training good researchers is more intrinsically rewarding than having a higher number of placed graduates. Participants 5, 10 and 11 revealed that the value of mentoring graduate students was one of the advantages to staying at their current positions abroad. After their own experiences being unable to find good graduate programs in India in their respective fields and having received good faculty mentorship during their doctorate programs, the concept of mentorship has motivated them to continue at their current institutions.

Section 2. Resources for Mobility and Networks

This section explores what resources Indian faculty used to maintain international mobility. Questions included which resources they used to apply for their initial positions and which resources they would use to apply for new positions. An interesting finding of this study is that all the participants recognized their mobility during three major periods: a) applying for

graduate school, b) applying for faculty positions and c) completing sabbaticals or visiting scholarships. When I probed more deeply about their research activities or about their five- to twenty-year plans, the participants revealed that they are actively mobile through research collaborations, long distance mentoring and by serving as either formal (through institutional programming) or informal (often through personal travel back to India) field consultants with faculty in India. Interestingly, those participants who did travel regularly to India to visit family did not consider themselves academically mobile, even when they informed me that they used these visits as an opportunity to catch up with research in their field. When asked if they would ever consider a position in India, the answer remained similar among all participants: as one put it, “it would depend on the offer and long discussions with family.”

In her research, de Stefanis (2007) found that strong social networks often play a large role in determining which geographical locations immigrants move to. In her dissertation, de Stefanis found that while social networks can prove to be valuable tools to gain access to job-related information in unfamiliar geographic territory, in the case where there are no established social networks, immigrants will resort to nonpersonalized methods of job seeking, such as through job search engines. One of the findings that resulted from this research was that while all the participants were connected to their respective fields quite well, either through conference participation, society memberships or academic and research collaborations, trying to get referrals to additional nonnative faculty in the STEM areas was really difficult. Many of the participants’ networks were established with colleagues from the institutions where they were currently employed and most of them did not fit the study criteria.

However, participants talked about the importance of maintaining mutually beneficial relationships in India with particular industries, institutions and promising graduate students.

These relationships allowed them to keep up with current trends in academic and research matters. One of the questions I asked during the interview was, “What resources do you use on a regular basis to network within your career?” All participants responded that membership in their respective professional organizations was the primary resource to maintain connected. When I asked them if they maintain any memberships with Indian organizations, the answers varied greatly depending on the opportunities within their respective fields. Four common themes emerged from this study that showcased how Indian faculty maintain academic mobility and establish their global professional networks.

First, regular, active participation in their respective fields’ professional organizations permitted faculty to stay abreast of current trends in their field while connecting with faculty from all over the world. Second, for many participants, maintaining connections with industry partners often led to additional opportunities to create larger networks with nonacademic professionals and allow opportunities for travel. Third, participating in academic collaborations, while it can be challenging due to long distances, provided faculty with the opportunity to find, cultivate and mentor promising graduate students and faculty from India. Finally, the last theme that emerged is how an extrinsic opportunity—participation in formal institutional programming aimed at reaching out to international students—allowed faculty to expand their research interests globally.

Professional Organizations. It was no surprise that the ability to travel locally, regionally and internationally emerged as the most common theme when discussing mobility. The participants indicated that not having the ability to travel (to conferences, to give lectures or talks) was a deal breaker if they ever considered leaving their current institutions. The ability to travel to conferences in their respective fields gave participants the opportunity to hear about

new trends in their areas while engaging with their peers and increasing their social networks. All of the participants were active members of at least two organizations within their respective fields and all reported having presented at least once in a major conference. When asked questions about moving to another institution or country, they all mentioned that the new institution would have to provide some incentives for them to continue to travel to local and international conferences in order for them to consider the move. In addition to conferences, participants also mentioned the importance of having institutional support when forming academic collaborations abroad. Participant 16 mentioned that international conference travel was limited to once a year and as such he used personal visits to India to conduct research site visitations and engage with faculty and students in India.

All of the participants were active members of their respective professional organizations and expressed that they regularly attended annual conferences, which by default provided them with the opportunity to engage with scholars in their fields from all over the world. Attendance at annual conferences and networking with peers often led to other opportunities such as being invited to give presentations and career talks in their respective fields. For example, interviewee 5 explained how conferences allowed him to travel all over the world, which has led to many academic collaborations. When asked where he has travelled, he said:

[I travel] globally. For example, I have given maybe something like five, six [talks at] universities in China; maybe, three universities in Brazil. Something, maybe, thirty universities of engineering in India especially because India, I travel a little bit more often. And so, I have given talks almost [during] all [the] eighties and all [different] universities. Many universities there, I see IISc Bangalore. So, these types of things, because I do...so then, people know me and if something works out with a joint proposal

for funding from there and sort of things.

The connections made during annual conferences have led to many other international opportunities for engagement within his community of science. Through these connections, interviewee 5 was able to connect with colleagues internationally, write joint research proposals and expand the borders of his research agenda.

Initially, interviewee 1 indicated that his only means of maintaining his network within his field was through conferences. When probed further, he explained that aside from research and academic conferences, he also attended several field “talks” and visits throughout the year. He commented, “yeah, present, talks and posters. Also, invite speakers here for a seminar, I speak somewhere else, and I use this opportunity to talk and then some people come here to give a talk, you know, I talk to them.” Interviewee 20 also shared that his experiences with international conferences are his main method for remaining internationally connected. He considered attendance at his professional organization as his only real connection to participating in international knowledge circulation. When I asked him to explain the ways he uses conference participation to network within his career, he said:

OK. So, within my career, I basically, of course, go to conferences, I go to some online blogs. There are in computational modeling, there are some initiatives that are happening from University of Illinois at Urbana-Champaign. You see some from other university. In Canada, it hasn't necessarily initiated that much, but there are certain online forums, where we can interact. There are...they utilize certain kind of program or software, where many of us kind of provide our own modules, so that is what also I'm involved in, so I create my own level and make it available to all the researchers, so really, other researchers will continue with that software in some way. So, I think that this kind of

open source programs, open source course is really, really good. So, those kind of things I interact with and I'm also kind of enrolled in, say, review of general articles and...or amazing conferences or hearing some sessions and so on.

I pointed out to him that it sounded as if his active involvement in online blogs and forums inadvertently connected him to colleagues in his field worldwide. The open source program and participation as a reviewer did count towards global knowledge circulation as he had shared his ideas and expertise globally even though he physically may have never left his current city.

Interviewee 18 understood the value of conference participation in expanding his professional network and keeping him on top of current trends in his field. He said, "So conferences is I think the most valuable resource, so attending conferences, meeting them at conferences. And then I invite them to give talks, they invite me to give talks." Although he may not be asked to travel abroad to give a talk, the ability to meet other professionals in his field through professional organizations allowed him to invite international faculty to visit his department, thereby creating a circular flow of knowledge. Maintaining active participation in professional organizations encouraged many of the participants to find postdoctoral fellowships, faculty positions and opportunities for international academic collaborations.

Funding and Connections to Industry. The second most common resource for establishing and maintaining academic mobility and networks identified by participants was through the relationships that they had established with industry-based partners. For the STEM fields, having that secondary access to funding through private grants and contracts alleviated some of the costs associated with research. This theme was most common amongst faculty members based in Canada and the U.K. In fact, because all of the participants interviewed were faculty at research intensive institutions, not having access to funding in addition to support for

research-related travel was another deal breaker if they ever considered a move to another institution or country. As interviewee 18 put it:

So I think it would be the resources so that would be the deciding factor because in the U.K. it's very easy to get funding in my field from industry and from government to do fundamental research. In the U.S. it's very hard to get from industry, so you could, most of the funding sources are from military, so from Office of Naval Research or Air Force research, so it's the most research that my colleagues are doing in the U.S., a very military-based or distance-oriented.

Unlike participants from Canada and the U.K., participants at U.S. institutions iterated that they relied heavily on large government-based grants to carry out research in their respective fields. As a result, their networks were often limited to within national borders as federal grants such as those under the Department of Defense have citizenship requirements to receive funding. Unlike their Canadian and U.K. counterparts, the participants from U.S.-based institutions mentioned that they had relatively more freedom to pursue independent research with external funding.

Industry-based grants, on the other hand, while they may have smaller funding amounts, provide faculty with the opportunity to connect with researchers from all over the world. However, U.S. government-based funding often was a double-edged sword for faculty members with competition being very high. Interviewees 1, 12 and 23 explained that the competition in the U.S., when compared to that in Canada or the U.K., can often be a turn off for pursuing permanent faculty positions. In Canada, industry-based grants were mentioned with trepidation as many did not have much freedom to pursue independent research agendas and were often tied to doing research that benefitted the funder and not the participant.

Interviewee 15 iterated the importance of maintaining connections to both government- and industry-based partners as an important resource for his work. He said:

The center I ran had an outreach program, they have an industry program, we regularly hold events which are attended by people from all over the world. We have affiliates in other countries that connect with us and we have had research visitors who then spread the word after they go back. So actually we don't have to do a lot of work or a loop for much resources, we get a lot of inquiries from people and then we have to decide which ones to put our time or resources into.

Maintaining his industry network intact over the years allowed interviewee 15 to expand his research interests to countries in Asia, Europe and the Netherlands. He elaborated:

I have my own contact networks from working this long in the industry, not only outside the U.S. [but] also inside the U.S. I have a lot of industry connections and sometimes people come back with a specific request or proposal to work on something.

Interviewee 20 shared that while he would be happy if he were awarded a Canadian governmental grant, he would still need to rely on partnerships with private industries to be able to gather enough money to run a full team of researchers. He said, in comparison to the U.S., “the amount of grants that was used is like million-dollar and so on. Here you get tiny, tiny grants, like say 25K, 100K, 50K.” The smaller amounts of government funding limit the number of graduate students he can hire to assist with his research and, with a success rate between 50% and 60%, often it is not worth applying. Having partnerships in industry alleviates some of the costs associated with research. Moreover, the recent and continuing technological boom in India has provided academics with the opportunity to do more in terms of research and training.

Section 3. Connections to India

This section explores the connections that Indian faculty abroad maintained with institutions in India. All participants were asked directly if they maintained any academic collaborations or relationships with institutions and faculty in India or at other institutions globally. All participants were also asked if they would consider returning to India if they were offered a good position there. About three quarters of the participants expressed some desire to return.

One question I asked all participants was which country or countries they would consider if they were to apply to faculty positions. Many (interviewees 1, 7, 10, 12, 13, 15) mentioned Germany, which is not a location I had ever previously heard, researched or experienced Indian faculty migrating to. The surprising answer for why they would consider this location appeared very much intrinsic: “because it is the birthplace of research.” Interviewee 7 said about Germany, “I think is a land of research, yes. That’s the thing. Germany is the land where large amounts of funds are being given.” I found that most of the countries they listed as options they would consider moving to were not based on networks or previously established relationships; rather, these choices were based on values such as work environment, academic freedom and institutional support.

Institution-wide support for creating and maintaining academic relationships abroad was one of the ways that faculty abroad maintained their connections to India. When asked to rate the academic climate in India, all but one of the participants had some direct insight into the country’s growth and political dynamic either through colleagues who had returned there to teach, through graduate students who were completing postdocs or through some other academic

relationship. When asked if they would ever return to India, participants still cited family cultural integration as one of the most important considerations in making the decision to return to India.

Institutional Relationships. Institutional relationships contributed largely to faculty maintaining their career mobility. I asked all faculty members if their institution promoted and encouraged institutional collaboration with academic institutions in India. While many did not have any formal relationships, all faculty members answered that their current institutions promoted informal relationships with institutions abroad. Interviewee 17 indicated that there were a few organizations in India that he regularly maintained contact and membership with; however, it was through his network with Indian faculty that he kept abreast of any faculty openings. And while he was not particularly interested in applying for these new positions, he passed the information along to his current graduate students who were interested in academic positions in India.

Findings indicated that institutions in all three countries generally promote collaborations with academic institutions globally. In Canada and the U.K., there were more reported formal, established relationships between academic institutions than what was reported in the U.S. Participants who currently reside in the U.S. indicated that their institutions generally encourage collaborations with all countries, not just India.

Interviewee 13 stated the reason his institution encouraged international collaborations: Like I said the borders, regardless of which country you are from, at this point it's all about trying to solve challenging problems in the world and the key is to find the right partner to solve this with and it doesn't matter whether that researcher is in India or Singapore.

Interviewee 10 further elaborated:

They promote in general collaborations with anybody. There is no concerted effort to promote interactions with Indian universities, but I don't think if I do have one or come up with one or build programs that encourages that, I don't think they [would] inhibit it either.

While the institutions that participants 13 and 10 worked for did not directly encourage collaborations with India, there was an understanding that faculty were encouraged to interact and collaborate globally.

Participants in both Canada and the U.K. seemed to be better aware of more formal collaboration between their institutions and those in India—mainly with the Indian Institutes—than participants who were currently employed at U.S. institutions. At the university level, I found that there was a strong push to encourage faculty to create and maintain relationships with institutions in China and India. At interviewee 3's institution, in Canada, there was a strong push to encourage graduate student recruitment from the Indian Institute of Technology. He mentioned that his own university would provide additional scholarship funds to any graduate from an IIT who later applied for graduate school there. Interviewee 22 also stated that there was a memorandum of understanding at his institution (also in Canada) that promoted faculty exchanges and that “there was money set aside for the university to use to develop research programs in India in collaboration with Indian Institutes.” This formal memorandum was promoted by the university to compete with other Canadian universities, which were actively promoting formal research collaborations with the IITs, IISc and IIMs.

Interviewees 12 and 9 also mentioned that at the departmental level, there were strong collaborations between specific IITs in North and South India; however, extrinsic incentives for participating in such collaborations were close to nonexistent. Interviewee 12 elaborated on this:

I'm afraid the incentives don't really line up. So if I were to initiate such a collaboration, it's a) not going to count in any special way towards any career advancement and b) it's not going to get any brownie points with the department level with any of the university level marginally.

He went on to explain that even though there was a strong push by his institution and the Canadian government to encourage such research collaborations, participation would not provide leverage in obtaining additional governmental research funding.

Institutions in the U.K., like those in Canada, also had more formal relationships established with Indian institutions. Interviewee 18 mentioned that "there's a specific program with India to do this and there's funding available for this so if we wanted to pursue further research with [an] Indian University then there's funding just for that." He went on to explain that while the quality of graduate students in India is not very good, there is a good base if recruitment starts at the undergraduate level so it would "be very desirable to have a partnership with Indian universities to essentially attract the best students of the vast undergraduates from India." He did explain that while there wasn't much happening in India at the moment in his specific field, generally for other STEM fields, forming collaborations with Indian colleges would be a huge advantage.

Interviewee 17 mentioned that while his institution did not have a formal partnership established with a specific Indian college or university, there was a formal fund that provided "a mechanism for academic contacts between [his institution] and institutions in India in general." He explained that through the fund he was able to get support for an Indian PhD student from one of the IITs.

University partnerships with Indian colleges made it easier for faculty abroad to keep abreast of research in India, in addition to recruiting graduate students. Interviewee 14 discussed how his ability to travel professionally to India to conduct research and teach was made possible because of a research initiative promoted by the U.K. He said that aside from the government's initiative, "the institution promotes research as institution exchange I mean I'm a part of that initiative." Encouragement from both his university and the government has made collaborations easier and has allowed him to stay connected with research in India.

Two participants mentioned that the chief executive officers of their institutions in the U.S. and Canada were of Indian descent, which was pivotal in ensuring that there were more formal collaborations with India. Creating and establishing a way to have faculty and students in India connect with their global counterparts allows institutions to internationalize at a grassroots level. As the participants in this study explained, having institutional support to create relationships with academics in India encouraged them to keep vested research interests should they ever have the opportunity to return to India. Interviewee 16 further explained:

Using the Indian universities and the local partners or Chinese universities allows you to build connections within community there faster. So that brings complimentary skills, you know building relationships, we bring in advanced thinking and you pull the two together then you can make some research happen.

Departmental, institutional and governmental support played a role in impacting the level at which participants remained connected to India. While only a few of the participants worked for colleges that had established formal relationships or partnerships with Indian universities, all of the participants were encouraged by their colleges to collaborate globally.

Indian Academic Climate. The participants all had a general understanding of how accessible resources were in India, either through direct experiences or through their academic networks. As such, all the participants were asked if they would be able to conduct research in India and to rate the academic climate. Their responses varied a little in terms of access to research data based on their field. Only one participant was unable to answer the question as he had left India in the late 1990s and had not returned or kept in touch much so it was difficult for him to assess the academic climate.

Five participants rated the Indian academic climate negatively due to lack of resources, whereas ten participants rated the academic climate as good or excellent when speaking of up and coming research agendas, improving graduate studies and separating the IITs, IISc and IIMs from other state universities. Two of the twenty-three remaining participants were neutral about rating the academic climate, citing that because there was so much variation in the types of institutions it was “impossible to kind of encapsulate it in one statement.” Three participants (20, 15 and 13) mentioned how the return migration of Indian faculty had grown and as a result improved the diversity of the workforce. Interviewee 13 elaborated: “I don’t like to use the term brain drain, but there’s a reverse influx of people going back basically to India and to take some of these economic positions and it’s just amazing to see that.” Indian institutions have also begun highlighting this reverse migration by updating their college websites to reflect the diversity of talent at their institutions.

Interviewee 15 went on to explain how this influx of Western-trained faculty has been influencing other areas of higher education in India. Specifically, he pointed out that “there’s a lot of the American model being imported there and I think there’s more money behind research now, so a lot of the barriers are being removed.” However, he went on to explain that in spite of

the influx of more Western-trained faculty, there is still much to be desired in terms of appropriate pay at institutions across India.

In an article published by a prominent national newspaper in India, *The Hindu*, many Indians who go study abroad mentioned salaries as a general reason to not return to India (Altbach, 2014). Not surprisingly, participants in this research cited salaries as one of the top disadvantages to return to India and one of the reasons several rated the climate negatively. Interviewee 18 went on to relate the poor salaries with the poor quality of students:

It's mainly to do with two things, one is academic salaries in India and then the other thing is quality of students. And I think quality of students is inversely affected because of the academic salaries because the students know that academic salaries are not great and so they want to leave the country or they want to pursue a different field.

However, not all study participants agreed that India was lacking quality students. Interviewee 21 stated, "The academic climate in terms of quality of graduate students, the amount of funding you can get, resources, all of that is getting better."

Participants mentioned departmental politics as one of the most important reasons why they would not return to India. Having acquired knowledge of the departmental politics through their own experience in the application and recruitment process or from personal interactions with faculty members and colleagues already in the Indian system, the notion that faculty are not rewarded for their teaching, research and service was problematic. Two participants who had previously taught in India discussed that the way that raises are conducted at Indian institutions is political as they are not related to intellectual merit but rather to who has seniority and can get the most "favors" done for the departments. Interviewee 4, who worked at an IIT, said, "because they [IITs] are part of the government system, your salaries will be the same." He discussed how

the only way to get a pay raise was to know someone in the department and how these types of politics are a largely demotivating factor for faculty to want to do good work. Knowing how to play the political game was also important in understanding how to get research accomplished in India. As interviewee 16 iterated, “to get things done you need connections. So it becomes very difficult to implement some of the ideas.” Participant 20 also stated that he “saw a kind of political game that they used to play like grading and giving self raises and those kind of things.” There was no university incentive structure or formal process for rewarding faculty who were producing good research or excelling in teaching. Participants who had spent time in India either as visiting lecturers or while on sabbaticals mentioned that merit raises, the tenure system and faculty release time in India were not based on a clear-cut, university-wide incentive structure; rather, these incentives were awarded based on departmental or political connections and seniority.

Other disadvantages with the current academic system in India were the notions that there is poor quality control in terms of the type of research being produced and there is a lack of defined, uniform vision for long-term institutional strategic planning. Interviewees 8 and 23 mentioned that the lack of institutional and then departmental purpose continued to perpetuate a fragmented institutional direction. Or as interviewee 8 succinctly stated, “academic climate, I’m not sure. I don’t think there is a unified vision or purpose. So a lack of having a purpose makes it extremely difficult.” The absence of a formal strategic planning process made it difficult for participants to see how they fit in with the departmental and institutional vision. All of the participants mentioned the importance of aligning their research interests with an institution or department that shared the same vision.

Participants also mentioned other aspects of their current jobs that they questioned would be made available to them if they ever returned to Indian higher education. Participants questioned whether tenure would be available for them in India. Interviewees 16, 22, and 24 mentioned that, in their own opinion based on direct experience and through connections with Indian faculty, the lack of a defined tenure system in India provided Indian faculty with few incentives to do good work. Not having clearly defined rules for tenure was one extrinsic value mentioned by the participants as a demotivating reason to return. Interviewee 12 pointed out how faculty at the IITs, IISc and IIMs often have more control over the content and pedagogy of their courses than faculty at other Indian colleges and universities. He described these differences:

So from a teaching perspective, the academic climate in India is very different depending from the IITs or not...In IIT I know is very different and I happen to know it's very different, so the professor does have the freedom to choose their own sort of syllabi and textbook and all that. With that said, you know, I'm enthusiastic about teaching.

He went on to say this about faculty at non IITs, IISc or IIMs:

[They] are on zero control on what syllabus for their exam content and did not reflect any sort of the course, the way to start or teach, so there was actually almost zero incentive for faculty to try to do a good job because any way it was done by standardized exam system.

Of course, there were several participants who remained hopeful about the Indian academic climate and felt that, in their opinion, the country generally is moving towards a positive future. Being surrounded by colleagues who share the same intrinsic joy for research and teaching was an important consideration when thinking about possibilities in India. Being

motivated by research interests and having the absolute freedom to pursue independent research were the top two aspects of their current positions that the participants were not willing to compromise.

Interviewees 11 and 14 discussed generally how Indian institutions and academics have a huge strength in theory but when it comes to applying that knowledge, they have some weaknesses. Interviewee 14 explained:

The applicability of research, there is a lot, so you know probably a lot of the research that comes out of India is OK in theory but may not be directly transferable to a practical application. That's where the gap is.

Interviewee 11 attributed this lack of strong applicability of theoretical knowledge to the lack of resources. She mentioned that:

There's a very, very small proportion of life sciences labs in India and by proportion, just, you know, if you take into account the entire population and how many people they have working in the life sciences, a very miniscule proportion that do extraordinarily, that do good work, that are doing a good research.

When you take into account the demand for research and the supply of quality labs and solid infrastructure needed to support the growth of such research, the gap is very wide still.

Other participants shared this sentiment and remained hopeful that the Indian academic climate is improving. As interviewee 3 mentioned, "the research environments as I've said is right now, it's improving, but still not world class yet." Interviewee 2 elaborated, stating that "they [Indian institutions of higher education] are improving in terms of their research but, you know, I really believe to have really foster research you need to be in a much more

comprehensive environment.” Interviewee 2 went on to explain how more comprehensive universities (teaching and research) were needed in all fields not just the sciences.

Participants mentioned that the increase in funding from the Indian government was a positive change in the right direction for Indian higher education. Interviewee 20 mentioned how the ability to get decent grant monies now would lead to an overhaul of the many broken pieces of the educational system:

I think the scene is changing tremendously, grants are getting easier because grants are getting possible and it could be sort out for certain, other use, for example, how to get good communication, how to attract the faculty, good faculty in India, give them good salaries and, or to teach certain teaching mode and get in somehow good students.

By providing faculty with the resources to do good research through grant monies, interviewee 20 argued, faculty would become better at communicating their needs, experimenting with different teaching modalities, which would hopefully lead to better salaries and the building of a stronger graduate student base. Interviewee 18 added, “Speaking with some of my contacts in India, they say that it’s not hard to find money for project work, so there are a lot of funding opportunities. The problem is in attracting good students.” As mentioned earlier, graduate students in India receive their funding from the University Grants Commission directly and it is up to them to find a department to work with, so faculty members in India do not have to pay out of their grants. The problem this proliferates is that because there are not enough faculty doing research, students often are left with very few options in terms of mentors.

About this, interviewee 15 mentioned that when he was a graduate student, he was very interested in doing research; however, he found that while the IITs have improved since he was a graduate student, “India didn’t have much of infrastructure for graduate research and education

at that time” and as such “if you wanted to do research [you should] come to the U.S.” Because the general landscape of Indian higher education varies greatly by type and location, it is difficult to make generalizations about the future of higher education. The participants in this study had mixed perceptions about the Indian academic climate. Explanations about how participants viewed the academic climate in India illustrated that while generally there are a lot of positives in terms of research growth, funding, faculty diversity and quality, there is still room for improvement with regards to resources, infrastructure and attracting and maintaining a strong graduate student base.

Return Migration and Cultural Adaptation. One of the questions asked of all participants was whether they would return to India if they were offered a good academic position there and what factors they would weigh as the most important for them to consider such an opportunity. For some interviewees, like participant 24, the thought never occurred to him to apply for positions in India and he had no desire at this point in his career to even think about returning. For participant 22, the decision to return was related to professional and family reasons. When asked whether he would return, he said:

No not at all. There could be two reasons. One is that, you kind of think you are overqualified and you've already gotten used to the North American style and living and all of that. And second is, you know, family ties and my family ties there are almost disconnected, partly because my parents died when I started my PhD. So, for me, India was any other country, you know like the U.S. and Canada.

Family connections to India were a recurring theme in the decision about returning to India and for some, the lack of family made the decision very easy. Interviewee 15, for instance,

stated that he had no interest in returning to India, in spite of some of the many advantages that the country had to offer. He said:

Today, there are still many advantages, India is much more developed research establishment both in terms of academic research and there are also some international companies there. So those options are now available for people. But I don't have any reason to move back physically now.

Even the changing academic climate and the growth of the technology industry were not enough for participant 15 to share the desire to return.

For others, the prospect of returning to India was a little more complicated. Interviewee 2 had made plans to return to India after finishing his doctorate in the U.S. and had begun talks with one of the IISCs about becoming a faculty member there. What he encountered was that not only did the institution require him to finish his doctorate first, but also the position they were going to offer him would be as a research officer, not an assistant professor as he expected. He indicated his frustration with the process by saying that the more he thought about it, the more he “said, why the hell would I come and be a research officer in India when I can be an assistant professor in the U.S.? So I just gave up the idea of going back to India.” In spite of his experience with Indian institutions early on in his career, later on in his career, after marrying, he and his wife briefly considered returning to India and they both came to the realization that the physical structure of Indian institutions was just not at a level that could accommodate anyone used to living in a Western environment and more so if one were a female. This attitude is highlighted in the interview dialog below:

Interviewee 2: We spent a sabbatical in India in 1994. And what we realized that it's very hard for a Western woman to adapt to the Indian academic institution.

Researcher: Male, yeah, hierarchy, yeah.

Interviewee 2: No, not just the hierarchy, you know, simple things like in the university, there are no proper toilets for women.

Researcher: OK.

Interviewee 2: You know, things like that, you know. Because in India, they don't think of these things, right? So, it becomes very hard and, certainly, because my wife was a French citizen, impossible to get work in India those days.

Researcher: Really?

Interviewee 2: So, you know, we had to forget it. I mean India, we cannot even consider.

While there have been improvements to several of the infrastructure problems with buildings and roads in India since the mid-1990s, based on my own experiences and travels to various parts of India, much of what interviewee 2 stated still remains the same. Westerners are accustomed to a certain level of infrastructure such as good roads and access to living necessities such as running water, sanitation and public transportation. For many of the interviewees, these living necessities were a large consideration when it came to respecting their families' standards of living in Canada, the U.S. or the U.K. For those like interviewee 2, having access to Western toilets (vs. Indian toilets) and other basic amenities was a deal breaker for moving to India.

For interviewee 6 the decision to return to India would depend on a combination of factors. As he stated:

[A] lot of motivation would come from the personal perspective, being from there, having family there and having values there. In fact just last month, we had a really long discussion, my wife and I and also our parents about all this. So, that would be one motivation. Questions that I would have for not going back would be cost of transport,

and the environment in terms of pollution.

Concerns regarding the hierarchical and physical environment in addition to basic infrastructure, access to living necessities, cost and use of public transportation were all important reasons for not returning to India that most of the interviewees mentioned at some point in their conversation.

In addition to the physical aspects of moving there, the academic environment was another point of concern that the participants found a deterrent in considering the return to India. For participant 3, a self-proclaimed “research-a-holic,” having family in India was not a good enough reason. As he explained, “that benefit is outweighed by the research environment which is actually quite poor. Things have to change in terms of the research environment in India for me to move back.” The idea of the academic environment was not limited to research. Another participant discussed the substantial expansion of the private educational industry in India. Participant 8 commented that many of these for-profit institutions generally seek out Western-trained academics to return and run the institutions. As a potential recruit, he said, “I’m just not in the business of going there and making some dollars or some money.” Even when approached with extrinsic rewards, participant 8 found it demotivating for his career aspirations. He expressed that he did not want to dilute his passion for science by returning to India to run a private start-up institution.

The opportunity to return to their families was a common theme throughout the participants’ conversations, save for those whose families were no longer in India. While lack of family for some participants was a major reason not to return to India, for others it was one of the most important aspects in considering the option. For example, participant 14 would only consider a position in India if it were limited to his hometown because of his family connections

there. He argued that, “well I’m the only child, the only reason I would want to, I mean the concern I would have is to be close to my parents.” One of the problems, however, is that the town in which his parents are located has only one institution worth working for and it’s not a highly ranked Indian university. He mentioned that it was part of the reason he had not yet seriously considered returning. In fact, the closest IIT that he would consider working at would be a good four-hour commute each way every day. Spending eight hours commuting every day would challenge anyone and, for participant 14, it would defeat the purpose of moving to be closer to his family.

Other participants, especially those currently starting or raising families outside India, were worried about how their families would respond to Indian culture re-assimilation or re-acculturation. Many of the study’s participants mentioned that they maintain some cultural practices abroad and described how these practices had changed over the years to accommodate Western culture. As such, there were several concerns about how their families would adjust to Indian culture in India. For participant 17, having started a family outside India posed a challenge. He explained:

At this point, it would be a bit difficult in that I have kind of family ties, children in school, that sort of thing. At this point, I imagine it’s hard to uproot my family. But on the other hand, I mean, I think I would welcome some kind of association to say an institution in India in time.

While it would be difficult to uproot his family, who had already grown accustomed to living in the U.K. physically and culturally, he would still be open to collaborations and building relationships with Indian institutions and academics. Participants were genuinely concerned about new families they were raising or planning to eventually raise outside India. Common

threads of concern among younger interviewees were how to maintain a dual culture in case there ever were a possibility to return and how to prepare their families for that return.

One interesting finding was how participants found it difficult themselves to integrate seamlessly with Indian culture. Whether it was through visiting an Indian university or traveling for leisure, some participants realized that it would be very difficult to expect their families to integrate into modern Indian culture after having spent so much time abroad. As interviewee 2 stated, there are cultural differences in India that many outsiders just don't realize and even native born and raised individuals forget once they move aboard. Furthermore, developing what Portes, Guarnizo, and Landolt (1999) referred to as a transnational identity, cultivating and maintaining social and cultural connections across international borders, became increasingly difficult for some of these participants.

For one participant, I inadvertently changed the phrasing of the question as a result of the natural flow in conversation. I asked him if he would ever consider going "home" instead of saying "to India." While he had not seriously considered seeking an academic position in India, his response was based on a combination of intrinsic and extrinsic values, as shown in this interview dialogue:

Researcher: Would that be a factor in returning home?

Interviewee 1: Returning home, I like the way you phrase it.

Researcher: What would you weigh is the most important factor for you to return to a position there [India]?

Interviewee 1: Most important factor...

Researcher: It could be anything personal, academic.

Interviewee 1: It's not personal.

Researcher: No?

Interviewee 1: I think it has to be professional like what I can do there and what I can do here.

Researcher: Can you elaborate please?

Interviewee 1: Well, the job pays nice now. They offer Indian citizens who know about India they nowadays are offering two lakhs¹⁷ per month.

Researcher: Oh that's pretty good. Where in India, though?

Interviewee 1: In the engineering colleges. They're like IIEs [Indian Institutes of Engineering]. It's a lot of money, plus they give you two travels to abroad for conferences. So, the money has been improved like never before and they need good people to understand how to spend it.

Thinking of India as home seemed like a novel concept to participant 1. And as Dahinden (2010) argued, the longer participant 1 stayed in the U.S., the place where he considered home became blurrier, as did his cultural identity and attachment to home. In addition, the reality for participant 1 is that unless a position in India would provide some of the provisions available to him currently—such as the ability to travel to conferences, adequate research resources in terms of lab space, equipment and quality students—the decision or consideration to return to India as an academic would still be based on extrinsic values.

Maintaining professional connections with Indian institutions and Indian faculty was a shared intrinsic value among participants. Much as with previous findings, cultural (re)adaptation was a point discussed by the participants as it related not just to their growing (or future) families abroad, but also to their potential (re)integration into the professional academic

¹⁷ One lakh Indian rupee is the equivalent of \$1,500USD, which means that IIE, according to this participant, was offering about \$3,000USD in salary per month.

environment in India. Many of the faculty members that I interviewed emigrated from India more than 40 years ago; as such, their perceptions of what Indian culture is varied greatly from those who emigrated within the last decade.

Regardless of migration period, all Indian faculty members interviewed exhibited some degree of transnational identity that incorporated traditional Indian cultural practices with those they acculturated in their new “home away from home.” When asked what factors they would weigh as the most important for them to consider returning to India, their family took precedence over everything else. Interviewee 20 explained:

I’ve been out of India now for about 12, 13 years and yes about not 12, 13 years, 10 years. Let’s count 10 years. Now it is very difficult for me to go back to that kind of society and integrate with confidence.

Interviewee 18 expressed concerns about his family adapting to a return to India:

I have a very young family at the moment, so that’s not an issue. I have a daughter and how she grows up, she’s only five months at the moment. But as she grows up that may become a factor, she may not want to move to another country.

Many participants who had already started raising families outside India perceived that it would be difficult for their children (and sometimes non-Indian spouses) to adjust to life in India after having spent so much time abroad.

Interviewee 15 pointed out that “you always have to balance those [factors] and the exact ratio of balance depends on the point of life you’re at and concerns with your kids, your spouse and so on. It’s never a straightforward decision.” Interviewee 15 also pointed out that even when one has all the factors he or she may be looking for in a professional position, the family’s evolved identity, culturally, socially, linguistically and economically can affect any resettlement

plans. Another participant, interviewee 6, touched on the difference in work culture and his idea of professionalism between India and the U.S.:

Work-wise, I always tell my friends and colleagues here that working in the U.S. is far more professional than there. So, for example, if I call for a 9 o'clock meeting, in the U.S., people will be there 5 to 9 with their coffees and everything ready. Here, we will gather people at 9, 5 past 9, and then, we'll have some coffee and then we'd start.

Another participant worried about his family but also had concerns regarding his own (re)integration into a culture where he had been born and raised. Interviewee 22 worried that after having spent most of his adult life outside India, he would experience difficulties connecting to Indian culture today. He said about his fears:

I'm the only son as what happens in the culture, but I guess things changed over two, two and a half years of my graduate studies as I began to contemplate my life, how it would be when I go back and I thought, well, I would be completely out of touch. I mean, I had no clue where I would even begin to look for a job or whatever else.

While all of the participants explained how quickly they had been able to adapt to the North American or European culture, some, as participants 15, 6 and 22 explained, worried how they would (re)integrate into Indian society not just professionally but also emotionally, socially and culturally.

In addition to these hesitations about moving back to India permanently, other participants, like interviewee 17, mentioned starting slowly by increasing partnerships with Indian intuitions. Another participant (interviewee 14) remained open about returning to India in some leadership capacity by explaining that he planned "in the next 10 years, probably a chair

position either here or somewhere within the U.K. or in India.” Interviewee 13 remained hopeful for India’s academic growth:

[The] expansion [of the IITs and other institutions] is really exciting to see in part that they’re going to create fairly smart scientists and engineers for the next generation and that has created new opportunities for everybody around the world to apply.

Many participants remained hopeful and “cautiously optimistic” about the future but felt that they were not at a stage in their careers where they could return to lend any vision for departmental growth within an Indian university or college. Interviewee 7 highlighted this: “one like me cannot groom into an extent what I have done here in the U.K., in India, I would say.” Others, like interviewee 1, felt that they were too young in their careers to be ready to handle such administrative responsibilities.

This study found that while faculty were not necessarily opposed to returning to India to continue their careers, there was a mix of both intrinsic and extrinsic aspects that had them questioning how far into the future they would make that return happen. Participants who have been living abroad for more than a decade were concerned that they would not be able to readjust to current Indian culture. Participants who have been living abroad for less than ten years felt that they still had a lot to learn professionally before returning to India.

Section 4. Other Findings

Semistructured interviews provided me with the opportunity to explore further some unexpected themes or topics that developed during this study. One of these topics emerged when Interviewee 2 explained how the infrastructure in India is not set up to accommodate Western women. He was explaining why India was not a country he and his European wife could

consider to move to career-wise. In this section, I compare findings regarding the two Indian women in STEM who participated in this study.

While there has been a lot of research in the U.S. on the STEM pipeline for women from high school to college (Blickenstaff, 2005; Diekman, Brown, Johnston, & Clark, 2010; Griffith, 2010; Maltese & Tai, 2011; Riegle-Crumb, King, Grodsky, & Muller, 2012), very little has been written about international faculty in the STEM fields and even less about female international faculty in STEM. Research has shown that women have been historically underrepresented in the STEM fields. The most recent data from the National Science Foundation (2015) shows that in 2012, 14,534 women received doctorates in science and engineering compared to 21,233 men, among which 3,914 were identified as female temporary visa holders and 8,270 were identified as male temporary visa holders.

NSF data continues to show that fewer women than men obtain their doctorates in the U.S. regardless of their country of origin. This underrepresentation of women in STEM was corroborated in this study as female participants accounted for 0.08% of the total interview population.¹⁸ While the two female participants in this study had incredibly strong family support systems while pursuing their doctorates and later careers, they also discussed several obstacles they had encountered. These obstacles included lack of access to resources available to them during the school and job search process, lack of access to career mentors and difficulty learning how to navigate the different gender and racial dynamics as international women in STEM.

Access to Resources. The participants of this study mentioned that access to good and varied STEM graduate programs in India was difficult when they were ready to attend graduate school. Interviewee 11 emigrated 20 years ago and received her doctorate in the U.S. She said of her decision:

¹⁸ For complete interview methodology, please see Chapter 3.

I knew by the time that I did want to explore a career in research and just did not see that as being possible in Bangalore or India at the time because of lack of resources and a support structure to do good research.

She went on to explain that the process of applying for a doctorate program abroad was not necessarily influenced by any mentors or established networks and that access to the Internet at the time was very limited. As a result, she relied heavily on information available to her at institutional libraries and her ability to find people who had gone abroad to get information on schools and programs. She said of the whole process:

So, it wasn't very much of an issue for me [in terms of family support], but getting access to information was horrendously difficult.

Having limited access to the internet and not having access in India to research labs or mentors in her field who could guide her through the process limited where she applied (mostly in the U.S.).

The second female I interviewed began her graduate education in India and, when she finished her master's degree, she went on to pursue a doctorate in mathematics in the U.S. Unlike interviewee 11, who had realized early on that she had a passion for research, interviewee 19 fell into the process. She said, "it was more of a peer pressure kind of thing." Her introduction to a doctoral education resulted from institutional peer pressure during her master's degree as the program she was part of had a history of sending students to study abroad. In fact, this was her first experience with academic mobility and she said that while she didn't understand what it meant to study abroad, she understood that it was generally a good thing. Also, unlike interviewee 11, interviewee 19 always knew she wanted to be a teacher in some capacity:

I think I always wanted to be a teacher because my mother was a mathematics teacher,

mathematics professor at a college in [east India] and my grandmother was a school teacher, primary school teacher. So I always knew I wanted to be a teacher in growing, somehow I always envisioned myself as teaching mathematics at some local school or college in India.

She realized, after finishing her doctorate and getting married, that those initial aspirations to return to India as a school teacher were no longer possible and that “somehow a PhD was really kind of an overqualification if it came to high school teaching.” It was that experience, or rather that realization, that changed her career trajectory from mathematics schoolteacher to professor of mathematics.

Support. All of the participants in this study mentioned how supportive their families were throughout their career. For the women in particular, family support influenced everything from career choice to obtaining their current positions. Both women had strong female examples in their families who influenced their decisions to pursue an academic position. For example, while she did not always plan on becoming a faculty member, interviewee 11 always knew she wanted to be in an academic environment in some capacity. She said of her realization of her career choice:

When you think about it enough, that’s [research] my passion. I think by the time I was getting toward the end of the PhD program, which would be the more honest answer, was when I knew that I wanted to stay in an academic environment, involved in a faculty position and kind of being very research intensive.

She said her family had always supported her decision to become a faculty member. She explained:

Both my parents are professionals and my mom actually held a faculty position. She’s an

English professor for many years...I received a lot of very intensive support at home but not really at the college environment.

The support from her parents had much more of an influence on interviewee 11's decision to pursue a doctorate than that of female mentors she encountered in graduate school and during her postdoc. Interviewee 19 also mentioned that having experienced a childhood where her mother and grandmother were involved in education made it easier for her to pursue her career in mathematics. However, she explained that in India at the time she noticed that the number of women with high level educations (at the doctorate level) was significantly lower compared to the numbers of bachelor's and master's degree holders in Indian institutions. In spite of this, interviewee 19 discussed how supportive her family had been throughout her career trajectory.

Gender and Racial Dynamics. While studies have shown that there are great inequalities in terms of salaries and positions for women in STEM, one study looked closer at the gender and racial dynamics that women in STEM endure from the onset of their graduate studies. De Welde and Laursen (2011) argued that women experience a "glass obstacle" course during the course of graduate study which eventually leads to longer term repercussions throughout their careers. De Welde and Laursen argued that women in STEM often have their first experiences with gender and racial hostility during graduate school, which often leads to female attrition. Both the women in this study experienced some level of discrimination during their career trajectory, which became evident during the interview process. Interviewee 11 recalled that in the beginning stages of her professional career, she started to realize the importance of mentoring females during graduate school as she witnessed a decline in the representation of women at various stages in her career. She explained:

The faculty position was very interesting because by then I think I started to become a little more invested in kind of giving my time and efforts towards some issues associated with women staying in science and not getting into science but staying in science.

Later, reflecting on her own journey and throughout her own experiences, she noted that there were many instances when she could have stopped out even after she had gone through the difficult process of finding a graduate program, getting through her doctoral studies and finding a postdoc position. There had been several obstacles in front of her that could have prevented her from continuing her career trajectory. For example, when the time came for her to find a faculty position, she and her husband struggled to find two independent, fully funded positions. She explained that the process of finding these positions was very different for her than for her husband, who is also in the life sciences. For whatever reasons at the time, institutions were more willing to offer her husband a position.

Interviewee 19 pointed out that there were shortages of women in mathematics and one of her goals was to mentor more women to persist in this field. She said that, in her experience:

I think there is a few women who pursue a bachelor's or master's degree in mathematics there is a short drop-off at the PhD level but there are still a large number of college teachers in mathematics who are women again and the number decreases very shortly at the highest level at the university and research institute.

She went on to explain that while there are female mathematicians in India, there were very few in higher education in India, with “some departments not having any women faculty at all.”

The experiences of interviewees 11 and 19 in finding positions in their respective STEM disciplines can be explained by research by Roos and Gatta (2009), which looked at how several institutional mechanisms across universities hindered the successful recruitment, retention and

advancement of female faculty in STEM departments across academia. Often, institutional discrimination is the result of what the authors refer to as “traditional ways of doing business” and “historical legacies” (p. 24).

Interviewee 11 experienced gender and career discrimination at institutions in both the U.S. and India. I asked her if she had considered applying for a position in India at that time and she explained that, because she had gone straight from her bachelor’s degree to a PhD program with no master’s degree in between, she was ineligible to apply for a faculty position in her field. She elaborated, “Interestingly, I wouldn’t be allowed to compete for many positions in India, for many faculties in India because they want you to have a bachelor’s and master’s and then the PhD.” As a result, she did not think that she would be able to return to India because it would be “very difficult to go back into a system that is so structured and hierarchical.” She explained that this decision was very much supported by her spouse who believes that she just would not flourish in such a male-dominated system.

Interviewee 19 was one of the few faculty members who did apply for faculty positions in India after finishing her formal doctoral studies, in addition to applying for positions in the U.S. and Canada. Ultimately, she chose a position in Canada. I asked her to discuss how the application processes for faculty positions were different among the U.S., Canada and India. She explained that while she was able to reuse the same application with some slight variation, the procedure and timeline was very different in India. She said, “It’s never made clear if and when your application is being considered so you never really know whether your waiting period is over or if your application is still in the works.” She explained that she used her Indian connections to find math positions from abroad. Her goal was to find a faculty position where she and her husband could finally be in the same place after having spent a large amount of time

apart, including during their respective postdocs. Unlike interviewee 11, interviewee 19's spouse worked in industry; both still had difficulties finding a common city that could provide them with independent careers. Canada ended up being the only place that could meet both of their professional goals intersecting industry with academics.

Interviewee 11 also highlighted the identification struggles she encountered throughout her career trajectory and how her position as a female Indian faculty influenced her focus on mentoring graduate students, particularly underrepresented females. Amongst her colleagues, she "had multiple conversations about what it means to be a woman, a woman of color, a woman of color and science." Generally in academia, persons of color and international faculty are two separate groups; however, interviewee 11 mentioned that it was her experience in the American academic system that not only raised her awareness of the experience of women in STEM but also what that meant for nonwhite females. She explained:

Interestingly, I think that I've become more sensitive after moving [to my current state]. I'm not so sure that I would have said this living in [the Midwest] but it has been so interesting, I'm actually the first woman and the first woman of color to be tenured in my department here. And this is 2000-whatever right, 12, 13 which to me is just a terrible record.

As an Indian female, she realized that science still has a long way to go in terms of promoting and retaining female scientists, especially within minority and underrepresented populations.

Interviewee 19's interest in mentoring female STEM students was a combination of her experience in a supportive family and the gross underrepresentation of women in mathematics in general. Like interviewee 11, she also mentioned that it has "always been important for [her] to be involved in education at the grassroots level." Further, while professionally she has not had

much opportunity to create some sort of program she wanted to “build a stronger base in terms of [her] own research, recruiting and nurturing students [and] developing more of a global visibility to have more of an intact mathematics education on a global level.” For her, starting collaborations with Indian faculty or institutions in India (or anywhere outside Canada) proved difficult because, as she commented, “how does one communicate or start up an active collaboration with someone who is abroad and in the initial stages of their career?” What I found interesting in her response is that, unlike some of the other participants, she did not mention anything about the structure of the academic system or the quality of work being conducted in India. She mentioned that, ideally, she would like to be more involved in mentoring students, especially women.

Chapter 5: Discussion and Conclusion

Statement of the Problem

This study sought to explore the motivations behind faculty decisions to seek positions at specific institutions and specific countries. India has one of the largest educational systems in the world with 677 universities, 51 institutions of national importance and over 37,000 colleges (Ministry of Human Resource Development, 2015), yet it remains one of the top senders of students abroad. With so many opportunities to return to India after completing their education, I was interested in exploring what motivated Indian faculty to instead seek positions in Canada, the U.S. and the U.K. I was particularly interested in what socio-cultural factors influenced the participants' career decisions. With this in mind, I approached this study with three main objectives: a) to investigate further the motivations of Indian faculty for seeking academic positions in Western countries, b) to understand how different concepts of mobility are defined by these faculty members and investigate how mobile they have been throughout their careers, c) to highlight the ways in which these faculty members remain active contributors to the Indian higher education system from abroad. Using Self Determination Theory as my overarching theoretical lens, I explored the career trajectory experiences of 24 participants who were born and raised in India but left for graduate school and later academic positions in Canada, the U.S. and the U.K. A qualitative approach allowed me to provide different perspectives—those of the participants—to the literature.

Summary of Findings

My overarching research question was to explore what motivated Indian faculty to choose careers outside Indian universities and specifically why they chose institutions in Western countries. Much of the research on academic mobility has focused on students and what pushes

them to leave their home countries to study abroad (Altbach, 2004; Chen 2007). Some of the criticisms of the research on academic mobility include, first, the lack of information as to why individuals choose certain geographical locations (Cantwell, Luca, & Lee, 2009), second, the literature does not highlight the process in which individuals undertake when making the decision to leave their home (Lee et al., 2006) and finally, absent from the literature on academic mobility are the experiences of faculty and other academic populations. In order to understand the experiences of faculty, an extensive literature review was conducted that looked at several theories on migration such as Brain Drain and Brain Circulation. This research was guided by three main research questions and one subquestion, which are:

RQ1: What motivates foreign-born Indian faculty to seek jobs at academic institutions in the U.S., Canada and the U.K.?

SRQ1: What motivates Indian faculty to stay or leave academic jobs in these countries?

RQ2: What resources do Indian faculty use to become internationally mobile throughout their career trajectory?

RQ3: How do Indian faculty abroad stay engaged or participate in academic research in India?

As such, my findings were presented in three major sections that addressed each of my research questions. These sections are summarized below.

Section 1 answered my first research question and subquestion, which asked what motivated participants in this study to pursue academic positions outside India. This study explored the number of reasons (difficulty getting into good doctorate programs, doctorate programs did not exist for their field of study, lack of well trained faculty mentors) why these

participants did not stay in India to pursue a doctorate. Leaving India gave the participants an opportunity to carefully select the program of study they wanted to pursue. Most importantly, studying abroad allowed the participants to explore different subject areas. In India, it is very difficult to switch from one graduate program of study to another. As such, staying in India to pursue a doctorate would have limited their freedom to explore different research interests. My findings suggest that having the flexibility to explore different subjects within STEM cultivated an intrinsic desire for research.

Participants in this study had the opportunity to return to India after they completed their doctorate programs abroad; however, the murky job search process for faculty positions at Indian universities discouraged these participants from accepting a position in India. Lack of communication and the opaque process in which candidates move from one round to the next pushed participants to accept positions outside India. While push-pull literature argues that individuals might be pushed from their home countries because of poor salaries, this study revealed that it was poor communication on behalf of the Indian universities that demotivated these participants from returning.

This section also revealed many interesting findings about the importance of access to graduate students who are able to think independently and explore their own research interests. Being able to mentor these future scholars was an intrinsic part of the study participants' current faculty roles. The intrinsic value that the participants put on mentoring graduate students and cultivating their careers was an important finding in this study.

Section 2 took a closer look at the resources that these participants used to remain internationally mobile throughout their careers and answered my second research question. The OECD (Appelt, van Beuzekom, Galindo-Rueda, & de Pinho, 2015) defines mobility as “the

creation and diffusion of knowledge, particularly tacit knowledge as it is often shared through direct personal interactions” (p. 4). This study found that the participants felt they contributed to this global diffusion of knowledge by actively participating in professional organizations and international research conferences. By presenting their research and connecting with other scholars through these professional organizations, the participants were able to establish relationships with faculty at institutions globally. These relationships later led to academic collaborations and invitations to visit other institutions as guest lecturers and/or speakers. As such, participants discussed the importance of being able to travel internationally to conferences and present their research through visiting scholarships or guest lecture series at institutions globally.

Another way that the participants in this study shared their knowledge was through the relationships they had established with large industrial firms. While government funding is much larger in the U.S. and the U.K. than it is in Canada, all of the participants discussed the importance of maintaining connections with STEM industries to not only share the knowledge created through research but also to maintain relationships for future research collaborations. In the U.S. it was especially difficult to obtain industry-related funding as much of the STEM scholarship results from governmental funding either through the National Science Foundation, Department of Defense or the various military branches. Participants from Canada had the strongest connections to industry-based funding as my findings revealed that the government provided very little monies for research. As such, maintaining strong relationships with industry-based partners was essential for Canadian faculty research projects. One of the downsides to having a dependency on industry-based partners, however, was that research was often limited to the scope or mission of the organization, which put some limitations on academic freedom.

Section 3 answered my last research question and explored how professional networks permitted the participants to stay engaged with research in India. I found that institutional relationships played a critical role in encouraging the participants to remain well informed of current trends in Indian higher education. Institutional support was promoted through formal university partnerships with specific Indian universities. These formal partnerships mostly existed through student exchange programs or through active student recruitment programs. Formal partnerships between Indian universities and the participants' institutions made it easier for them to collaborate on research projects and to mentor graduate students who intended to return to India. Overall, the participants in this study remained positive about access to resources, funding for research and growing talent in India. Being connected to Indian universities not only allowed them to keep abreast of educational trends but also to gain insight about open faculty searches and future career opportunities.

My findings also revealed that the participants viewed the academic climate in India positively. These positive ratings were the results of continued collaboration with universities in India and/or collaborations with Indian faculty. My findings show that India has recently experienced a growth in academic research, improving graduate research programs. My findings also showed that while the participants in this study had not returned to India on a permanent basis, there was some indication of return migration and reverse brain drain. Participants worked with faculty who had studied abroad and returned to India and discussed how this had a positive impact on improving the diversity of the academic workforce. This return migration also showed how the Indian higher education system was being influenced by Western models of education such as putting more money towards research.

In spite of the many positive changes, my findings also showed that one of the biggest reasons that these participants did not want to return to India was academic politics. Discussing the merit system in India with participants who had worked there and abroad demonstrated that at some Indian universities, raises and faculty rewards are not based on merit but rather on seniority. Participants discussed how this fragmented reward system affected collegiality at Indian universities so much that it discouraged faculty to do good work. As such, being surrounded by colleagues who were intrinsically motivated to do research was an important reason for not returning to India. My findings illustrated that, generally, the research participants did not want to return to India because of lacking resources or infrastructure, but rather because of issues with outdated reward systems for faculty and lacking institutional planning. My findings show that while there have been some major improvements to the Indian academic climate, to increase return migration, universities would have to continue to improve the research environment and create more comprehensive institutions.

Most of the participants (all except one) had immediate family in India and as such remained closely connected. While returning to India to be re-united with their family members was important, many of the participants who had married Westerners or had started families abroad were concerned about whether or not they would be able to adapt to living in India. The participants discussed that whereas the infrastructure for universities has improved over the years, this was not necessarily true for the environment outside the Indian universities. My findings showed that lack of basic access to clean water, well made roads and even public restrooms would be difficult to readjust to if they considered returning to India.

Previous research on postdoctoral employment (Cantwell & Lee, 2010) suggests that often a postdoc is a critical step for Asian faculty in obtaining a faculty position; however, in this

study, out of the 24 participants, only six discussed how working as a postdoc after obtaining the doctorate was an important step towards their first faculty appointment. Further, 22 of 24 participants in this study were already in tenure or tenure-track positions at the time of their interview. Four of the six participants completed their postdocs from rather competitive schools such as Cambridge, Rice, CalTech and Loyola. Of those participants who did discuss their postdoc employment, five participants spent one to two years after obtaining their PhD completing a postdoc to boost their research skills and publication record. One participant spent a longer postdoc appointment, four years, after receiving her PhD not only because postdocs in her field (life sciences) were difficult to come by at the time she was applying nearly one and half decades ago, but also because, when searching for a faculty appointment, she was looking for a city or institution that would offer both her and her husband faculty positions.

Contributions to the Literature

Through my study, I wanted to better understand how academic mobility is connected to wider changes in academic migration and brain drain studies. My findings suggest that extrinsic factors such as better salaries, access to resources or seeking positions for recognition and prestige are not key reasons why Indian faculty are not returning to India. Indian faculty find research intrinsically rewarding and as the participants in this study revealed, working for an institution that supports their research agendas while balancing teaching load and service opportunities motivates them to stay abroad. The importance of having absolute academic freedom was so prevalent that it appeared as a common thread throughout all three major sections of my findings. Participants in this study found it important to “want” to do research as opposed to being “forced” to do research. According to the American Association of University Professors (AAUP, n.d.) website, academic freedom for college and university professors is

generally concerned with giving academics the freedom to teach and publish research free from institutional censorship¹⁹. Because all the participants in this research completed their baccalaureate education in India, they often pointed out the rigidity of academic major exploration. As they pursued their master's and doctorates outside India, they found that they had more freedom to explore research topics related to their field. The participants in this study were not concerned with institutional or state politicization and limitations of their work; rather, they focused on the freedom to explore their own research interests. As such, "academic freedom" for these participants was discussed in a different manner than what is generally understood.

One of the largest criticisms of push-pull models has been their inability to explain why individuals who leave their home countries choose specific locations (Lee et al., 2006; Li & Bray, 2007). For many participants in this study, leaving India to pursue a doctorate abroad was an important first step because, as they explained, it was not easy to switch majors once you started a graduate program at an Indian university. Thus, the very structure of graduate study in India demotivated these participants from pursuing their degrees there. The participants chose Canada, U.S. and U.K. as places of study because the model of higher education allowed more flexibility in choosing a graduate program of study. The participants were able to freely explore their own research interests. This study contributes to the literature regarding the Indian academic system and why students are being pushed from the country at the graduate level. This study argues that a closer look at how the academic system in India is structured is important for migration and brain drain studies.

My findings also revealed that Indian faculty realize the importance of staying connected to research in India to advance STEM research globally. Institutions in Canada, the U.S. and the U.K. are creating policies and establishing formal relationships with Indian universities, which

¹⁹ <http://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure>

encourage faculty to remain connected to India. This is an important contribution to the brain drain literature. The majority of participants in this study were either in tenure or tenure-track positions, indicating that there could be a potential permanent loss of talent with regards to Indian academics. Participants' descriptions of connections with Indian universities and institutional support revealed that knowledge continued to circulate back home, with participants being actively connected to research and with faculty in India. The notion of complete brain drain is changing as more faculty are encouraged to collaborate with their Indian counterparts either through formal institutional relationships or independent collaborations.

Explanations of why these participants would not return to India also highlighted their personal, socio-cultural motivations for remaining abroad. The ability to culturally adapt to current Indian social norms and lifestyle was an important factor in discussing the possibility of returning to India. This study found that faculty have chosen specific Western countries because of the larger opportunities they can offer their families. For participants who were married to other academicians, it was easier to search for dual appointments in Western countries than in India. For participants who had children, the infrastructure (roads, buildings, clean water, amenities) in India was a major factor keeping them abroad. These findings add to the push-pull literature on migration by arguing that family considerations are an important factor in determining which places faculty migrate to. Furthermore, like most faculty the participants in this study wanted to work at the best institutions for their area of research. This study showed that even with such a large higher education system, India had a limited number of top STEM programs and the process for obtaining a permanent faculty position at one of these schools was not only very political but also very difficult.

One way to encourage return migration would be to have more formal partnerships between universities in Canada, U.S. and U.K. and India. My findings demonstrated that Indian faculty at universities abroad were encouraged to collaborate with Indian universities because of formal partnerships between their institutions. One of the pulls that these countries shared was their common national language, English, which made the decision to attend graduate school and then seek faculty appointments easier. The common language made partnerships with Indian universities easier and often, these partnerships led to some participants holding guest lecturer positions at the prestigious IITs, IISc or IIMs. Being in such close proximity to Indian universities encouraged the participants to think about ways that they could return permanently to India. I would recommend that more universities in the center consider creating more formal partnerships that allow for a continuous flow of knowledge between India and the West.

My findings show that there is still much to be desired among Indian universities in recruiting talent back to India. Most importantly, Indian universities should consider the ways in which they communicate open positions to faculty who are currently working abroad. Most of the participants who had applied for jobs in India mentioned that generally all universities in Canada, U.S. and U.K. followed a similar hiring timeline. If Indian universities are serious about recruiting faculty who are trained abroad, not just Indians, they should reconsider their hiring timelines so that candidates can make informed decisions. Indian universities should also be competitive in their hiring packages, including stipulations for travel to international conferences and time to conduct research. My findings demonstrated that in addition to better communication and recruitment processes, Indian universities leave a lot to be desired in terms of faculty incentive and merit structures. Indian universities remain highly politicized environments and

changing the reward and tenure system will not be easy but it warrants some restructuring if these universities are serious about recruiting Western-trained talent.

Implications for Future Research

The findings in this study suggest that there is much we still do not know about faculty career decisions, especially those of faculty coming from peripheral countries. This qualitative study also highlighted some important findings related to women in STEM and the importance of female-to-female mentorship. Research on the low number of women in STEM careers is a global issue requiring further research. While it was difficult to compare the findings from the two females with those from the 22 male participants, the female perspectives on career trajectory and mobility are an important contribution to the literature. The women in this study discussed how the male-dominated systems at many Indian universities would make it difficult for them in particular to return to India. While the participants in this study remained generally positive about the growth of India's academic system, how female faculty succeed in this system will depend largely on systemic changes within the Indian university system.

Furthermore, more research is needed on faculty migration patterns and career mobility to fully encapsulate why faculty not only leave their home countries but also do not return. While this study showed that Indian faculty remain connected and circulate knowledge back to India, once they begin families abroad, it becomes increasingly challenging to return to the country they left as it will make their families feel like outsiders.

As explained in the Literature Review, Self Determination Theory (SDT) argues that all individuals have the inherent need for competence, relatedness and autonomy. As such, individuals will engage in activities that are intrinsically and extrinsically rewarding to achieve one or all of those three goals. What this research showed was that faculty career trajectory is a

very complicated process. While the motivation framework helped look at what pushes and pulls these participants to choose positions in specific countries or institutions, it also limited the way in which human behavior and the decision-making process are understood. Furthermore, the participants in this study did not all migrate to the West at the same time; one third of the participants left India over 40 years ago. While the transnationalism literature was helpful in understanding how these participants acclimated to their new environments, the fact that not all the participants migrated in the same wave or at the same time greatly influenced their views on the Indian culture or academic system. Participants who migrated within the last 10 years remained very positive about the changing structure of the Indian academic system, discussing how research and teaching are improving slowly. This differed from the view that some of the participants who migrated much earlier had. The contrast in the participants views towards how well developed the Indian system of higher education is was found to be greatly influenced by time of migration as well as how connected the participants were to current research and faculty in India. Additionally, all of the participants in this study discussed how the quality of graduate students coming from India was getting better and this was testament to the improvements in the Indian academic system.

Some of the strengths of using a combination of psychological, migration and sociological theories to explain what motivates Indian faculty to seek academic positions in Canada, U.S. and U.K. were that they allowed me to go beyond traditional extrinsic value placed on traditional push-pull theory. Faculty are not solely motivated to leave India for better salaries, more opportunities or infrastructure. However, the results of this study uncovered that Indian faculty decisions to migrate and later emigrate to Canada, U.S. and U.K. was a very complicated process that cannot be completely explained by one single theory. There are many complicated

personal and professional issues that arise throughout ones career trajectory which influences how decisions to stay or leave specific universities or countries are made. As such, one of the weaknesses of using psychological, migration or social network theory to explain faculty decisions on career trajectory is that they cannot fully encapsulate everything, professional and personal, that goes into making a decision for a single individual.

This research supports de Stefanis's (2007) research on family social networks insofar as all of the participants factored their families into discussions about returning to India. One of the limitations of my study was that it was difficult to make overarching generalizations or statements about Indian faculty based on the experiences of 24 participants. However, this study was able to support some of the current literature on push-pull theory with regards to opportunities not being available in the participants' home country.

Additionally, understanding that the faculty recruitment process is different in India and that the process takes much longer can help future faculty carefully plan their career paths if their intent is to return to India. When speaking of their own experiences with the Indian faculty recruitment process, the participants made it clear that one has to understand how to navigate the Indian recruitment process and to be prepared for long periods of waiting. Faculty wanting to return to India should also be aware of the limitations to academic freedom and of the politics of working for Indian universities, which are still very hierarchical. Academic freedom defined by the participants in this study means that Indian universities would have to consider changing some of the limitations placed on faculty who want to develop new and/or change existing curriculum. To attract and retain Indian faculty who have been trained abroad would require some accommodation of the educational practices that these faculty have grown accustomed to in their time outside India.

Finally, while Canada, U.S. and U.K. all share a national language, English, there were significant differences for why each country was attractive to the participants in this study. Despite the fact that the country governmental funding system was limited, Canada's immigration system was by far the most lenient, according to the participants in the study, which made it an attractive place to settle permanently. The U.S. was mentioned as one of the most attractive places to settle in as it has one of the largest and most diverse systems of higher education worldwide, but also there was a good balance of federal and private funding. The U.S. was also cited as being an ideal location to grow professionally as many universities are well connected internationally. There is a historic colonial and economic relationship between India and the U.K., which has greatly influenced migration patterns over the years. One of the reasons why I had difficulty recruiting participants from the U.K. was because many Indian faculty who are currently working at universities are second or third generation British citizens. My definition of non-native faculty was limited to Indian faculty who were born and raised in India and had completed at least their bachelor's degree at an Indian university.

The limitations to these findings illustrate that there are larger themes related to academic mobility and migration. Future research should focus on how decisions to move to specific countries are affected by historic migration patterns and political relationships between participants native and host country. Most of the participants in this study were employed in the same country from which they received their degree. Having gone to graduate school in Canada, U.S. or the U.K. allowed the participants to slowly acclimate to western culture, which influenced many to stay in these countries as professionals. As such, a recommendation for further research would be to explore what motivated Indian faculty to return to India after

receiving their education in one of these countries and research what influenced their decision to leave Canada, U.S. or the U.K. and return to an academic position in India.

Closing Thoughts

This qualitative study revealed many intrinsic factors that motivated Indian faculty to pursue an academic position abroad and stay or leave such a position. While extrinsic values such as better salaries, a more defined faculty tenure and merit system and access to state-of-the-art facilities were mentioned, participants in this study revealed that they placed more weight on academic freedom, research, mentorship and family needs as the most important values to consider when presented with an opportunity for career mobility.

Brain Drain studies have traditionally focused on the one-way loss of talent; this study proves that this is no longer the case with most Indians leaving to study abroad. Knowledge continues to be circulated back to the sending country. In the 2010 study by Lee and Kim, Korean faculty who left to study abroad were viewed as more valuable to the country and as such, there was an intention among them to return after completing their training abroad. While Indian faculty who have left to study and work abroad understand their value, it is difficult for them to return to India when universities there have yet to discover the value of foreign-trained faculty.

As a western outsider who focused on Indian faculty currently teaching at western institutions, it goes without saying that this study comes up short on providing an accurate picture of the Indian academic system from a native point of view. While the participants in this study attended college in India, all of them repeated that unless you attend one of the elite institutions in India, mainly the Indian Institutes, it really is not worth pursuing a graduate education in their native country despite its diverse education system. Interestingly, with the

exception of two participants, most of the interviewees received their degrees and are currently employed at institutions in Canada, the U.S. and the U.K. that are not elite either. These findings showed that in these countries, you can still work at lower ranked universities and still be able to produce quality research, have access to great resources and research facilities. Overall, by researching Indian faculty mobility through qualitative interviews and through different theoretical lens's, this study offers a valuable contribution to the literature on scholarly mobility. This study provides a framework for future research on the complicated process involved in faculty decision making with regards to career trajectory and potentially how to approach future studies on the complicated job process for international faculty seeking employment outside their native countries.

Appendix A: Recruitment Email, Purposive

Subject Line: Seeking participants for a research study on faculty career trajectory

Body of Email:

Dear Professor (LAST NAME):

My name is Annette Bhatia and I am a doctoral candidate in Higher Education at the University of Arizona. I am conducting a study on Indian faculty career trajectory. Specifically, I am interested in researching what factors motivate non-native born Indian faculty to pursue academic positions in western countries instead of seeking similar positions in India.

I am looking for Indian faculty members who hold academic positions to be involved a one-on-one interview at [INSTITUTION] during [DATES] that will last approximately one to one and a half hours. Alternatively, if you are not able to meet with me during those dates we can arrange an interview to be conducted on the phone, or through Skype. If you would not mind being interviewed, please let me know. I would like to schedule a time to speak with you this month. Also, I would be more than happy to answer any questions you have in mind.

Your email address was obtained from your departmental website at (INSERT WEBSITE). If you take part in this study, I will schedule an interview at your convenience so I may hear more about your story. You are not obligated to participate in this study nor will you receive any form of compensation to participate in this study. Participation is strictly on a voluntary basis; however, everything possible will be made to work around your schedule. Your name, phone number, position and any other identifiable information will remain confidential and known only myself, the researcher. Your story will remain anonymous throughout the study and final published product.

An Institutional Review Board responsible for human subjects research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

If you are interested in participating or have any questions about the study, please email me at aorozco@email.arizona.edu to schedule an interview; additionally I may be reached via telephone at (520) 270-1895.

Thank you for your time.

Sincerely,

Annette Orozco-Bhatia, Principal Investigator
Doctoral Candidate
The University of Arizona Center for the Study of Higher Education
(520) 270-1895
aorozco@email.arizona.edu

Appendix B: Recruitment Email, Referral

Subject Line: Referral from Professor (FIRST/LAST NAME) - Seeking participants for a research study on faculty career trajectory

Body of Email:

Dear Professor (LAST NAME):

I was referred to you by professor _____ at _____ University. I am conducting a study on Indian faculty career trajectory. Specifically, I am interested in researching what factors motivate non-native born Indian faculty to pursue academic positions in western countries instead of seeking similar positions in India. You are receiving this email because you are a faculty member who meets the criteria for this study based on a direct referral by professor ____ and by the information listed on your public university profile and or curriculum vitae.

I am looking for Indian faculty members who hold academic positions to be involved a one-on-one interview at [INSTITUTION] during [DATES] that will last approximately one to one and a half hours. Alternatively, if you are not able to meet with me during those dates we can arrange an interview to be conducted on the phone, or through Skype. If you would not mind being interviewed, please let me know. I would like to schedule a time to speak with you this month. Also, I would be more than happy to answer any questions you have in mind.

If you take part in this study, I will schedule an interview at your convenience so I may hear more about your story. You are not obligated to participate in this study nor will you receive any form of compensation to participate in this study. Participation is strictly on a voluntary basis; however, everything possible will be made to work around your schedule. Your name, phone number, position and any other identifiable information will remain confidential and known only myself, the researcher. Your story will remain anonymous throughout the study and final published product.

An Institutional Review Board responsible for human subjects research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

If you are interested in participating or have any questions about the study, please email me at aorozco@email.arizona.edu to schedule an interview; additionally I may be reached via telephone at (520) 270-1895.

Thank you for your time.

Sincerely,

Annette Orozco-Bhatia, Principal Investigator

Doctoral Candidate

The University of Arizona Center for the Study of Higher Education

Appendix C: Interview Questions

Background information to be gathered before interview where available via department websites and/or curriculum vitae.

Position of Interviewee:

Length of time in current position:

Location of employment:

Interview Questions:

1. Where did you receive your PhD from and why did you choose that institution?
2. Walk me through your decision to become a faculty member. What attracted you to this career?
3. What resources did/do you use during your job search?
 - a. Were there any legal or organizational obstacles that you encountered when applying for your position?
 - b. Did you apply at any other institutions abroad? What issues did you face during the application process there?
4. As a foreign national, can you please walk me through the procedure you followed when applying for an academic position in the U.S.? How does this differ from the procedure followed when applying for an academic position in India?
5. Why did you choose to start (or continue) your career at current institution?
6. What are the major advantages and disadvantages of pursuing an academic career in the U.S.?
7. If you were offered a good academic job in India, would you consider returning? Why or Why not?
 - a. Which important factors would you weigh as the most important in order for you to return to an academic position in India?
8. Where do you see yourself in the next 5 years?
 - a. Ideally where would you like to be in the next 10-20 years?
9. If you were offered an academic position in another country, which country (ies) would you consider and why?
 - a. Which resources would you use to start the application process?

- b. Which factors would you weigh as the most important in order for you to apply to another institution?
- 10. What resources do you use on a regular (or irregular) basis to network within your career? (i.e. attend regional and international conferences or collaborate with academic peers at outside institutions, visiting scholars).
 - a. What extracurricular organizations are you involved with or a member of?
 - b. (if not answered) are there any organizations or memberships in India that you are regularly active with?
- 11. Do you keep in touch with any faculty in India?
 - a. If so, how often and to what extent?
 - b. If not why not?
- 12. Does your department or institution promote and encourage academic relationships with Indian institutions?
- 13. How accessible is research data in India for your current field?
- 14. How would you rate the academic climate in India?

References

- Ackers, L., & Gill, B. (2005). Attracting and retaining “early career” researchers in English higher education institutions 1. *Innovation*, 18(3), 277-299.
- Agrawal, A. (2014). *Diaspora networks, knowledge flows and brain drain* (Economic Research Working Paper No. 15). Economics and Statistics Division, World Intellectual Property Organization. Retrieved from http://www.wipo.int/edocs/pubdocs/en/wipo_pub_econstat_wp_15.pdf
- Agarwal, P. (2007). Higher education in India: Growth, concerns and change agenda. *Higher Education Quarterly*, 61(2), 197-207.
- Aigner, J. S. (1992). *Internationalizing the university: Making it work*. ERIC Number: ED342316.
- Altbach, P. G. (1998). *Comparative higher education: Knowledge, the university and development*. Hong Kong: Comparative Education Research Centre, The University of Hong Kong.
- Altbach, P. G. (2004). Globalisation and the university: Myths and realities in an unequal world. *Tertiary Education and Management*, 10, 3-25.
- Altbach, P. G. (2009). One-third of the globe: The future of higher education in China and India. *Prospects*, 39(1), 11-31.
- Altbach, P. G. (2013). *The international imperative in higher education*. Rotterdam/Boston/Taipei: Sense Publishers.
- Altbach, P. G. (2014, September 4). Why do Indians want to study abroad? *The Hindu*, Retrieved from <http://www.thehindu.com/opinion/op-ed/why-do-indians-want-to-study-abroad/article6376892.ece>

- Altbach, P. G., & Bassett, R. M. (2004). The brain trade. *Foreign Policy*, 144, 30-31.
- Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education*, 11(3/4), 290-305.
- Altbach, P. G., & Teichler, U. (2001). Internationalization and exchanges in a globalized university. *Journal of Studies in International Education*, 5(1), 5-25.
- American Association of University Professors. (n.d.). *Statement of principles on academic freedom and tenure*. Retrieved from <http://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure>
- Ananthakrishnan, N. (2007). Acute shortage of teachers in medical colleges: Existing problems and possible solutions. *The National Medical Journal of India*, 20(1), 25-29.
- Appelt, S., van Beuzekom, B., Galindo-Rueda, F., & de Pinho, R. (2015). Which factors influence the international mobility of research scientists? *OECD Science, Technology and Industry Working Papers* (No. 2015/02). Paris: OECD Publishing.
- Atkinson, R., & Flint, J. (2001). Accessing hidden and hard-to-reach populations: Snowball research strategies. *Social Research Update*, 33. Retrieved from <http://sru.soc.surrey.ac.uk/SRU33.html>.
- Beck, U. (2000). *What is globalization?* Cambridge: Polity Press.
- Biernacki, P., & Waldorf, D. (1981). Snowball sampling: Problems and techniques of chain referral sampling. *Sociological Methods & Social Research*, 10, 141–163.
- Bhattacharya, B. (2004, July). *Distance education through technology mediated learning: The engineering education scenario in India*. Paper presented at Third Pan-Commonwealth Forum on Open Learning, Dunedin, New Zealand.

- Blickenstaff, J. C. (2005). Women and science careers: Leaky pipeline or gender filter? *Gender and Education, 17*(4), 369-386.
- Bown, C. P. (2011). Introduction. In C. P. Bown (Ed.), *The great recession and import protection: The role of temporary trade* (pp. 1-52). Washington, D.C.: CEPR and World Bank.
- Browne, K. (2005). Snowball sampling: Using social networks to research non-heterosexual women. *International Journal of Social Research Methodology, 8*(1), 47-60.
- Cantwell, B., Luca, S. G., & Lee, J. J. (2009). Exploring the orientations of international students in Mexico: Differences by region of origin. *Higher Education, 57*(3), 335-354.
- Cantwell, B., & Lee, J. (2010). Unseen workers in the academic factory: Perceptions of neoracism among international postdocs in the United States and the United Kingdom. *Harvard Educational Review, 80*(4), 490-517.
- Casey, T., Mahroum, S., Ducatel, K., & Barré, R. (Eds.). (2001). The mobility of academic researchers: Academic careers and recruitment in ICT and biotechnology. European Commission: Joint Research Centre (DG JRC), EUR 19905EN.
- Castells, M. (1996). *The rise of the network society*. Vol. 1 of *The information age: Economy, society and culture*. Massachusetts and Oxford: Blackwell.
- Castells, M. (2004). *The network society: A cross-cultural perspective*. Massachusetts: Edward Elgar.
- Chen, L. H. (2007). Choosing Canadian graduate schools from afar: East Asian students' perspectives. *Higher Education, 54*(5), 759-780.
- Cohen, R. (1997). *Global diasporas: An introduction*. London: University College London Press.

- Cohen, N., & Arieli, T. (2011). Field research in conflict environments: Methodological challenges and snowball sampling. *Journal of Peace Research* (4), 423-435.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five designs*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed method approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed method approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Dahinden, J. (2010). The dynamics of migrants' transnational formations: Between mobility and locality (pp. 51-71). In R. Bauböck & T. Faist (Eds.), *Diaspora and transnationalism: Concepts, theories and methods*. Amsterdam: Amsterdam University Press.
- Dasgupta, S. D. (1998). Gender roles and cultural continuity in the Asian Indian immigrant community in the US. *Sex Roles*, 38(11-12), 953-974.
- De Charms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press.
- De Hass, H. (2008). *Migration and development: A theoretical perspective* (Working Paper series 9). Oxford: International Migration Institute, University of Oxford.
- Deci, E. L. (1972). The effects of contingent and noncontingent rewards and controls on intrinsic motivation. *Organizational Behavior and Human Performance*, 8(2), 217-229.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268.

- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, 26(3-4), 325-346.
- Denzin, N. K., & Lincoln, Y. S. (2000). Strategies of inquiry. *Handbook of qualitative research*, 2, 367-378.
- De Stefanis, T. Y. (2007). *The shifting career strategies and networks of Asian female faculty in the fields of science and engineering in the southwestern United States*. Unpublished doctoral dissertation. University of Arizona.
- De Welde, K., & Laursen, S. (2011). The glass obstacle course: Informal and formal barriers for women Ph.D. students in STEM fields. *International Journal of Gender, Science and Technology*, 3(3), 547-570.
- Diekmann, A. B., Brown, E. R., Johnston, A. M., & Clark, E. K. (2010). Seeking congruity between goals and roles a new look at why women opt out of science, technology, engineering, and mathematics careers. *Psychological Science*, 21(8), 1051-1057.
- Dietz, J. S., & Bozeman, B. (2005). Academic careers, patents, and productivity: Industry experience as scientific and technical human capital. *Research Policy*, 34, 349-367.
- Duda, J. L., Chi, L., Newton, M. L., & Walling, M. D. (1995). Task and ego orientation and intrinsic motivation in sport. *International Journal of Sport Psychology*, 26(1), 40-63.
- Dussel, E. D., Tuma, V. C., & Krauel, J. (2000). Europe, modernity, and eurocentrism. *Nepantla: Views from South*, 1(3), 465-478.

- Dustmann, C., Fadlon, I., & Weiss, Y. (2008). Return migration and human capital accumulation. *Journal of Development Economics*, 95(1).
- Early, D. M., Rogge, R. D., & Deci, E. L. (2014). Engagement, alignment, and rigor as vital signs of high-quality instruction: A classroom visit protocol for instructional improvement and research. *The High School Journal*, 97(4), 219-239.
- Eisemon, T. O. (1974). The effect of US training: A study of American-educated Indian engineering faculty. *International Review of Education*, 20(1), 36-52.
- Enders, J. (1999). Crisis? What Crisis?: The academic professions in the “knowledge” society, *Higher Education*, 38, 71-81.
- Fahey, J., & Kenway, J. (2010). International academic mobility: Problematic and possible paradigms. *Discourse: Studies in the Cultural Politics of Education*, 31(5), 563-575.
- Fernandez, R. M., Castilla, E. J., & Moore, P. (2000). Social capital at work: Networks and employment at a phone center. *American Journal of Sociology*, 105(5), 1288-1356.
- Findlay, A., King, R., Stam, A., & Ruiz-Gelices, E. (2006). Ever reluctant Europeans: The changing geographies of UK students studying and working abroad. *European Urban and Regional Studies*, 13(4), 291-318.
- Finn, M. G. (2010). *Stay rates of foreign doctorate recipients from U.S. universities, 2007*. Science Education Programs, Oak Ridge Institute for Science and Education, United States Department of Energy. Retrieved from <http://orise.orau.gov/science-education/difference/stay-rates-impact.aspx>.
- Frederick, C. M., & Ryan, R. M. (1995). Self-determination in sport: A review using cognitive evaluation theory. *International Journal of Sport Psychology*, 26(1), 5-23.

- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331-362.
- Gaillard, J., & Gaillard, A. M. (1997). Introduction: The international mobility of brains: Exodus or circulation? *Science Technology & Society*, 2, 195-228.
- Gibson, J., & McKenzie, D. (2011). The microeconomic determinants of emigration and return migration of the best and brightest: Evidence from the Pacific. *Journal of Development Economics*, 95(1), 18-29.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley, CA: University of California Press.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- Goel, S., & Salganik, M. J. (2010). Assessing respondent-driven sampling. *Proceedings of the National Academy of Sciences*, 107(15), 6743-6747.
- Green, W., & Myatt, P. (2011). Telling tales: A narrative research study of the experiences of new international academic staff at an Australian university. *International Journal for Academic Development*, 16(1), 33-44.
- Griffith, A. L. (2010). Persistence of women and minorities in STEM field majors: Is it the school that matters? *Economics of Education Review*, 29(6), 911-922.
- Griffiths, P., Gossop, M., Powis, B., & Strang, J. (1993). Reaching hidden populations of drug users by privileged access interviewers: Methodological and practical issues. *Addiction*, 88(12), 1617-1626.
- Halcomb, E. J., & Davidson, P. M. (2006). Is verbatim transcription of interview data always necessary? *Applied Nursing Research*, 19(1), 38-42.

- Hammersley, M. (2010). Reproducing or constructing? Some questions about transcription in social research. *Qualitative Research, 10*(5), 553-569.
- Han, X., Stocking, G., Gebbie, M. A., & Appelbaum, R. P. (2015). Will they stay or will they go? International graduate students and their decisions to stay or leave the US upon graduation. *PloS one, 10*(3), e0118183.
- Healey, N. M. (2008). Is higher education in *really* “internationalising”? *Higher Education, 55*, 333-355.
- Heckathorn, D. D. (2011). Snowball versus respondent driven sampling. *Sociological Methodology, 41*(1), 355–366.
- Heffernan, T., & Poole, D. (2005). In search of “the vibe”: Creating effective international education partnerships. *Higher Education, 50*(2), 223-245.
- Held, D., & McGrew, A. (2007). Introduction: Globalization at risk? In D. Held & A. McGrew, *Globalization theory: Approaches and controversies* (pp. 1-11). Cambridge: Polity Press.
- Hernandez, D. (2011). *An exploration of the relationships among relatedness, identity threat, and academic achievement in minority students in higher education*. Unpublished doctoral dissertation. University of Arizona.
- Hirst, P., & Thompson, G. (1999). Introduction: Globalization—A necessary myth? In P. Hirst & G. Thompson (Eds.), *Globalization in Question*. Cambridge: Polity Press.
- Hoffman, D. M. (2007). The career potential of migrant scholars: A multiple case study of long-term academic mobility in Finnish universities. *Higher Education in Europe, 32*(4), 317-331.

- Hoffman, D. M. (2009). Changing academic mobility patterns and international migration: What will academic mobility mean in the 21st Century? *Journal of Studies in International Education*, 13, 347-364. Originally published online 25 July 2008.
- Hull, C. (1943). *Principles of behavior*. New York: Appleton-Century-Crofts.
- Hunter, R. S., Oswald, A. J., & Charlton, B. G. (2009). The elite brain drain. *The Economic Journal*, 119(538), F231-F251.
- Jarvis, D. S. (2007). *Theorizing risk: Ulrich Beck, globalization and the rise of the risk society*. Singapore: Lee Kuan Yew School of Public Policy. Retrieved from <http://arsiv.setav.org/ups/dosya/17647.pdf>
- Jayaram, N. (2003). The fall of the guru: The decline of the academic profession in India. In P. Altbach (Ed.), *The decline of the guru* (1-21). New York: Palgrave MacMillan.
- Jayaram, N. (2006). India. In J. J. F. Forest & P. G. Altbach (Eds.). *International handbook of higher education*, 1 (Volume 18, 747-767). New York: Springer.
- Johanson, J., & Vahlne, J. E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40(9), 1411-1431.
- Johnston, L. G., & Sabin, K. (2010). Sampling hard-to-reach populations with respondent driven sampling. *Methodological Innovations Online*, 5(2), 38-48.
- Kerr, W. R. (2013). *US high-skilled immigration, innovation, and entrepreneurship: Empirical approaches and evidence* (NBER Working Paper No. 19377). Cambridge, MA: National Bureau of Economic Research.
- Khadria, B. (2001). Shifting paradigms of globalization: The Twenty First Century transition towards generics in skilled migration from India. *International Migration*, 30(5), 45-71.

- Khadria, B. (2002). *Skilled labour migration from developing countries: A study of India* (International Migration Papers, No. 49). Geneva: International Labour Office.
- Khadria, B. (2003). Case-study of the Indian scientific diaspora. In R. Barré et al. (Eds.), *Diasporas scientifiques*. Paris: Institut de recherche pour le développement (IRD).
- Khadria, B. (2009). *India migration report 2009 past, present and the future outlook*. India: Jawaharlal Nehru University, Cambridge University Press.
- Kim, T. (2010). Transnational academic mobility, knowledge, and identity capital. *Discourse: Studies in the Cultural Politics of Education*, 31(5), 577-591.
- Kiemer, K., Gröschner, A., Pehmer, A. K., & Seidel, T. (2015). Effects of a classroom discourse intervention on teachers' practice and students' motivation to learn mathematics and science. *Learning and Instruction*, 35, 94-103.
- Kivisto, P. (2001). Theorizing transnational immigration: A critical review of current efforts. *Ethnic and Racial Studies*, 24(4), 549-577.
- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119(2), 254.
- Knight, J. (1994). *Internationalization: Elements and checkpoints* (Research Monograph 7). Ottawa: Canadian Bureau for International Education.
- Knight, J. (2004). Internationalization remodeled: Definition, approaches, and rationales. *Journal of Studies in International Education*, 8(1), 5-31.
- Krishna, V. V., & Khadria, B. (1997). Phasing scientific migration in the context of brain gain and brain drain in India. *Science Technology Society*, 2(2), 347-385.

- Lee, J. J., & Kim, D. (2010). Brain gain or brain circulation? U.S. doctoral recipients returning to South Korea. *Higher Education, 59*(5), 627-643.
- Lee, J., Maldonado-Maldonado, A., & Rhoades, G. (2006). The political economy of international student flows: Patterns, ideas and propositions. In J. Forrest (Ed.), *International handbook of higher education*. Tucson: Centre for the Study of Higher Education, University of Arizona.
- Levitt, P. (2004, October 1). Transnational migrants: When “home” means more than one country. *Migration Information Source*. Migration Policy Institute. Retrieved from <http://www.migrationpolicy.org/article/transnational-migrants-when-home-means-more-one-country>
- Levitt, P., & Schiller, N. G. (2004). Conceptualizing simultaneity: A transnational social field perspective on society. *International Migration Review, 38*(145), 595-629.
- Li, M., & Bray, M. (2007). Cross-border flows of students for higher education: Pushpull factors and motivations of mainland Chinese students in Hong Kong and Macau. *Higher Education, 53*, 791-818.
- Madhavan, R., & Iriyama, A. (2009). Understanding global flows of venture capital: Human networks as the “carrier wave” of globalization. *Journal of International Business Studies, 40*(8), 1241-1259.
- Maltese, A. V., & Tai, R. (2011). Pipeline persistence: Examining the association of educational experiences with earned degrees in STEM among US students. *Science Education, 95*(5), 877-907.
- Marginson, S., & Rhoades, G. (2002). Beyond national states, markets, and systems of higher education: A glonacal agency heuristic. *Higher Education, 43*(3), 281-309.

- Marginson, S., & Sawir, E. (2005). Interrogating global flows in higher education. *Globalisation, Societies and Education*, 3(3), 281 – 309.
- Marginson, S., & van der Wende, M. (2007). *Globalization and higher education*. Paris: OECD.
- Marston, S. A., Woodward, K., & Jones, J. P. (2007). Flattening ontologies of globalization: The Nollywood case. *Globalizations*, 4(1), 45-63.
- Maurais, J. (2003). Towards a new linguistic order. In J. Maurais & M. Morris (Eds.), *Languages in a globalizing world* (pp. 13-36). Cambridge: Cambridge University Press.
- Maxwell, J. (2005). *Qualitative research design: An interactive approach* (2nd ed.). Thousand Oaks, CA: Sage.
- Mayr, K., & Peri, G. (2008). *Return migration as a channel of brain gain* (NBER Working Paper No. 14039). Cambridge, MA: National Bureau of Economic Research.
- Mazzarol, T., & Soutar, G. N. (2002). “Push-pull” factors influencing international student destination choice. *The International Journal of Educational Management*, 16, 82-90.
- Miller-Idriss, C., & Hanauer, E. (2011). Transnational higher education: Offshore campuses in the Middle East. *Comparative Education*, 47(2), 181-207.
- Ministry of Human Resource Development. (2015, August 13). *University and higher education*. Department of Higher Education, Government of India. Retrieved from <http://mhrd.gov.in/university-and-higher-education>
- Mukul, A. (2009, November 9). HRD Taskforce to tackle faculty shortage in universities. *The Times of India*. Retrieved from <http://timesofindia.indiatimes.com/india/HRD-taskforce-to-tackle-faculty-shortage-in-universities/articleshow/5210370.cms>
- Musselin, C. (2004). Towards a European academic labour market? Some lessons drawn from empirical studies on academic mobility. *Higher Education*, 48, 55-78.

- National Knowledge Commission. (2008). *More quality Ph.Ds*. New Delhi: National Knowledge Commission, Government of India. Retrieved from <http://knowledgecommissionarchive.nic.in/downloads/documents/moreQualityPhD.pdf>
- National Science Foundation. (2014). *Science and Engineering Indicators 2014* (NSB 14-01). Arlington VA: National Science Foundation. Retrieved from <http://www.nsf.gov/statistics/seind14/content/overview/overview.pdf>
- National Science Foundation. (2015). *Science and engineering degrees by race/ethnicity of recipients: 2002-2012*. Detailed Statistical Tables, NSF 15-321, May 2015. Retrieved from <http://www.nsf.gov/statistics/2015/nsf15321/pdf/nsf15321.pdf>
- Neelakantan, S. (2008a, October 6). India's faculty shortage worsens, with 50% of positions vacant. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/India-s-Faculty-Shortage/41747>
- Neelakantan, S. (2008b, December 12). India's faculty shortage hits elite business schools. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Indias-Faculty-Shortage-Hi/42112/>
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328.
- Noy, C. (2004). Performing identity: Touristic narratives of self-change. *Text and Performance Quarterly*, 24(2), 115–138.
- Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of Social Research Methodology*, 11(4), 327-344.
- OECD. (2002). *GATS: The case for open services markets*. Paris: OECD.

- OECD. (2004). Part II. Counting Immigrants and Expatriates in OECD Countries: A New Perspective. In *Trends in International Migration* (SOPEMI 2004 Edition, pp. 115-149). Retrieved from <http://www.oecd.org/els/mig/TIM%202004%20chapter%202.pdf>
- OECD. (2011). Part I. Trends in International Migration. In *International Migration Outlook* (SOPEMI 2011 Edition, pp. 40-139). Paris: OECD.
- Oommen, T.K. (1989). India: "Brain drain" or the migration of talent? *International Migration*, 27(3), 411-425. Article first published online 30 July 2009.
- Pelletier, L. G., Fortier, M. S., Vallerand, R. J., Tuson, K. M., Briere, N. M., & Blais, M. R. (1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The Sport Motivation Scale (SMS). *Journal of Sport and Exercise Psychology*, 17, 35-35.
- Portes, A., Guarnizo, L. E., & Landolt, P. (1999). The study of transnationalism: Pitfalls and promise of an emergent research field. *Ethnic and Racial Studies*, 22(2), 217-237.
- Puiggrós, A. (1999). Neoliberalism. In A. Puiggrós (Ed.), *Neoliberalism and education in the Americas* (pp. 69-104). Boulder, CO: Westview Press.
- Raj, A., & Silverman, J. G. (2003). Immigrant South Asian women at greater risk for injury from Intimate partner violence. *American Journal of Public Health*, 93(3), 435-437.
- Riegle-Crumb, C., King, B., Grodsky, E., & Muller, C. (2012). The more things change, the more they stay the same? Prior achievement fails to explain gender inequality in entry into STEM college majors over time. *American Educational Research Journal*, 49(6), 1048-1073.

- Robertson, S. L. (2006). Globalisation, GATS and trading in education services. In J. Kall & R. Rinne (Eds.), *Supranational regimes and national education policies: Encountering challenge*. Helsinki: Finnish Education Research Association.
- Robertson, S. L., Bonal, X., & Dale, R. (2002). GATS and the education service industry: The politics of scale and global reterritorialization. *Comparative Education Review*, 46(4), 472-495.
- Rodríguez González, C., Bustillo Mesanza, R., & Mariel, P. (2010). The determinants of international student mobility flows: An empirical study on the Erasmus programme. *Higher Education*, 62(4), 413-430.
- Roos, P., & Gatta, M. (2009). Gender (in) equity in the academy: Subtle mechanisms and the production of inequality. *Research in Social Stratification and Mobility*, 29(3), 177-200.
- Rubin, H., & Rubin, R. (2005). *Qualitative interviewing: The art of hearing data*. Thousand Oaks, CA: Sage.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, 43(3), 450.
- Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Ryan, R. M., & Deci, E. L. (2000b). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67.
- Saxenian, A. L. (1999). *Silicon Valley's new immigrant entrepreneurs*. San Francisco: Public Policy Institute of California.
- Saxenian, A. L. (2002). Brain circulation: How high-skill immigration makes everyone better off. *The Brookings Review*, 20(1), 28-31.

- Saxenian, A. L. (2005). From brain drain to brain circulation: Transnational communities and regional upgrading in India and China. *Studies in Comparative International Development*, 40(2), 35-61.
- Saxenian, A. L. (2006). *The new argonauts: Regional advantage in a global economy*. Cambridge, MA: Harvard University Press.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. New York: Teachers College Press.
- Sengupta, S. (2006, October 17). Skills gap hurts technology boom in India. *The New York Times*. Retrieved from <http://www.nytimes.com/2006/10/17/world/asia/17india.html>
- Schugurensky, D., & Davidson-Harden, A. (2003). From Córdoba to Washington: WTO/GATS and Latin American education. *Globalisation, Societies and Education*, 1(3), 321-357.
- Scott, R. A. (1994). Campus developments in response to the challenges of internationalization: The case of Ramapo College of New Jersey (USA). *Higher Education Management*, 6(1), 71-89.
- Sharma, P., & Sharma, K. A. (2009). Implications of hiring diverse faculty for higher education in India [Correspondence]. *Current Science*, 97(10), 1399.
- Skukauskaite, A. (2012). Transparency in transcribing: Making visible theoretical bases impacting knowledge construction from open-ended interview records. *Forum Qualitative Social Research*, 13(4).
- Slaughter, S., & Leslie, L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. Baltimore: Johns Hopkins University Press.
- Slaughter, S., & Rhoades, G. (2004). *Academic capitalism and the new economy. Markets, state and higher education*. Baltimore/London: Johns Hopkins University Press.

- Smith, M. P. (2003). Transnationalism and citizenship. In B. S. A. Yeoh, M. W. Charney & T. C. Kiong (Eds.), *Approaching Transnationalisms* (pp. 15-38). New York: Springer.
- Stella, A. (2004). External quality assurance in Indian higher education: Developments of a decade. *Quality in Higher Education*, 10(2), 115-127.
- Stephan, P. E., & Levin, S. G. (2001). Exceptional contributions to US science by the foreign-born and foreign-educated. *Population Research and Policy Review*, 20(1-2), 59-79.
- Tannock, S. (2007). To keep America number 1: Confronting the deep nationalism of US higher education. *Globalisation, Societies and Education*, 5(2), 257-272.
- Teferra, D. (2005). Brain circulation: Unparalleled opportunities, underlying challenges, and outmoded presumptions [Electronic Version]. *Journal of Studies in International Education*, 9, 229-279.
- Teichler, U. (2001). Changes of ERASMUS under the umbrella of SOCRATES. *Journal of Studies in International Education*, 5(3), 201-227.
- Thorn, K., & Holm-Nielsen, L. B. (2008). International mobility of researchers and scientists: Policy options for turning a drain into a gain. In A. Solimano (Ed.), *The international mobility of talent: Types, causes, and development impact* (pp. 145-167). Oxford: Oxford University Press.
- Tilak, J. B. G. (2008a). Transition from higher education as a public good to higher education as a private good: The saga of Indian experience. *Journal of Asian Public Policy*, 1(2), 220-234.
- Tilak, J. B. G. (2008b). Higher education: A public good or a commodity for trade? Commitment to higher education or commitment of higher education trade. *Prospects*, 38, 449-446.

- Tinto, V. (1982). Limits of theory and practice in student attrition, *Journal of Higher Education*, 53(6), 687-700.
- Tölölyan, K. (1996). Rethinking diaspora(s): Stateless power in the transnational moment. *Diaspora: A Journal of Transnational Studies*, 5(1), 3-36.
- Trow, M. (1984). The Analysis of Status. In B. R. Clark (Ed.), *Perspectives on higher education: Eight disciplinary and comparative views*. Los Angeles: University of California Press.
- Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C., & Vallieres, E. F. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement*, 52(4), 1003-1017.
- Vallerand, R. J., & Reid, G. (1984). On the causal effects of perceived competence on intrinsic motivation: A test of cognitive evaluation theory. *Journal of Sport Psychology*, 6(1), 94-102.
- Van Hear, N. (1998). *New diasporas: The mass exodus, dispersal and regrouping of migrant communities*. Seattle: University of Washington Press.
- Varghese, N. V. (2008). *Globalization of higher education and cross-border student mobility*. Paris: International Institute for Education Planning.
- Velayutham, S., & Wise, A. (2005). Moral economies of a translocal village: Obligation and shame among South Indian transnational migrants. *Global Networks*, 5(1), 27-47.
- Vertovec, S. (1998). Multicultural policies and modes of citizenship in European cities. *International Social Science Journal*, 50(156), 187-199.
- Vertovec, S. (1999). Conceiving and researching transnationalism. *Ethnic and Racial Studies*, 22(2), 447-462.

- Vertovec, S. (2003). Migration and other modes of transnationalism: Towards conceptual cross-fertilization. *International Migration Review*, 37(3), 641-665.
- Wadhwa, V., Saxenian, A., Freeman, R., & Salkever, A. (2009). *Losing the world's best and brightest: America's new immigrant entrepreneurs, Part V*. Retrieved from http://www.law.harvard.edu/programs/lwp/people/staffPapers/vivek/Vivek_Losing_the_best_and_brightest.pdf
- Waters, M. (1995). A world of difference. In M. Waters (Ed.), *Globalization* (pp. 1-25). London: Routledge.
- Walton-Roberts, M. (2011). Immigration, trade and “ethnic surplus value”: A critique of Indo-Canadian transnational networks. *Global networks*, 11(2), 203-221.
- White, A. (2007, August 13). Indian students flock to the U.S. *Forbes*. Retrieved from http://www.forbes.com/2007/08/05/india-america-students-oped-cz_aaw_0813students.html
- Willis, D. (2007). *Phenomenology, advanced qualitative methods* [Class lecture]. Boston College.
- Wiersma, U. J. (1992). The effects of extrinsic rewards in intrinsic motivation: A meta-analysis. *Journal of Occupational and Organizational Psychology*, 65(2), 101-114.
- Wolf, M. (2004). *Why globalization works*. New Haven: Yale University Press.
- Wolfinger, N. H. (2002). On writing fieldnotes: Collection strategies and background expectancies. *Qualitative Research*, 2(1), 85-95.
- Zeebroeck, N., Pottelsberghe de la Potterie, B., & Guellec, D. (2008). Patents and academic research: A state of the art. *Journal of Intellectual Capital*, 9(2), 246-263.

Zong, J., & Batlova, J. (2015, May 6). *Indian immigrants in the United States*. Migration Policy Institute. Retrieved from <http://www.migrationpolicy.org/article/indian-immigrants-united-states>