NAVIGATING CAREERS IN THE UNITED STATES: EXPERIENCES OF IRANIAN

HIGHLY EDUCATED IMMIGRANTS IN STEM PROFESSIONAL FIELDS

A Dissertation

by

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ABSTRACT

Iranian highly educated immigrants working as Science, Technology, Engineering, and Math (STEM) professionals in the United States were the target population for this dissertation study. The purpose was to explore career experiences of this group of immigrants and the strategies they used to navigate their careers in the host country. Many of the Iranian STEM professionals have made meaningful impacts on the U.S. knowledge-driven economy. Despite their contributions, there is a dearth of knowledge about their career experiences in the U.S. To prevent skill underutilization of a population of workers who are highly educated and competent, it is important to understand their career experiences in the host country.

I conducted a basic qualitative interpretive study, informed by a constructivist paradigm. I interviewed 22 Iranian immigrants who have obtained at least a Bachelor's degree in a STEM discipline from an Iranian university, sought advanced education in the U.S., and worked as STEM professionals in the U.S. for at least one year. Interview transcripts were used for constant comparative analysis.

Given the historic political conflicts between Iran and the United States, the most significant contribution of this study is highlighting the unique challenges of navigating careers in a context of political conflict (between the country of origin and destination). My findings suggested that despite of their qualifications, Iranian STEM professionals faced several barriers to obtaining job and career opportunities in the United States. These challenges occurred at three levels: (1) unique to Iranian STEM professionals (e.g., limited access to opportunities due to sanctions and export control policies), (2) experienced by other foreigner professionals with immigrant backgrounds from developing countries (e.g., language barriers), and (3) shared with

highly educated American counterparts (e.g., challenges of the first job). Nevertheless, participants identified professional growth and collegiality of the workplace environment as positive outcomes of pursuing education and careers in the United States.

Another significant contribution of my study is identifying psychological strategies used by participants to address the challenges encountered. These strategies are: adopting the growth mindset and developing resilience. In addition, from this study findings illuminated behavioral coping strategies, such as managing the immigration status and working hard. Finally, social support from a mentor, a colleague, or a hiring manager mitigated the challenges facing participants.

This study have several implications for human resource development (HRD) and career scholarship and practice. Findings demonstrate that political conflict between host and home countries can interfere with highly educated immigrants' careers. The challenging context provided the opportunity to study how individuals responded to the environment in which their careers evolved. Further, findings from my study inform HRD professionals to better recognize and understand the challenges facing Iranian highly educated STEM immigrants in the U.S. A better understanding of challenges can help practitioners to identify appropriate interventions to assist them in addressing their career challenges.

DEDICATION

To Iranian Talent Living Abroad

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Contributors

This work was supervised by a dissertation committee consisting of Dr. Jia Wang, Dr. Mary Alfred, Dr. Khalil Dirani of the Educational Administration and Human Resource Development Department at Texas A&M University, Dr. Patricia Goodson of Department of Health & Kinesiology at Texas A&M University, and Dr. Julia Richardson of Faculty of Business & Law at Curtin University.

All other work conducted for this dissertation was completed by the student independently.

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CHAPTER I

INTRODUCTION

This chapter provides an introduction to the topic of this dissertation and its overall

purpose. It begins with a short opening case to portray the phenomenon under study. Then, it

draws attention to gaps in the existing literature and the problem addressed in this study. This

chapter continues with presenting an overview of the theoretical foundation, research methods

employed, and the study's significance. It concludes with defining the boundaries of the study

and definitions of the terms used throughout the dissertation.

Background of the Study

> Mohsen, an early-career engineer, graduated with a Master's degree from a well-recognized Iranian university before he moved from Tehran to Texas to pursue his desire for high-quality higher education and opportunities to become an expert in his field. Many of his top-performing classmates had already migrated to the United States, and some were working at companies or universities there. Mohsen relocated abroad after being recruited at a professor's research lab as a doctoral student; this job provided financial support for him to live and study in the United States. Having published several articles and registered two patents during his doctorate, Mohsen thought he was in good shape to start his professional career in the United States. Within the last year of his studies, Mohsen applied to hundreds of jobs but received no offers. Born and raised in Iran, Mohsen felt he was at a disadvantage compared to the domestic graduates with whom he had to compete in the job market. In the United States, Mohsen did not have a professional network outside his university. Also, potential employers did not recognize the reputation of the university he had graduated from in Iran. His field work experience, which would have been well-received in Iran seemed irrelevant to US employers. Mohsen came to realize, after being rejected in several phone interviews, that his need for a work visa sponsorship discouraged many small companies from recruiting him. He also realized that the legal policies at certain large companies and national labs prohibited employment of Iranians.

Mohsen and Iranian engineering graduates who possessed advanced higher education

degrees and pursued professional careers in the Science, Technology, Engineering, and Math

(STEM) fields in the United States were the target population for this dissertation study. The

purpose was to explore career experiences of this group of immigrants and the strategies they used to navigate their careers in the host country. My focus is on the experience of occupational entry and obtaining professional positions in the United States upon obtaining education credentials. I refer to the target population of this study as "highly educated immigrants" to distinguish them as a specific type of skilled migrants who possess advanced higher educational degrees (Master's and Ph.D.). Throughout this dissertation, I will use the term "skilled migrant" when referring to the literature and "highly educated immigrant" when referring to my study.

Previous studies have often used the term "skilled migrant" to refer to skilled or educated individuals who self-initiate relocation abroad. These skilled migrants are young, recently graduated professionals who possess at least a Bachelor's degree or extensive work experience in a given field before leaving their home country (Crowley-Henry, O'Connor, & Al Ariss, 2016). They are considered part of a country's diaspora (i.e., population abroad) who often reside abroad long-term (more than a year), and may or may not return home (Greenhaus & Callanan, 2006). They are not immigrants relocating to other countries permanently because of economic hardship in their home countries, nor refugees or asylum seekers escaping societal or political problems (Greenhaus & Callanan, 2006). They are best described as a country's skilled workforce who self-initiates international relocation "to test themselves against the best in the world, to advance their careers and succeed at an international level, to develop international expertise, and to experience adventure, excitement, and other cultures" (Greenhaus & Callanan, 2006, p. 398). Home countries are often concerned with the international relocation of this group of young talent and refer to this phenomenon as "brain drain."

The significance and timeliness of the topic of this dissertation can be found in the overall trends of globalization and increased international talent flow (i.e., a process whereby

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economically valuable individuals migrate between countries; Carr, Inkson, and Thorn (2005)).

In our increasingly globalized world, the demand for high-skilled workers in many western countries has motivated professionals from other parts of the world to relocate and seek work abroad (Lowell & Findlay, 2001). On the other hand, difficult political and economic situations such as war, insecurity, and unemployment (J.-L. Cerdin, Diné, & Brewster, 2014) prompt the skilled and educated to leave their home countries for the developed world, with high hopes for improved lifestyles, careers, and educational opportunities for them and their families (Zikic, Bonache, & Cerdin, 2010).

Many tend to think about immigration patterns in terms of immigrants seeking a better life in a new country and having no skills or education. Nonetheless, about 30% of all immigrants in the Organization for Economic Co-operation and Development (OECD) area are highly educated and skilled, and 20% of them originate from developing countries (*World Migration in Figures*, 2013). Such skilled immigrants can fill skill gaps in developed countries' labor markets when employers cannot recruit local skilled workers. Highly skilled immigrants' contributions to their host countries include economic growth, knowledge, and technology productivity (Lowell, 2001). For example, in the United States, immigrants registered 76% of patents and inventions from American universities (NYC.gov, 2012) and foreign-born temporary workers created hundreds of jobs in the IT sector (Lowell, 2001).

As part of the global talent flow trends, the United States has become the most attractive destination for the international movement of highly educated and skilled workers, both male and female (*World Migration in Figures*, 2013). Specifically, the US STEM highly skilled job market attracts the largest number of immigrant workers with advanced degrees, such as doctorate degree holders and data scientists (*Science and Engineering Labor Force*, 2016). In

the United States, one of every six sciences and engineering specialists and one of every four astronomers, physicists, chemical, and material scientists is foreign-born (Fix & Kaushal, 2006). It is projected that, by 2020, in the United States, half of all the STEM highly skilled workers with advanced degrees will be international graduate students (Han & Appelbaum, 2016).

As part of the above general trend, young and talented Iranian science and engineering graduates try to immigrate to the United States to pursue education and careers (*Science and Engineering Labor Force*, 2016; Waxman & Henry, 2016). Iran contributes the third-highest number of engineering graduates (total 233,695), after Russia and the United States (out of 124 countries excluding China and India) (McCarthy, 2015). In 2015, there were 11,338 Iranian students in the United States (Trines, 2017). In 2013, one-half of the students from Iran enrolled in engineering graduate programs (three out of four students enrolled in STEM majors) (Trines, 2017). Based on the United States National Science Foundation's report, Iranian students with advanced degrees (i.e., Ph.D.) hold the highest percentage of nationalities remaining in the United States after graduation (equal to the Chinese) (Finn, 2011).

It is noteworthy that the United States presents a highly challenging context for Iranian STEM students and graduates to pursue work and careers. Challenges may emerge, for example, from general hostility in the US media towards people from Middle Eastern countries ("Islamophobia: Understanding Anti-Muslim Sentiment in the West," 2016). In addition, the extreme political conflict between the United States and Iran for more than three decades (Delviscio et al., 2012) could be characterized as "a full-fledged cold war" (Wright, 2007, p. 1). Also, the United States reinforced export controls alongside trade and economic sanctions on Iran, which restricted Iranians studying and working inside the United States (NAFSA, 2012).

Many of the highly educated immigrants from Iran have made a meaningful impact on the U.S. knowledge-driven economy. From 2001 to 2010, a total of 1,500 Iranian scientists and engineers with registered patents and inventions immigrated to the United States (Fink & Miguelez, 2013). In fact, Iran was listed among the top three countries (along with Romania and Turkey) to send inventors to the United States from 2001 to 2010 (Fink & Miguelez, 2013). Internationally, Iranian immigrant inventors were ranked second (after Chinese inventors) in outstanding productivity and significant contribution to innovation profitability (Breschi, Lissoni, & Miguelez, 2015).

Despite the significant number of highly educated Iranian immigrants in the United States and their contributions to US science and engineering advancement, there is a dearth of knowledge about their career experiences in the United States. Also, given the political conflicts between the United States and Iran, we know little about how Iranian highly educated immigrants navigate and develop their careers in the US context.

The Problem

Previous empirical research, shows that skilled migrants have to overcome numerous obstacles during the course of their careers (Crowley-Henry et al., 2016; Syed, 2008). Immigration commonly reduces the use people can make of their high-level educational skills (Liversage, 2009; Thondhlana, Madziva, & McGrath, 2016). For example, professional associations and employers in many developed countries undervalue the local qualifications and work experiences of educated immigrants from non-English-speaking countries (Chiswick & Miller, 2009; Ho & Alcorso, 2004; Webb, 2015). For reasons such as lack of language proficiency (Blackmore, Gribble, & Rahimi, 2017; Winterheller & Hirt, 2017), labor-market discriminatory practices (Batnitzky & McDowell, 2011; Dietz, Joshi, Esses, Hamilton, &

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Gabarrot, 2015), and lower demand for certain types of skills in new labor markets (Groutsis & Arnold, 2012), skilled immigrants find themselves unemployed, under-employed, or stuck in low-skilled occupations (Riaño, 2011; Thondhlana et al., 2016). However, the literature has not adequately addressed the impact of the government and the political context on individual career experiences of this group of immigrants (Bach, 2007). Few studies on skilled migrants have been conducted in a context in which two countries (home and destination) have a long history of hostility and political conflict (van Riemsdijk, 2013). We know little about how a politically challenging environment may affect careers of highly educated immigrants. The study of Iranian highly educated immigrants in the US STEM professional fields provides a theoretically rich context in which to explore the potential impact of government policy and extreme political conflict on highly educated immigrants' career experiences in the host country.

The second motivation for this study is the gap in the knowledge about how highly educated immigrants overcome the challenging situations facing them (Crowley-Henry et al., 2016; Zikic et al., 2010). The challenging context described earlier provides the opportunity to study how individuals navigate their careers and respond to the environment in which their careers evolve. This study answers the call for a more balanced representation of careers of skilled immigrants by investigating the strategies they have used to navigate their career (Crowley-Henry et al., 2016). Thus, this study explores not only the challenges caused by a politically challenging context for highly educated immigrants, but also their efforts to build careers in the host country.

Third, the extant literature tends to portrays migrants as unskilled and less-educated; those studies that focus on skilled/educated migrants do so in the context of either unemployment or underemployment (Al Ariss & Crowley-Henry, 2013; Crowley-Henry et al., 2016). My study

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addressed this gap by focusing on a group of highly educated immigrants who could be described as those endowed with human capital in the form of advanced educational degrees (Master's and Ph.D. degrees). To contrast with the backdrop of unemployment or underemployment, my study focused on those who obtained employment in professional positions requiring or matching their advanced educational degrees.

Finally, the scholarly literature on migrants' careers presents a strong case that skilled immigrants with foreign credentials tend to experience difficulty in obtaining a suitable job in their chosen professions because employers do not recognize the full value of such qualifications (Bahn, 2014; Felker, 2012; Latif, 2015; Oreopoulos, 2011; van Riemsdijk, 2013). This state of affairs, in turn, implies that immigrants with domestic educational degrees should be able to navigate the host country's labor market more easily than those with foreign-only credentials (Ho & Alcorso, 2004). One reason for this implication is that most studies have included samples of skilled migrants with foreign-only training and educational qualifications. To challenge the assumption that domestic educational training makes occupational entry easier, I focused on educated Iranian immigrants who obtained graduate degrees or postdoctoral training from American universities before seeking employment in the United States. Given the importance of domestic qualifications, my study raises questions about how relevant domestic qualifications actually are if highly educated immigrants must navigate a context of political conflicts between their home country and the host country.

Here, I return to the problem posed earlier: "How does a politically challenging context affect career experiences of immigrants endowed with human capital in the form of advanced educational degrees (both foreign and domestic) and what strategies do they need to navigate their careers?" To prevent skill underutilization of a population of workers who possess high

levels of qualifications (advanced educational degrees), it is important to understand their career experiences in the host country.

Purpose and Research Questions

The phenomenon under study was highly educated immigrants' experience in building careers in the host country, including career entry and career advancement upon completing graduate level degrees or postdoctoral training. The overarching purpose of this dissertation was to describe the experiences of Iranian highly educated STEM immigrants who tried to build their careers in the United States and to explore how they navigated their careers in a politically challenging context. The following two research questions guided my study:

1. What are the career experiences of Iranian highly educated STEM immigrants in the United States?

2. How do Iranian highly educated immigrants navigate their careers in the STEM fields in the United States?

Theoretical Foundation

The overarching philosophical stance informing this study is social constructivism that assumes the reality is socially constructed. From this perspective, knowledge is co-constructed as the researcher and the participant engage in making the emergent meaning (Crotty, 1998). Thus, research through the social constructivist lens generates in-depth accounts that fit the study of careers (Cohen, Duberley, & Mallon, 2004). The phenomenon under study is informed by career development theories, particularly career construction theory, which will be discussed in depth in Chapter II. In addition, among the wide range of career theories documented in the literature, career-stress theory (Latack, 1989) appeared to be more relevant to the findings of this study (summary of the theory is offered in Chapter II for clarity). However, given the emergent nature

of this qualitative study, I have discussed, in Chapter V, concepts and other theories relevant to the findings.

My understanding of the topic of the dissertation is also informed by the existing empirical studies on careers of skilled migrants. In Chapter II, I will review 27 empirical studies focusing on educated or skilled individuals who moved internationally from developing and/or non-western to developed and/or western countries.

Overview of Research Methods

This study used a basic qualitative design (Merriam, 2009). I interviewed 22 men and women who (1) were born and raised in Iran, (2) had obtained a Bachelor's degree in a STEM discipline in Iran, (3) sought advanced education in the United States before obtaining employment, and (4) have been employed in the United States in a STEM professional position (that required the higher education degree) for at least one year.

Recruitment began with my personal and professional contacts and was completed by snowball sampling. I collected the data through face-to-face and Skype interviews. Each interview lasted between 45 to 100 minutes (total 1,403 minutes; average, 64 minutes). This process resulted in a total of 351 pages of transcripts for analysis. I employed a constant comparative data analysis method to extract categories and themes. To ensure trustworthiness (rigor) of the study, I used member checking, reflexive journaling, and peer debriefing techniques (Lincoln & Guba, 1985).

Significance of the Study

The significance of my study can be found in its contributions to three bodies of knowledge: (1) the field of human resource development (HRD), (2) the literature on skilled migrants' careers, and (3) the broad literature on international talent flow. First, my research

contributes to the HRD field in two ways. It is generally agreed that HRD consists of three core domains of research and practice: training and development (T&D), organization development (OD), and career development (CD) for the purpose of improving performance (McLagan, 1989; Swanson & Holton, 2001). However, among these three areas, career development has received the least analytical attention (Swanson & Holton, 2001). Thus, this study expands the current knowledge of career development within the field of HRD, specifically in the international context.

In addition, concerns and challenges experienced by immigrant employees have hardly been examined in the HRD field (Lopes, 2006). Studying career experiences of highly educated immigrants will contribute to HRD research and practice. HRD can assist employers in addressing the challenges highly educated immigrants face and facilitate building their careers through appropriate interventions.

Second, the skilled migrants' career is a relatively underdeveloped area of study that has emerged only in the past two decades (Al Ariss, 2010; Crowley-Henry et al., 2016). My study contributes to skilled migrants' career literature by (1) focusing on a largely ignored population in an understudied context (Iranian STEM highly educated immigrants in a politically challenging context), (2) providing a balanced representation of challenges facing highly educated immigrants, as well as strategies they used to overcome them, and (3) working against a backdrop of unemployment and underemployment in the literature and focusing on those who found jobs matching their educational degrees.

In addition, my study raises questions about how significant domestic qualifications actually are if highly educated immigrants have to navigate careers in a context of political conflicts between their home and host country. The skilled migrants' literature illuminates an

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assumption that transition into the host country's work/job context is easier for skilled migrants endowed with high levels of qualifications (Al Ariss & Özbilgin, 2010; J. L. Cerdin & Pargneux, 2010), especially those with training or educational qualifications from the host country (Ho & Alcorso, 2004). By examining foreign and domestically trained Iranian immigrants holding graduate degrees in STEM fields, my study sheds light on whether such an assumption holds true in a context of extreme political conflict.

Third, this study contributes to the broader literature on international talent flow by challenging a rhetoric in the literature—namely, with the continuing trend of globalization and the growth of multinational corporations, pursuing international careers has become easier for skilled migrants (Andersson & Konrad, 2003). The existing literature assumes that globalized businesses create the need for global talent and that governments grant more freedom of movement across borders to facilitate inflow and outflow of skilled labor (Ariss, Makela, & Cieri, 2015). However, the extant literature is primarily based on organization-sponsored expatriates and self-initiated expatriates moving between developed countries (Al Ariss & Crowley-Henry, 2013). By focusing on immigrants from a developing country (Iran) to a developed country (United States), this study challenges the assumption that international careers become increasingly easy.

Boundary of the Study

This study is situated within the following boundaries:

(1) This study focuses on immigrants who are highly educated and not general immigrants.

(2) The study targets Iranian highly educated immigrants and not highly educated immigrants from other developing and/or non-western countries.

(3) This study is focuses exclusively on the United States as the destination or host country and no other developed and/or western countries.

(4) The research purpose and questions focus on career-related experiences in the host country rather than every issue or challenge the population under study may face after arriving in the United States.

(5) This study focuses on STEM professional fields, not any career fields.

Since the study is conducted within these boundaries, generalization outside these boundaries should be done with caution. In addition, the number of participants (22) may not have yielded enough variability to extrapolate the findings to all Iranian highly skilled immigrants. Nevertheless, the sample generates sufficient evidence for characterizing and deep understanding career experiences of the target population. Additionally, since the study explored the experiences of a group of highly educated immigrants in STEM careers that required advanced education degrees, foreign-born STEM professionals from other developing countries may benefit from the findings of this study. They may share similar experiences trying to navigate their careers in the STEM fields in the United States.

Definition of Terms

In this section, I will define key terms used in this study. In selecting the terms and definitions, I have tried to consider both the literature and the context of the study.

Immigrant: A person whose birthplace is out-of-country [United States] and whose parents are not US-citizens ("Foreign-born Workers: Labor Force Characteristics - 2012," 2013). "Immigrants are people who move to a country other than their country of birth and live in the new country long-term." (Dietz, 2010, p. 104). Another common definition refers to immigrants

as "people who are foreign-born, but have the right to reside in their host country irrespective of whether they have or do not have host country citizenship" (Dietz, 2010, p. 104).

Skilled migrant: "Skilled migrants are defined as having a university degree or extensive experience in a given field" (Crowley-Henry et al., 2016, p. 1). "Skilled immigrant" will be used in this text when referring to the literature, especially in Chapter II, to stay true to the original studies reviewed.

Highly educated immigrant: Foreign-born individuals possessing advanced degrees who had obtained at least a Bachelor's degree by the time they left their country of origin. In this study, "highly educated immigrant" refers to the focus of the study and to its participants.

Career: "The evolving sequence of a person's work experiences over time" (M. B. Arthur & Rousseau, 1996, p. 8).

Summary

This study focused on a group of immigrants (highly educated immigrants) who provide substantial contribution to the host country, yet remain under-studied in the United States. Adopting a constructivist perspective and qualitative research design, this study aims to explore career experiences of Iranian highly educated immigrants to uncover the challenges of navigating careers in the context of political conflict and hostility, as well as the strategies used to build their careers in such context. This study contributes to the field of HRD by focusing on two under-studied areas within the fields: career development and immigrant workers. This study also expands our knowledge of highly educated immigrants' careers by looking in-depth at experiences of immigrants building their careers in a context of politically challenging context. This study provides a balanced representation of challenges facing highly educated immigrants as well as strategies they used to overcome them. It works against a backdrop of unemployment

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and underemployment in the literature, studying those who found jobs matching their educational degrees, despite the politically challenging context. To avoid skill under-utilization it is important to study careers of the highly educated immigrants in STEM fields and the strategies they use to navigate their careers.

CHAPTER II

LITERATURE REVIEW

The overarching purpose of this dissertation study was to describe the experiences of Iranian highly educated STEM immigrants who tried to build their careers in the United States and to explore how they navigated their careers in a politically challenging context. This chapter reviews the theoretical and empirical literature informing this dissertation and describes the context within which the study will be conducted. This chapter concludes by identifying gaps in the reviewed literature. Figure 1 represents how the theoretical foundation, empirical studies, and research context build the structure of this chapter.
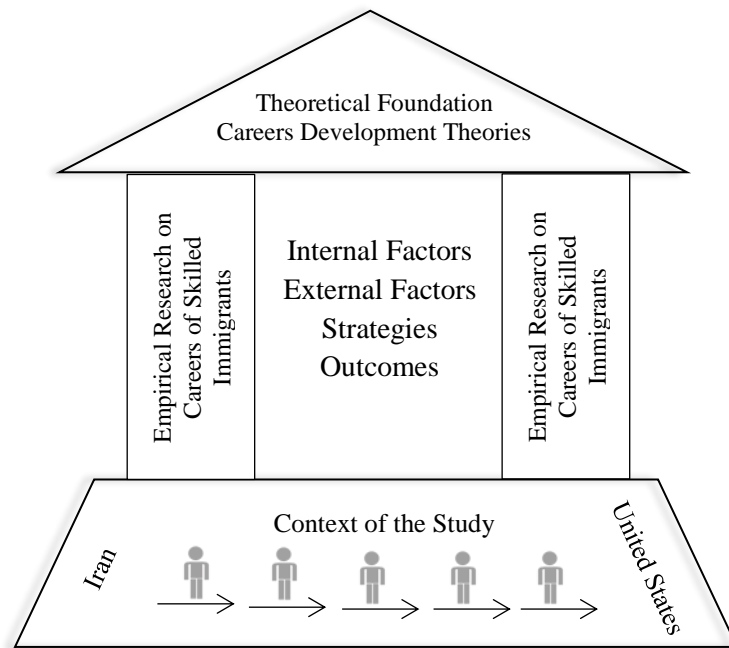
Figure 1. Framework of Theoretical Foundation

Context of the Study

This study was conducted in the United States with Iranian highly educated immigrants in STEM professional fields. In this section, I will describe the context from which the participants came, and then the context they face in the United States.

The Iran Context

In this section, I provide some general information about Iran's national context, as well as the brain drain of the highly educated from Iran. Also, I describe higher education in Iran to help illuminate the training that highly educated immigrants receive before moving to the United States.

Country profile

Iran is a country located in the Middle East and North Africa (MENA) region. Iran has the second largest population in the MENA region following Egypt (Sheth, 2017). Iran's estimated population in 2017 was 80.6 million people ("Islamic Republic of Iran Overview," 2018). By 2015, more than 73.4% of the population was urban ("The world fact book, Middle East: Iran," 2016). With a median-age estimate of slightly above 29.4 years in 2014 ("The world fact book, Middle East: Iran," 2016), Iran is considered a young country.

With a GDP of $439.5 billion in 2017, Iran is one of the larger economies in the MENA region ("Islamic Republic of Iran Overview," 2018). "Iran's economy is mainly based on oil, natural gas, industry (mining and manufacturing), agriculture, and fisheries" (Zamani-Farahani, 2010, p. 207). The country holds 10% of the world's petroleum reserves and the second largest reserves of natural gas in the world (15% of world total) (Zamani-Farahani, 2010). The United Nations classified Iran as a developing country and an upper middle-income economy (as

compared to high-income, lower-middle income, and low-income categories) ("Country classification," 2014).

Iran's higher education

In Iran, higher education is offered in various forms both at private and public (state-owned) universities. However, public universities have relatively better national and international reputations, particularly in engineering education (Trines, 2017). For example, in 2016, the University of Tehran was ranked 301-400 (out of 800) and Sharif University of Technology as 501-600 (out of 800) among all the universities in the world ("Academic Ranking of World Universities," 2017; "The World University Rankings," 2017).

Iran's higher education has fewer seats available than applicants due to the young population (Trines, 2017). The admission rate at public universities has been below 12 percent within the last decade (Trines, 2017). Therefore, the admission process for attending public and reputable schools is highly competitive. In 2013, 921,386 high school students participated in the national university entrance exam, and only 57.9 percent of them were admitted by universities (Trines, 2017). The majority of those who attend top-ranking public Iranian universities try to go abroad for study and work upon graduation (Krever, 2017).

The Bachelor's education offered in Iranian universities has a similar structure to that of U.S. Bachelor's degree programs (Trines, 2017), requiring 130 credits and a minimum of four years of full-time study (Trines, 2017). The curricula offer a mix of general and elective subjects along with degree specialization courses (taken during the last two years). The Master's degree (generally two years in length) requires 12-30 credit hours of coursework and completion of a thesis (Trines, 2017). Doctoral degrees (three to six years in length) require 12-30 credit hours, a comprehensive exam, and a research dissertation (Trines, 2017).

Iran's brain drain

There is a significant brain drain among graduates from Iranian universities, especially from the top and competitive schools (Krever, 2017). During 2011-2013, at least 40% of top-performing students with undergraduate degrees in science and engineering left Iran to pursue advanced degrees abroad, often in the United States or Europe (Motevalli, 2014). About 90% of the Iranian Science Olympiad winners leave the country for graduate school and work abroad ("Surprising Success of Iran's Universities," 2008).

What caused Iran's brain drain? Research shows that economic-related factors often drive migration of highly educated or skilled workers from developing to developed countries (Torbat, 2002), and this is the case in Iran. The country suffers from inflation and unemployment ("Islamic Republic of Iran Overview," 2018). As a result, highly educated and top-performing college graduates are not compensated as much as they may be abroad. In addition, a university professor holding a doctorate degree can barely make ends meet (Newsweek, 2008). An engineering graduate with a Master's degree begins work with a minimum wage of about $500 (Newsweek, 2008). In Iran, due to the young population, the higher education system faces shortages of opportunities at the graduate level. "Only six percent of approximately 900,000 applicants to Master's programs and four percent of 127,000 doctoral applicants reportedly secured a spot in 2011" (Trines, 2017).

In the case of Iran, political factors also drive the brain drain of highly educated nationals (Torbat, 2002). International sanctions make life difficult for highly educated Iranians. For example, the sanctions against trade with Iran in Europe limits and delays importation of lab equipment and access to other resources (Newsweek, 2008). For a while (2003-2005), Iranian scientists were banned from publishing their articles in IEEE journals, a key international

professional association for scientists and engineers (Newsweek, 2008). Iranians also face the challenge of their visa applications being rejected when they try to attend conferences in many western countries (McPhillips, 2017).

<div align="center">*The United States Context*</div>

In this section, I note a trend in the United States for recruiting and educating STEM immigrants: highly educated immigrants in STEM fields are in demand. I discuss the general attractiveness of the United States as a migration destination for highly qualified immigrants, the education-based specific incentives for migration to the United States, and the employment opportunities and labor-market demand for STEM immigrant workers.

The United States is "a nation of immigrants with a history of admitting and integrating newcomers from many nations who begin their U.S. journeys at all rungs of the job ladder, from low skilled to professionals" (P. Martin, 2012, p. 619). Most immigrants to the United States between the 1880s and 1914 were low-skilled. Through the Immigration and Nationality Act in 1965, priority shifted from the admission of immigrants based on national origins to family unification and employer sponsorship (Martin, 2012). Correspondingly, immigrants from Asian countries, including students and foreign-trained professionals, were able to immigrate to America. Another step towards the admission of highly skilled immigrants to the United States was the Immigration Act of 1990 that proposed the H-1B program (during a time of economic prosperity) (Martin, 2012), which gave employers easy access to foreigners with at least a Bachelor's degree and enabled recruitment of foreign-student graduates of U.S. universities and professionals educated abroad (Martin, 2012). "H1B visas usually require a baccalaureate or equivalent, or a higher degree, and recruit workers with specialized theoretical and applied knowledge in physical science, engineering, medicine, health, and social sciences" (Boyd, 2013,

p. 44). The H-1B program was revised after the 2008-2009 recession through the Practical

Answers to Immigration Reform (REPAIR) proposal. REPAIR included the STAPLE ACT that

granted immigrant visas to foreigners earning advanced degrees from U.S. universities in STEM

fields, provided those foreigners received U.S. job offers. However, REPAIR limited the

recruitment of H-1B workers by posing a cap on employers with 50 or more employees (Martin,

2012).

As a result of the above programs and the U.S. science and technology policy, which

aims at "reaffirming America's role as the world's engine of scientific discovery and

technological innovation" ("Office of Science and Technology Policy,") the United States has

attracted the most highly educated STEM immigrants over the years (Geis, Uebelmesser, &

Werding, 2011). The past two decades have witnessed a flow of migrant workers into the United

States, mostly engineers with at least a Bachelor's degree who obtain graduate degrees from U.S.

universities and are hired by high-tech companies. Their employers argue that these workers are

critical to sustaining their competitive advantage and the economic growth of the country.

Through the H1-B visa, employers align the job details to the specialties and skills of these

young foreign-born workers. Congressional Democrats have accepted this argument and

supported the H-1B program, making it easier for STEM graduates with advanced degrees to

become immigrants (P. Martin, 2012).

There are relatively high labor market demands and numerous employment opportunities

for STEM immigrants with advanced degrees in the United States. U.S. technology-driven

industries depend heavily on the specialized skills of the foreign-born STEM workers (*Foreign-

born STEM Workers in the United States*, 2017). A recent report shows that almost 40% of

workers in the Silicon Valley are foreign-born (Giaritelli, 2016). Despite the increasing number

of highly skilled immigrants to the United States, some authors argue that the American labor market still needs imported talent, especially in the areas of science and engineering (Griswold, 2017; Lin, Pearce, & Wang, 2009).

The above trends and statistics suggest that U.S. STEM labor market actively attracts and recruits highly educated immigrants. This scenario has prompted brain drain to the United States in STEM fields, especially from developing countries.

The Context Iranian Immigrants Face in the United States

Iranian immigrant population living in the United States

According to the U.S. Census in 2000 about 280,000 Iranian-born immigrants lived in the United States, accounting for about 1 percent of the U.S. total foreign-born population (Hakimzadeh & Dixon, 2006). The majority of the Iranian-born immigrants had a Bachelor's degree or higher (50.9%) —significantly more than the total foreign-born population in the United States (24%) (Hakimzadeh & Dixon, 2006). The majority of Iranian-born persons in the United States held management, professional, or related occupations (51.8%). Other occupations pursued by Iranian-born immigrants were sales and office occupations (27.5%) and service occupations (9%) (Hakimzadeh & Dixon, 2006). The US census of 1990 also showed that more than 50 percent of Iranians in the US held at least a Bachelor's degree or higher (Bozorgmehr & Sabagh, 1988). The 1990 and 2000 US census data suggest the Iranian immigrants living in the United States have high educational attainments, compared to only a third of the 151 million U.S. workers in 2008 who had at least college education (one fifth had a Bachelor's degree, and only about one eighth had a graduate degree) (S. Martin, Lowell, & Martin, 2001).

Politically challenging context

In this section, I argue that Iranian immigrants face a politically challenging context due to a history of conflicts between the United States and Iran. Such historical conflict between the two countries is translated into multiple sanction programs, including travel and visa restrictions and imposing hardships on Iranians. Below, I outline some critical historical events that have prompted Iranians to leave home for education and work in the United States.

- 1979: The extreme political conflicts between the United States and Iran began in 1979, following the Islamic revolution and the seizure of the U.S. Embassy in Tehran ("The Iranian Hostage Crisis," 2017). In 1980, more than 50,000 Iranians immigrated to the United States, the largest number in the history of immigration from Iran to the United States.

- 1980-1983: During this period, most of the Iranian universities were closed, and, by 1985, a group of 16,000 Iranian students immigrated to the United States.

- 1985-2005: During this time, the U.S. government imposed severe sanctions against Iran's government, including visa restrictions on Iranian citizens (Alikhani, 2000). In this period, the number of Iranians arriving in the United States was fewer than 2,000.

- 2007: The US State Department exempted universities and education-related companies from sanctions. As a result, by 2010, Iranian students arriving at United States doubled compared to 2005, reaching almost 5,000.

- 2011: The US relaxed decades-long visa restrictions for Iranians and students, which again doubled the number of students arriving in the country, to more than 11,000.

- 2012: The U.S. President signed Act to increase visa restrictions on Iranian non-immigrants including students whose majors or research were related to the engineering.

-     2017: The U.S. President signed Executive Orders under which issuing visas to Iranian nationals including students will be restricted and closely monitored.

Cultural distance

Challenges facing Iranian immigrants to the United States may stem from the great cultural distance that may limit the degree to which they can manage their career-related efforts in the US (Dickmann, Doherty, Mills, & Brewster, 2008). Individuals coming from distant cultures are more likely to have fewer culturally appropriate skills for handling everyday situations. Thus, adjustment to the distant culture may accompany a high level of stress (Searle & Ward, 1990).

In the case of Iranian highly educated immigrants, however, political issues limit learning about western cultures in Iran. For example, there are a limited number of multinational companies working in Iran that may allow for highly educated individuals to comprehended western work practices or organizational culture. Also, the costs to travel to western countries (which would foster exposure to their cultures) are prohibitive for educated young professionals. Finally, Iranians have limited exposure to English as a second language, due to limited international interactions and absence of formal learning venues. Although Iranian students are among the largest group of GRE takers to seek study abroad (Iran ranked fourth in 2012), the English language is not used as prevalently in Iran as it is in some other developing countries (Chang, 2006). For example, in India, English has been identified as the official language since 1966, whereas the language of instruction at Iranian universities is Farsi (Clark, 2006; Trines, 2017). Consequently, navigating careers in an English-speaking country may be easier for immigrants from countries such as India, compared to those from countries like Iran.

Finally, one salient cultural difference relevant to this study the dichotomy of collectivism versus individualism. In an individualistic society like the United States, personal goals have priority over group goals; behavior is based on cost-benefit analysis; people are emotionally detached from a group and may confront one another if necessary (Kagitcibasi, 1997). In individualistic societies, individuals are socialized to be independent and have skills when they enter a group (Kagitcibasi, 1997). On the contrary, in collectivist societies such as Iran, individuals define themselves based on groups. Group norms regulate individuals' behavior, and groups offer harmony and hierarchy (Kagitcibasi, 1997). The influence of the collectivist culture is prominent, including socialization directed toward obedience and duty, sacrifice for family, focus on common elements, saving face, social support, and interdependence (Ardichvili & Kuchinke, 2002).

Theoretical Foundation: Career Development

Career development theories provide a foundation for understanding the phenomenon under study. In this section, I will briefly review the major career development theories and discuss two theories that are the most relevant to this study: Career Construction Theory and Career Stress Theory. Before delving into the theories, I begin with an overview of the concept of career and its evolving nature.

The Concept of Career and its Evolving Nature

The concept of career did not emerge until after the 1800s with the industrial revolution and the growth of large organizations (Clarke, 2008). Previously, jobs essentially included craftsmanship, itinerant work, and piece work rather than positions with specific boundaries (Clarke, 2008). With the industrial revolution, organizations became responsible for organizing jobs, defining roles, and creating career paths (Clarke, 2008). In exchange for long-term

employment and career advancement, employees were expected to stay loyal to the organization (Clarke, 2008). Thus, for many years, organizational careers were linear, with a bottom-to-top career ladder and secure pathways within the boundaries of a single organization (Sullivan, 1999).

Towards the end of the 20th century, organizations went through significant changes, such as restructuring and downsizing (Sullivan, 1999). Companies that previously provided life-long career paths and hierarchical progression no longer offered secure positions (Sullivan, 1999). The psychological contract, defined as "individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization" (Rousseau, 1995, p. 9), shifted jobs from being long-term and secure to becoming short-term and less secure (Sullivan, 1999).

With changes in traditional career models, new forms of careers began to emerge such as boundaryless and protean careers (Chudzikowski, 2012). As opposed to a traditional career, a boundaryless career is "a sequence of job opportunities that go beyond the boundaries of a single employment setting" (DeFillippi & Arthur, 1996, p. 116). A protean career, defined as "the individually perceived sequence of attitudes and behaviors associated with work-related experiences and activities over the span of the person's life" (Hall, 1996, p. 12), emphasizes the individual's responsibility for managing a career.

In the 21st century, "occupational prospects seem far less definable and predictable, with job transitions more frequent and difficult" (Savickas et al., 2009, p. 240). Frequent changes require employees to bear skills and competencies significantly different from those expected in the 20th century (Savickas et al., 2009). Employees today feel less secure, desire to engage in lifelong learning, use technology, are flexible, have to maintain employability, and even create

their own career opportunities (Savickas et al., 2009). The current state of careers imposes a challenge on career scholarship to produce theories and research that address the issues of today's knowledge-driven global society (Savickas et al., 2009).

Overview of Career Development Theories

The career literature draws from and contributes to a diverse range of disciplines (Bikos, Dykhouse, Boutin, Gowen, & Rodney, 2013; Lee, Felps, & Baruch, 2014). Reviews of career development literature show that career studies appear in more than 40 journals across disciplines such as HRD, management, psychology, sociology, economics, and education (Guindon & Richmond, 2005; Lee et al., 2014). This diversity reflects the complexity of careers as they are influenced by multiple factors at various levels (Lee et al., 2014).

As with any field that has evolved over time, career scholarship has generated a wide range of theories (D. Brown, 2002). Parsons (1909) was one of the first to delineate career development as a field of study and practice. He proposed that, for individuals to choose a vocation effectively, three broad factors need to be considered: (1) "a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations, and knowledge of their causes;" (2) "a knowledge of the requirements, conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in different lines of work;" and (3) "true reasoning on the relations of these two groups of facts" (Parsons, 1909, p. 5). These three factors have become the cornerstones of many subsequent career development conceptualizations and theories.

Of the variety of distinct career development theories, five have strongly influenced career development research and practice (S. D. Brown & Lent, 2005): Super's (1980) self-concept development theory; Holland's (1997) personality and vocational choice theory; Dawis's

(1996) theory of work adjustment; Lent, Brown, and Hackett's (2002) social cognitive career theory; and Savickas' (2002) career construction theory (S. D. Brown & Lent, 2005). Table 1 briefly describes the five major career development theories.

Table 1. **Summary of Major Career Development Theories**

Author (Year)	Theory	Descriptions
Super (1980)	Self-concept development theory	Career choice and development is a process of constructing and actualizing one's self-concept. Career is understood in terms of the life stage, including growth, exploration, establishment, maintenance, and disengagement.
Dawis (1996)	Theory of work adjustment	Career choice and development is the process of adjustment in which the individual (P) searches for an environment that matches his/her needs, and the environment (E) searches for individuals who match its requirements. Changes may occur in either the person or the environment in the process of their interaction.
Holland (1997)	Personality and vocational choice theory	Vocational interests are the manifestation of individual's personality. Looking for congruence and harmony, individuals choose the type of occupations or work environment that matches their personality preferences to achieve satisfaction.
Lent et al. (2002)	Social cognitive theory	There are three building blocks of career development: self-efficacy, outcome expectations, and personal goals. Individuals pursue careers in which they believe they have the capabilities to succeed and careers which will provide the outcomes they desire (e.g., expectations, prestige, and self-satisfaction).
Savickas (2002)	Career construction theory	Rooted in social constructionism, career construction theory is an updated and extended version of Super's vocational development theory. This theory adopts a developmental and contextual approach to career, and explains vocational behavior via career personality, career adaptability, and life themes.

Among these, career construction theory appears to be the most relevant to this study. In addition, upon analysis of the data, career stress theory appeared applicable to the findings of this study. In the following paragraphs, I will provide an overview of career construction theory and career stress theory.

Career construction theory

Savickas (2002) proposed career construction theory by updating and expanding Super's (1980) theory of vocational development. Career construction theory approaches career from a social constructivist perspective that drives the research attention to interpretive processes and social construction of meaning. Based on this theory, careers are not considered as the result of inner maturation, but rather as adaptations to environmental and contextual situations. "Individuals construct their careers by imposing meaning on their vocational behaviors and occupational experiences" (Savickas, 2005, p. 43). Therefore, a career is "a subjective construction that imposes meaning on memories, present experiences, and future aspirations by weaving them into a life theme that patterns that individuals' work life" (Savickas, 2005, p. 43). The three building blocks of career construction theory are described below:

- Career personality (what career is constructed?): Career personality includes skills, interests, values, and abilities required for performing work roles. Here, questions related to how the person decides to pursue a certain occupation are answered (Savickas, 2005).

- Career adaptability (how is a career constructed?): Career adaptability is concerned with individuals' readiness and resources for coping with vocational development and transitions. Career adaptability dimensions include career concern (about one's vocational future), career control (over that future), career curiosity (exploration of the fit between work and self), and career confidence (anticipation of success in overcoming obstacles). Here, questions regarding what developmental tasks and coping strategies were taken to construct a career are answered (Savickas, 2005).

- Life themes (why a career is constructed?): Life themes reflect the motivation and meaning individuals associate with their career as a whole. Career construction theory

uses constructionism as a meta-theory to emphasize the interpretive and interpersonal

processes through which individuals make sense of their careers (Savickas et al., 2009).

Relevance of career construction theory to this study

Career construction theory is relevant to this study for three reasons. First, career

construction theory is informed by the constructionism epistemology (Savickas, 2002) that aligns

with the epistemological perspective adopted in this study. This allows for understanding

interpretive processes and social construction of meaning, which is in line with this study's

methodological approach (interpretive qualitative research).

Second, career construction theory considers the role of context and the environment in

shaping individuals' careers. This theory suggests that changes in the environment drive career

construction and explain the complex interaction between the individual and context (Savickas,

2005). In addition, career construction theory emphasizes individuals' active roles in responding

to the environment and taking control of their development. Applied to this study, when highly

educated immigrants relocate internationally, their career context or career field changes.

Therefore, Career Construction Theory help explain the construction of career post-migration as

professionals interact with their new context.

Third, career construction theory focuses on individuals' adaptation of individuals to

change (Savickas, 2002). This theory considers the 'what,' 'how,' and 'why' of individuals'

vocational self-concepts constructed over the life-course as individuals adapt to their

environments. The notion of career adaptability may fit the career development context of highly

educated immigrants who must adapt to a new environment and build careers in an unfamiliar

cultural context. Career construction theory fits the "needs of today's mobile workers who may

feel fragmented and confused as they encounter a restructuring of occupations, transformation of

the labor force, and multicultural imperatives" (Greenhaus & Kossek, 2014, p. 85). The concept

of adaptability may be particularly useful in this study of highly educated immigrants since they

undergo a transitioning process in which they reestablish careers in the host country.

Career stress theory

Latack (1989) applied the major stress models and concepts to the context of careers and

introduced career stress theory to argue that many career events and processes generate stress for

contemporary workers—for example, job loss, lack of upward mobility, transitions, and work-

non-work pressures. Career stress is becoming increasingly common as job situations are

complicated with stressors such as work overload, ambiguity, and role-infused stress.

"Individuals face stress around issues that are a direct outgrowth of how [a] career unfold[s] over

time and across life domains" (Latack, 1989, p. 252). The key components of the career stress

theory proposed by Latack (1989) are:

- Stressor situation: "A demand, constraint, or opportunity" (Latack, 1989, p. 254) imposed

  externally (e.g., new job) or internally (e.g., adjustment).

- Cognitions: "Individuals' perceptions that the situation poses uncertainty about obtaining

  outcomes, and the perceived importance of those outcomes" (Latack, 1989, p. 254),

  which can be both negative and positive (e.g., losing or gaining something valuable).

- Stress reactions: "Physiological (e.g., increased pulse rate), emotional (e.g., feelings of

  anxiety or tension), or behavioral (fidgeting, loss of sleep)" (Latack, 1989, p. 256)

  reactions that can be long-term and short-term.

- Coping: "Constantly changing cognitive and behavioral efforts to manage specific

  external and/or internal demands that are appraised as taxing or exceeding the resources

  of the person" (Latack, 1989, p. 256).

- Social support: "Social support provides information that tells people they are loved, esteemed, or valued and part of a network of mutual obligation" (Latack, 1989, p. 256).

- Duration: "The duration of the stressful situation" (Latack, 1989, p. 256).

Relevance of career stress theory to this study

Only after data collection and analysis did career stress theory appear relevant to this study. The categories that emerged from the data analysis were conceptually close to the components of the career stress theory: particularly the coping strategies and social-support constructs. I discuss the connections between career stress theory and my findings in more details in Chapter V.

Empirical Research on Careers of Skilled Migrants

Career experiences of skilled migrant professionals or educated and experienced individuals undertaking international migration remain a relatively underexplored area of research (Al Ariss, Koall, Özbilgin, & Suutari, 2012; Al Ariss & Syed, 2011; Syed, 2008). Compared to the extant literature on careers of expatriates (organization-sponsored and self-initiated) and low-skilled immigrants, careers of professional or skilled immigrants have received less research attention.

The limited extant literature shows that the careers of skilled migrants are significantly different from those of low-skilled immigrants and expatriates. Immigrants leave home permanently, as opposed to expatriates who are away from their home country on a short-term basis (Al Ariss & Crowley-Henry, 2013). Also, skilled immigrants at least a baccalaureate degree at the time of leaving as opposed to the low-skilled immigrants (Zikic et al., 2010). The immigrant or migrant status influences experiences of skilled migrants. For example, skilled migrants may face barriers to re-entering the same profession in the host country (Zikic &

Richardson, 2016). However, those who tackle the challenges, obtain employment, and carve out work and personal lives, are considered successful (Al Ariss et al., 2012).

In the existing empirical literature, skilled migrants are referred to as educated and/or experienced individuals who have ethnic backgrounds and often move internationally from developing to developed countries (Al Ariss, 2010). In the absence of a universal definition, scholars have used various terms to describe these professional immigrants, such as "skilled migrant," "immigrant professional," "qualified immigrant," and "highly-skilled migrant." Therefore, in the text below, these different terms will be used to stay true to the original studies. The next section describes my attempts to identify and synthesize the empirical studies focusing on careers of skilled migrants.

Searching and organizing the empirical literature

In this section, I review the literature on careers of skilled migrants, drawing from three bodies of knowledge (see Figure 2). The empirical research in the intersection of the three sets comprises the literature for this study. My purpose was to identify empirical studies that focused on careers of professionals migrating from developing/ non-western-to-developed/western countries.

To identify related articles for review, I searched ISI Web of Knowledge and ABI databases, which include the major human resources and management journals. I searched abstracts of peer-reviewed articles, using the following keywords: "high-skilled immigrant," "skilled immigrant," "highly skilled migrant," "highly educated immigrant," "overseas trained immigrant," "educated immigrant," "skilled transient," or "skilled labor," "skilled worker," "skilled ethnic minority," "qualified immigrant," "qualified worker," "qualified migrant," "professional immigrant," "professional migrant," "foreign-born professional," and "alien

professional." Then, I limited the review to research on careers by combining the search results

with keywords of "career" or "career development."
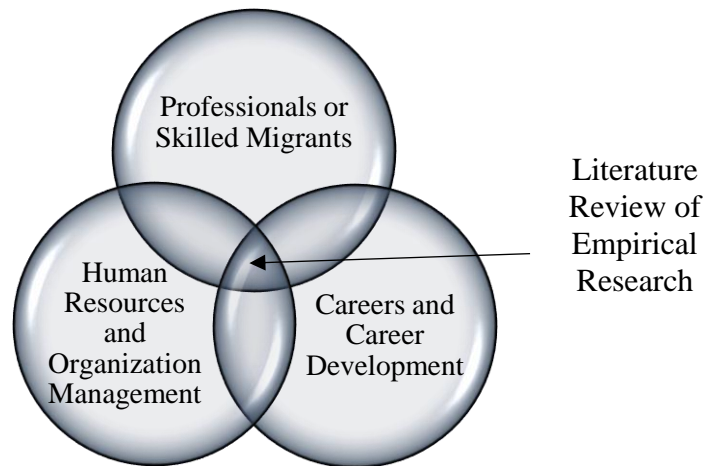
Figure 2. Literature Informing the Study

A total of 99 articles were initially retrieved from the search. To screen these articles, I

read the abstract and the methods section of each article. I selected relevant articles by asking the

following two questions: (1) Is the focus of the article on career, career development, work, or

employment? (2) Is the focus of the study on skilled immigrants?

Based on this 2-question screening, 27 empirical studies were selected for review. I

summarized the articles in a review matrix and coded each one for context, theory, research

design, and findings (see Appendix A). As the final step, I conducted content analysis to

synthesize the findings from the reviewed articles. Presented below are the empirical findings in

four broad categories: (1) internal factors, (2) external factors, (3) strategies, and (4) outcomes.

Internal factors

Syed (2008) argued that the main issues affecting employment and careers of professional immigrants are embedded within the macro-societal, meso-organizational, and micro-individual levels of analysis. Similar to Syed's classification, I have divided the factors influencing careers of professional immigrants into internal and external factors. In this section, I will report internal factors that influenced career trajectories of skilled migrants, including motivation, language deficiency, and the perceived loss of social and professional network and support.

Motivation

The first critical internal factor is professionals' motivation for undertaking international migration. J.-L. Cerdin et al. (2014) categorized professional immigrants into four groups—felicitous, desperate, chance, and dream—based on their motivations. Felicitous migrants have a strong reason to leave their home countries and expect significant gain from migration. Desperate migrants have to go somewhere; choice of destination does not matter to them. Chance migrants relocate to a destination by chance and have no particular attraction or reason to move. Dream migrants do not have a particular reason to leave their home country but are highly attracted to the host country.

Another motivator for skilled migrants to leave home was to avoid difficult political environments (insecurity) and economic issues (unemployment) (J.-L. Cerdin et al., 2014). In addition, hopes for better lifestyles, enhanced career opportunities, and better educational opportunities for their children are motivated professionals to relocate internationally (Zikic et al., 2010). Cooke, Zhang, and Wang (2013) found that even when skilled migrants had bright career prospects at home, some chose to migrate because they preferred the lifestyle and the

environment in the developed countries. In the study by Carr et al. (2005), many immigrant professionals left their country in the first place to pursue graduate degrees, and then decided to stay in the host country. For example, international students considered staying in Canada and obtaining employment because of career opportunities, enhanced quality of life, desirable work environment, safety, and political stability (N. Arthur & Flynn, 2011).

Language Deficiency

Language deficiency was reported as an important internal factor hindering career advancement of skilled migrants. Chinese women professionals in Australia, despite being fluent in English, for instance, felt they lacked the English proficiency required for sophisticated professional communications in managerial positions (Cooke et al., 2013). Also, confidence in presenting and selling competencies and achievements imposed challenges on career advancement of the skilled immigrants (Cooke et al., 2013). Skilled migrants in Norway felt that they needed language skills to be able to compete with natives; as a result, some decided to attend universities before looking for a job (Fossland, 2013).

Loss of Social and Professional Network and Support

The loss of social and professional network and support was another internal factor influencing careers of professional immigrants. Most skilled migrants do not have organizational support and/or a network of people who can support their career-related endeavors. Migrant doctors in the United Kingdom reported they did not have a network of people who would support them for entering high status specialties (Bornat, Henry, & Raghuram, 2011). Participants in Fossland's (2013) study learned informally and on their own how to present and negotiate their previous education and skills. Qualified immigrants in Canada were left on their

own to obtain support; therefore, they often turned to ethnic minority communities for help with occupational integration (Zikic et al., 2010).

Contextual factors

Syed (2008) described the macro-level context influencing skilled migrants' employment prospects as the legal, economic, human-capital, and societal contexts. Borrowing from Syed's (2008) classification, I grouped the contextual factors reported in the literature into three categories: (1) legal and immigration, (2) labor market, and (3) organizational factors.

Legal and Immigration Factors

Legal and immigration contexts in the host country influence careers and employment of skilled migrants. Administrative constraints and visa issues make it difficult for educated migrants from developing countries to pursue employment in a host country directly (Al Ariss & Syed, 2011). The "student-to-work" route is the most common career trajectory for professional immigrants to relocate from the developing to the developed world. Educated young Punjabi men and women were motivated to seek employment in the UK; however, the only available pathway for them was to pursue education in the host country as documented by Qureshi, Varghese, and Osella (2013). In Al Ariss and Syed's (2011) study, none of the participants who were born and raised in Lebanon could go to France directly to work; they all had to leave their country as students before they could establish themselves in France.

Labor Market Factors

Labor market gatekeepers and employers may not readily recognize skills, educational credentials, and foreign work experiences of skilled migrants. In Qureshi et al. (2013) study, skilled migrants from Indian professions were forced to seek jobs among their own ethnic community or consider returning home because their qualifications were devalued by UK

employers. Cooke et al. (2013) found that Chinese women professionals got part-time jobs or fixed-term employment below their educational qualification attainments and skill in the Australian job market. Similarly, educational degrees obtained by qualified immigrants in their home countries lost their value in Norway (Fossland, 2013), Canada (Zikic et al., 2010), UK (Inal, Al Ariss, & Forson, 2013), and France (Al Ariss & Özbilgin, 2010).

Overseas trained migrants found it especially difficult to re-enter their professional fields if the occupation required accreditations (Fossland, 2013; Zikic & Richardson, 2016). Indian doctors in the UK were the most underprivileged immigrants in the UK because the medical profession is protected in Britain, which means that overseas trained doctors have little chance of re-entering their profession in the UK (Qureshi et al., 2013). Findings of Al Ariss & Özbilgin's (2010) study showed that Lebanese professionals who wanted to enter as regulated professionals in France faced similar barriers and were forced to change careers. Conversely, Agullo & Egawa's (2009) study of immigrant IT professionals and engineers to Japan showed that these professionals could easily stay in Japan and navigate their careers, due to the high demand for IT specialists. South Asian overseas-trained migrant-doctors who failed repeatedly to enter specialties they desired were advised by their patrons to seek specialties in geriatric medicine. Geriatric specialty was a niche in the British medical labor market that British-trained doctors ignored (Bornat et al., 2011).

The labor market barriers creates challenges for women, especially women following their spouses to the host country or assuming childcare responsibilities. For example, Cooke (2007) found Chinese migrant women who had graduated from top-ranking universities in China and had established careers back home were unable to continue their careers in the UK upon arrival. Family responsibilities and lack of financial support hindered Indian women migrants

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who followed their husbands to the UK from pursuing British qualification needed for future work (Qureshi et al., 2013). When unemployed for a long time, skilled female migrants fell into gendered roles. While their partners had full-time jobs, the women lost sight of career ambitions (Fossland, 2013). Married Lebanese females faced constrained work and life choices compared to their male counterparts of men, leading to underutilization of their skills or their exclusion from the labor market (Al Ariss & Özbilgin, 2010).

Organizational Factors

At the organizational level, many skilled immigrants reported experiencing discriminatory practices. In Fossland's (2013) study, although Norwegian employers needed highly-skilled workers, they did not even consider the qualifications and skills of migrants. Immigrants also face barriers to career advancement and accessing managerial positions. Foreign-born scientists and professors, although being significantly more productive than natives, held fewer administrative positions compared to native-born faculty (Sabharwal, 2011).

Strategies

As described in the previous section, skilled migrants from developing to developed countries face contextual and organizational barriers in the host country. Skilled migrants may adopt various strategies to overcome the barriers they face and to move ahead. Borrowing Al Ariss's (2010) categorization, I present the five strategies that were reported in the literature; skilled migrants used these strategies to tackle challenges facing them: (1) maintenance and self-management, (2) transformation, (3) entrepreneurship and self-employment, (4) opting out, and (5) other strategies.

Maintenance and Self-management Strategies

Maintenance strategies refer to recognizing career barriers and working within imposed constraints to obtain desired career outcomes (Al Ariss, 2010). In doing so, skilled migrants may engage in several career self-management efforts, such as pursuing local education/training, building local networks, and developing local know-how (Zikic et al., 2010). In Cooke et al.'s (2013) study, education attainments, networking, and learning about Australian culture were among strategies Chinese female participants used to advance their careers. Many skilled migrants participated in self-funded training or organization-sponsored training programs as a strategy to enhance the rebuilding of careers. However, the investment in education had little impact on desired career outcomes of skilled migrants. For non-immigrant employees, training and development was positively correlated with objective career outcomes (Fang, Zikic, & Novicevic, 2009).

As a career coping strategy, immigrants reported obtaining local work experiences or pursuing a transient career. In Cooke et al.'s (2013) study, women professionals had to get a part-time job or a job lower than their credentials and skills as a strategy to enter the labor market. Once they secured the first job, they found better jobs through referrals and friends to get closer to a desired professional position. Albanian highly skilled migrants obtained interpreter jobs as transient careers or short-term survival strategies while adjusting to the host country. Interpretation was the one skill that migrants could initially use for employment. Interpreters developed social networks and learned local know-how (Ellis, 2013).

Transformation Strategies

Transformation strategies refer to identifying barriers to career advancement and trying to overcome those barriers (Al Ariss, 2010). Al Ariss, Vassilopoulou, Özbilgin, and Game (2013)

showed that highly skilled ethnic minorities in France and Germany possessed a high level of agency in navigating their work experiences, despite the structural inequalities. Similarly, Lebanese highly skilled migrants in France built relationships with the Lebanese already living in Europe, secured work permits, and enrolled in university courses. They also developed relationships with influential people in France, which aided career advancement.

Entrepreneurship Strategies

Entrepreneurship strategies focused on taking an additional risk in organizing a new business in an attempt to avoid discrimination and legal constraints in the host country (Al Ariss, 2010). Turkish-Cypriots in the UK chose self-employment as a career strategy to tackle the immigrant status challenge. To pursue an entrepreneurial career path, Turkish restaurateurs (holding university degrees from Turkey and/or UK) pursued education in catering and hotel management or short-term mandatory training courses, or worked in restaurants. Turkish lawyers also either pursued formal education and professional certifications (obtaining degrees in the UK) or worked as professionals for a while before they could set up their own legal offices. Additionally, they accumulated financial resources (savings from previous employment) in order to start their entrepreneurial career path. They also used social networks and relationships to initiate the startup.

Opt-Out Strategy

Opt-out strategy occurred when migrants were confronted with obstacles pushing them to operate outside the existing structure (Al Ariss, 2010). Lebanese skilled migrants stopped pursuing employment in France and Germany because of the overwhelming barriers to their career development (Al Ariss, 2010). A smaller group of skilled migrants in Canada failed to enter the labor market and craft careers they desired because they were discouraged by the

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obstacles and challenges facing them (Zikic et al., 2010). After sending several job applications and talking to career advisors and teachers, skilled migrants realized that they had no chance to pursue their professions in Denmark. As a result, they had to change their career horizons, give up their professional identity, and shift to a new professional field (Liversage, 2009).

Other Strategies

Other strategies included adopting personal positive attitudes and employer support practices. Educated immigrants in Canada found that their lack of contextual knowledge and Canadian credentials hindered their adjustment to the context. What helped them with the transition was embracing positive attitudes (e.g., self-awareness, personal philosophy, purpose, and flexibility) and taking proactive actions (e.g., retraining, networking, and goal setting) (Koert , Borgen, & Amundson, 2011). A large group of skilled migrants in Canada who accepted the reality that they needed to rebuild their careers in the new context, viewed the obstacles as temporary hurdles, and were determined to take advantage of opportunities (Zikic et al., 2010).

Outcomes

The academic literature also suggests that immigrant status influences the three most salient career-related outcomes of skilled migrants: employment, success, and satisfaction.

Employment

Among skilled migrants, some were able to retain former professional identities and obtain employment at their level of professional qualification/ expertise. For example, in Liversage's (2009) study, women migrants with skills in natural sciences were able to retain former professional identities and enter the professional fields related to their education and work experiences prior to migration. However, many had to start in a position lower than their qualifications and abilities (Cooke et al., 2013) or even change career directions (Liversage,

2009). Thus, skilled migrants who overcome multiple objective barriers might consider obtaining

any employment a success (Zikic et al., 2010). The majority of Sri-Lankan skilled migrants in

New Zealand experienced a decline in status (121 out of 221, including 32 who were

unemployed). Fifty-three were successful in obtaining the same status in New Zealand as they

had in Sri Lanka. The length of stay in the host country, adaptation to the host country's culture,

prior overseas experience, knowledge and skills, and career self-management strategies

predicated skilled migrants' job satisfaction (Tharmaseelan, Inkson, & Carr, 2010).

Success

As far as objective success (e.g., salary attainment and the number of promotions) is

concerned, studies report an important native-immigrant gap in earnings. For example, earnings

of highly educated immigrants in Norway were significantly lower than those of native

Norwegians. Within the first year after graduation, earnings for male foreign-born job seekers

were about 14% lower than those of native-born job seekers. The difference became smaller in

the second year (11%), but grew larger over ten years and reached 18% (Brekke & Mastekaasa,

2008). However, these findings are different from some studies in the United States regarding

wage differences among immigrant workers and natives (Brekke & Mastekaasa, 2008).

Satisfaction

Skilled migrants were satisfied with their situation in the host country, but the satisfaction

was not always due to work and career but because their families were happier there (Zikic et al.,

2010). However, skilled migrants in Canada were less satisfied with their jobs and compensation

compared to their nonimmigrant peers (Fang, Samnani, Novicevic, & Bing, 2013). Foreign-born

professors who are also naturalized citizens in the United States were dissatisfied with

opportunities for advancement because they faced a glass ceiling for accessing administrative

positions (Sabharwal, 2011). However, younger temporary-resident professors expressed the highest level of satisfaction with opportunities for advancement but were least satisfied with intellectual challenge, the degree of independence, the location of work, job security, and levels of responsibility compared to naturalized and permanent resident professors (Sabharwal, 2011). Figure 3 presents a summary of the empirical studies on careers of skilled immigrants.

Internal Factors

- Motivation (5)
- Language Deficiency (2)
- Loss of Social and Professional Network and Support (3)

External Factors

- Legal and Immigration Factors (2)
- Labor Market Factors (10)
- Organizational Factors (2)

Strategies

- Maintenance and self-management Strategies (5)
- Transformation entrepreneurship Strategies (4)
- Opt out Strategy (3)
- Other Strategies (3)

Outcome

- Employment (3)
- Success (2)
- Satisfaction (4)

Figure 3. Empirical Literature on Careers of Skilled Immigrants
Note: The numbers in parentheses represent the frequency of articles that contributed to each factor

Gaps in the empirical literature

Based on my review of the literature, I identified five gaps in existing knowledge about career experiences of skilled migrants. First, career concerns and the various challenges experienced by immigrants have hardly been studied in the field of human resource development (HRD) (Lopes, 2006), although career development is one of the three core domains in HRD.

Studying career experiences of Iranian highly educated immigrants will contribute to the expansion of the HRD literature. In addition, with a deeper understanding of critical issues facing skilled immigrants, HRD can better address these challenges and facilitate re-establishment of their careers by designing appropriate interventions.

Second, the careers of skilled migrants are still an under-explored area of research. Compared to the extant literature on expatriates, skilled immigrants have received little research attention. Given current global trends and increasing levels of migration, the career experiences of highly educated immigrants deserve further investigation.

Third, the existing literature on skilled migrants has been developed mostly in Europe (Al Ariss et al., 2013), Australia (Cooke et al., 2013), and Canada (Zikic & Richardson, 2016). Fewer studies have targeted professional immigrants in the context of the United States despite the fact that the country hosts the largest number of immigrants ("Number of international migrants rises above 232 million," 2013).

Fourth, from previous empirical research, we know that skilled migrants have to overcome numerous obstacles during the course of their careers (Syed, 2008). However, the literature has not adequately addressed the role of the government and the political context in shaping individual career experiences for this group of immigrants (Bach, 2007). Few studies of skilled migrants have been conducted in a context in which the home and destination countries have a long history of hostility and political conflicts. We know little about how a politically challenging environment impacts the careers of highly educated immigrants.

Finally, the majority of the empirical literature has studied skilled migrants in the context of unemployment or underemployment (Al Ariss & Crowley-Henry, 2013; Crowley-Henry et al., 2016). Often the samples of skilled migrants included those with foreign credentials not being

able to obtain a suitable job in their chosen profession. We know little about the challenges facing immigrants who obtain domestic educational degrees and jobs that match their credentials.

Summary

In this chapter I presented the context unique to this study. I also reviewed popular career development theories with a specific focus on career construction and career stress theories that would aid understanding the career experiences of the study participants. Additionally, I identified and analyzed empirical studies of the careers of skilled migrants, followed by a discussion of gaps in existing knowledge.

CHAPTER III

METHODOLOGY

The overarching purpose of this dissertation study was to explore career experiences of highly educated Iranian STEM immigrants and the strategies they used to develop their careers in the United States. In Chapter III, I provide the rationale for my methodological choices. This chapter provides details regarding my philosophical orientation that informed the qualitative research design, sampling and recruitment procedures, and methods for data collection, and analysis. This chapter concludes with a discussion about trustworthiness techniques and the researcher's role.

Qualitative Research

In this section, I will first introduce qualitative research and its characteristics. Then, I will elaborate on the rationale for using a qualitative approach in this dissertation.

Qualitative Research and its Characteristics

Qualitative research is a multimethod inquiry that "involves an interpretive, naturalistic approach to the world" (Denzin & Lincoln, 2005, p. 3). Qualitative research emphasizes studying a phenomenon in its natural setting and trying to understand it in terms of the meaning people attribute to it (Denzin & Lincoln, 2005). In doing so, qualitative researchers draw on interpretive practices and collect empirical materials such as observations, interviews, life stories, texts, and cultural artifacts (Denzin & Lincoln, 2005).

Contrasting qualitative with quantitative research is a common approach to clarify the nature of qualitative research. The term, "qualitative," suggests an emphasis on qualities and processes that cannot be examined experimentally; the word "quantitative" implies measurement and examination of causal relationships (Denzin & Lincoln, 2005). Qualitative and quantitative

research come from two distinct paradigms (naturalistic and positivist, respectively) with fundamentally different and even conflicting beliefs and values (Lincoln & Guba, 1985). Qualitative researchers view social realities as multiple and socially constructed, while quantitative researchers assume reality to be single, "out there" (or external to the observer), and capable of being fragmented into distinct elements/variables (Lincoln & Guba, 1985). A quantitative or positivist paradigm claims to be value-free and the researcher is independent of the subject matter; however, qualitative or naturalistic inquiry is value-laden and the researcher is inseparable from the objects of the study (Lincoln & Guba, 1985). Quantitative research aims to develop generalizable knowledge, free of context and time; in contrast, the purpose of qualitative inquiry is to generate working hypotheses and thick descriptions of individual cases embedded in specific contexts (Lincoln & Guba, 1985).

The distinction drawn above between qualitative and quantitative research suggests that naturalistic inquiry holds unique characteristics. First, naturalistic inquiry uses the researcher as the primary data-gathering instrument (Lincoln & Guba, 1985). The human instrument is the only complex tool that can interact with other human beings and respond to their verbal and nonverbal behavior immediately (Merriam, 2009). Second, the qualitative research process is inductive, and the design emerges as the inquirer collects and analyzes the data, simultaneously (Lincoln & Guba, 1985). Qualitative researchers begin the fieldwork with no fixed or well-developed theory or hypothesis in mind and build the theory based on observations and inductive reasoning (Merriam, 2009). Third, qualitative researchers aim to understand the meaning people attribute to their world in their natural environment (Merriam, 2009). Therefore, qualitative inquirers use data collection methods that expose them directly to the interpretations and experiences of the people under study (Lincoln & Guba, 1985). Specifically, qualitative

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researchers use purposive sampling, instead of random/representative sampling, to select cases that present adequate account of the phenomenon under study (Lincoln & Guba, 1985) and information-rich data (Patton, 2002). Finally, qualitative researchers use specific criteria to warrant the trustworthiness (rigor) of the data collected (Lincoln & Guba, 1985).

Rationale for Using Qualitative Research

In this study, I have adopted a qualitative research design. This methodological choice is driven by the nature of my research purpose and questions, as well as my philosophical orientation. In the following paragraphs, I will explain each aspect in detail.

Nature of research purpose and questions

Crotty (1998) suggested that the purpose and questions of a research project determine why the researcher employs a particular methodology. A qualitative research design is appropriate when the research purpose is descriptive, exploratory, and/or explanatory, and questions aim to address the what, how, and why about a social phenomenon (Hesse-Biber & Leavy, 2011). The exploratory nature of my study (to explore career experiences and career development strategies) makes the qualitative approach most suitable. This approach has allowed me to explore experiences and multiple realities of participants in this study. It has also enabled me to understand how participants made sense of their experiences (Merriam, 2009): in this case, how Iranian highly educated immigrants interpreted their career experiences.

Philosophical orientation

The methodological choice is informed by a researcher's assumptions about the nature of reality (ontology) and knowledge (epistemology) (Crotty, 1998), or her/his philosophical perspective (Hesse-Biber & Leavy, 2011). My assumptions about the nature of knowledge match the constructivist epistemology, as I believe meaning is constructed via the interactions among

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humans or between humans and objects (Denzin & Lincoln, 2005). Further, as do other constructivists, I believe that multiple realities are constructed by different individuals as a result of their different interactions with the same social phenomenon (Crotty, 1998). Therefore, I am interested in studying these multiple realities and their implications for the lives of different individuals (Patton, 2002).

In contrast to the positivistic view, the constructivist perspective is not in search of one single tangible reality "out there" (Merriam, 2009). Instead, it assumes that humans cannot directly access stable and knowable reality (Patton, 2002). Knowledge is co-constructed as the researcher and participant engage in making the emergent meaning (Crotty, 1998). Constructivist researchers are subjective and value-bound (Lincoln & Guba, 1985). They are not interested in testing hypotheses and generalizing study findings; instead, they strive to provide thick descriptions and context-bound working hypotheses (Lincoln & Guba, 1985).

The constructivist philosophical perspective fits within a qualitative research paradigm and guides my methodological choice. Figure 4 shows how my epistemological perspective drives my methodological selections. In the next section, I explain the interpretive qualitative approach that I have taken for this study. Finally, I describe various methods that I have employed to conduct the study.
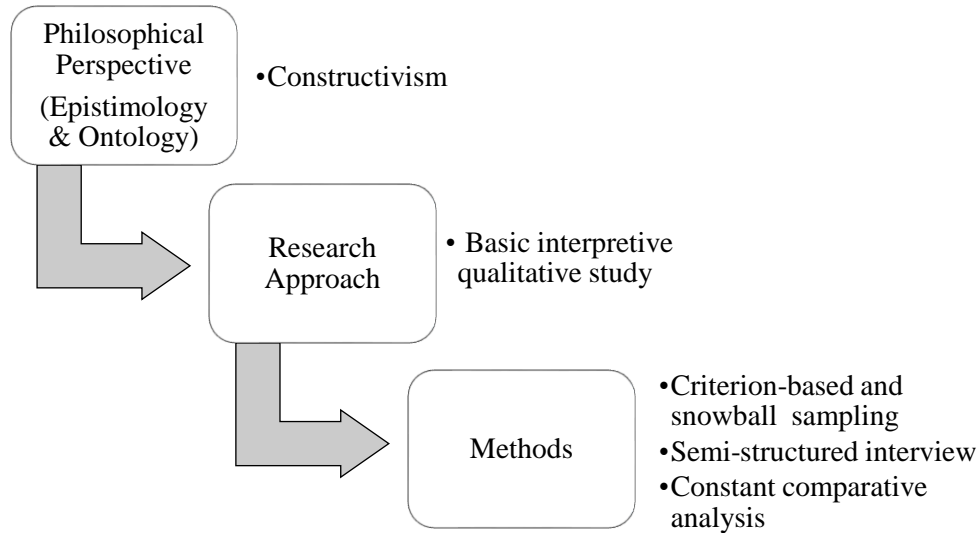
Figure 4. Research Framework

Research Design

As noted above, the constructivist philosophical perspective has guided my choice of the research approach. There are several methodologies informed by constructivist epistemology. Merriam (2009) categorized them into basic qualitative/naturalistic approach, phenomenology, ethnography, hermeneutic, and grounded theory.

Based on Merriam's (2009) typology, my study has adopted a basic interpretive qualitative study approach. To clarify, several terms have been used to name this specific approach, such as generic or basic qualitative research (Merriam, 2009), basic interpretive qualitative study (Merriam, 2002), naturalistic inquiry (Lincoln & Guba, 1985), and basic or fundamental qualitative description (Sandelowski, 2000). In this study, I adopted the term "basic interpretive qualitative study" suggested by Merriam (2002).

As Merriam (2009) noted, interpretive qualitative researchers interested in understanding "how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences" (p. 23) conduct a basic qualitative study—not a phenomenology, grounded-theory, narrative, critical, or ethnographic study. The basic interpretive approach holds the essential characteristics of qualitative research but does not focus on culture, theory building, or intense case study (Lichtman, 2013). The essential characteristics of the basic interpretive approach are listed below:

(1) The focus is to understand the meaning people construct and attribute to their experiences.

(2) Social life is studied in its natural setting.

(3) Humans are the primary research instruments because only the human instrument is flexible enough to grasp multiple realities.

(4) The research process is inductive, through which the data from interviews, observations, and documents are combined into themes and categories (Lincoln & Guba, 1985; Merriam, 2009).

Steps in Research Design

Merriam (2009) defined a series of steps for designing a basic interpretive qualitative study. According to her suggestions, I have taken the following four steps in designing my study (see Figure 5).

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┌────────────────────────────────┐
│  (1) Identifying the research  │
│            problem             │
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                ▼
┌────────────────────────────────┐
│ (2) Identifying the theoretical│
│           framework            │
└────────────────────────────────┘
                ▼
┌────────────────────────────────┐
│  (3) Reviewing the literature  │
└────────────────────────────────┘
                ▼
┌────────────────────────────────┐
│     (4) Selecting a sample     │
└────────────────────────────────┘
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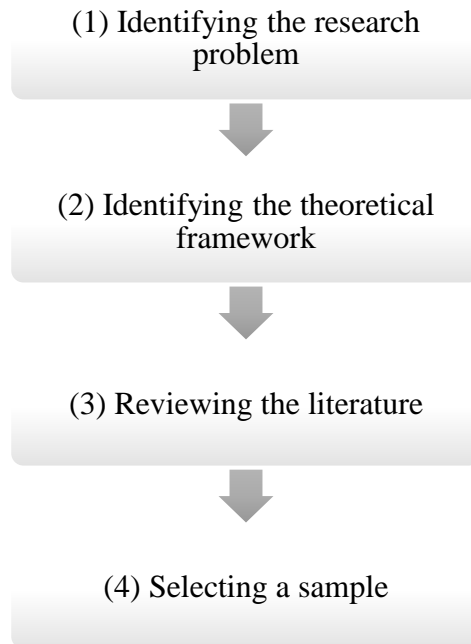
Figure 5. The Steps in Research Design

(1) Identifying the research problem: The research process begins with what the researcher is curious about and a gap in the existing knowledge (Merriam, 2009). I have provided the background of and rationale for the study in Chapter I. I have also narrowed the problem into its constituent research purpose and questions. My study concerns how a politically challenging context may impact careers of highly educated immigrants. Also, this study addresses the call for a more balanced representation of skilled immigrants' careers by investigating the strategies used to navigate careers in the host country. Finally, the extant literature portrays migrants as unskilled and less educated; those studies that focus on skilled/educated migrants do so in the context of either unemployment or underemployment.

(2) Identifying the theoretical framework: The theoretical framework indicates how theory fits into research, including the disciplinary orientation, concepts, models, and theories

that inform the research process (Merriam, 2009). The phenomenon in this study is informed by career development theories. Among the wide range of theories documented in the literature, career construction theory (Savickas, 2002) and career stress theory (Latack, 1989) appeared to be more relevant to this study. In Chapter II, I have reviewed the career development theories and provided details on career construction and career stress theories.

(3) Reviewing the literature: Besides a theoretical framework, the research problem should be related to literature, and, correspondingly, the literature review should set the stage for the study and show how the study contributes to the existing knowledge (Merriam, 2009). The existing empirical studies on careers of skilled migrants from developing (or non-western) to developed (or western) countries have informed my study. In Chapter II, I have reviewed and summarized the related body of literature, which helped me situate my topic, problem statement, and study findings in the literature and highlight the significance and contributions of my work.

(4) Selecting a sample: After determining the problem and reviewing the literature, the researcher needs to identify what, when, where, and whom to observe or interview (Merriam, 2009). Selecting a sample who can provide information-rich data (Patton, 2002) is the key to this step of the research design. I discuss the research methods and my research participants in the next section.

Methods

Methods are the techniques researchers use to gather and analyze data (Crotty, 1998). Crotty (1998) stated that the methodology underlies the selection of methods used in a research project. Therefore, I have employed methods aligned with my research design. The basic interpretative qualitative study calls for the use of purposeful sampling, interviewing, and comparative analysis (Merriam, 2009). For this study, I used criterion-based and snowball

sampling strategies to recruit my research participants, interviewing to collect data, and constant comparative method to analyze the data. I explain these methods in detail in the following sections.

Participant Recruitment

Sampling procedure

To recruit potential participants for this study, I used a criterion-based sampling strategy (Patton, 2002). The following five criteria guided the participant selection:

1. Born and raised in Iran: The U.S. Department of Labor (2013) defined immigrants as foreign-born individuals (born outside the United States and to non-US citizen parents). For the purpose of this study, second-generation Iranian professionals are excluded. All the participants in this study were born and raised in Iran and came to the host country as adults. They had lived all their lives and part of their adult lives (until their early late 20s or early 30s) solely in their home country.

2. Holding a Bachelor's degree or higher in STEM fields from Iranian universities: The literature suggests that having completed at least an undergraduate degree in the country-of-origin (Crowley-Henry et al., 2016; Fang et al., 2009) distinguishes educated/skilled from low-educated/-skilled immigrants. Holding at least a Bachelor's degree from Iranian universities was the minimum requirement to be included in this study. Sixteen participants in this study held Master's degrees, two held Ph.D. degrees, and four held Bachelor's degrees from Iranian universities before coming to the United States.

   Why STEM? Iranian universities have particular international reputations in engineering education (Trines, 2017). Iran ranks as the third in the highest number of engineering graduates (total 233,695), after Russia and the United States (out of 124

countries excluding China and India) (McCarthy, 2015). In 2013, three out of four Iranian students in the United States were enrolled in STEM majors (one-half enrolled solely in engineering graduate programs) (Trines, 2017).

3. Currently employed in the United States in a STEM professional position (requiring higher education degrees): To explore the strategies Iranian highly educated immigrants utilized to navigate their careers in the United States, I included those who hold professional positions that required higher education degrees. For example, an Iranian individual who had a Ph.D. degree in an engineering field, but was working as a taxi driver in the United States was not considered for this study.

4. Have at least one year of full-time work experience in the United States: To collect information-rich data (Patton, 2002), it was important that the participants have adequate work experience in the United States. Although there are no standards to determine the minimum years needed to accumulate meaningful experiences, the literature suggests that at least one year is required for adjusting to the culture of the host country and the workplace and to accumulate sufficient exposure (Ward, Okura, Kennedy, & Kojima, 1998). Participants in this study had an average of four years of full-time work experience as professionals in the United States (ranging from one to ten years). This full-time work experience excluded participants' experience as student workers at the university where they pursued their degrees in the United States. However, it is noteworthy to mention that they all had a minimum of two years of work experience at their respective universities as graduate students.

In addition to using the above five criteria to guide my participant selection, I also employed the snowball sampling method (Patton, 2002): that is, I encouraged participants to

make referrals to their contacts whom they believed met the sampling criteria. To begin the recruiting process, I relied on my personal and professional contacts. Twenty-two Iranian highly educated immigrants participated in the study; the cut-off point for data collection was based on when the data reached saturation (i.e., no new themes or ideas emerged from interviews) (Merriam, 2009).

Recruitment procedures

I sent an invitation email to my direct contacts and invited them to participate (Appendix C). Meanwhile, I asked my professional network (my colleagues) to forward the invitation email to people who might meet the inclusion criteria. Participation was completely voluntary and my personal or professional relationship with the potential participants did not impose obligation on them. I requested the potential participants to send me an email if they were willing to participate in my study. I provided a small incentive as a token of appreciation. Each participant received a $20 Amazon gift card with a "Thank-you" note after the interview.

Participants

Participants in this study were highly educated Iranian immigrants in the United States: adults who possess advanced higher education degrees and were born and raised outside the United States (non-US citizens). The closest term in the literature to describe the population of this study is "skilled migrants," who have been defined as "having a university degree or extensive experience in a given field" (Crowley-Henry et al., 2016, p. 1) or who have completed at least a baccalaureate degree in their home country (Fang et al., 2009).

Twenty-two Iranian men and women participated in this study. They were at the early stages of their professional careers in the host country (one-to-ten years of work experience in the United States). All had lived in the United States for five to ten years. All 22 participants

earned their Bachelor's degrees in Iran, sixteen of which received their Master's degree and two

their Ph.Ds. in Iran before moving to the United States. Except for the two participants who

earned their doctorates in Iran, the remainder of the Ph.D.-holding participants earned their

degrees from universities in the United States. All participants were working in STEM-related

professional fields and had full-time work experience in the United States ranging from one to 10

years. Participants' characteristics are described more completely in the first section of Chapter

IV (Table 3).

Ethical considerations

Before I began the procedures described above, I submitted an application to Texas

A&M University's Institutional Review Board (IRB) and obtained its approval (Appendix B). I

followed the IRB approved protocol throughout the study, employing, for instance, informed

consent (Appendix D), keeping data confidential, assigning pseudonyms to participants to ensure

confidentiality, and preserving data in encrypted files.

Data Collection

The qualitative researcher collects data in the field through in-depth interviews, direct

observations, or written documents (Patton, 2002). In this study, I used semi-structured in-depth

interviews with the help of an interview guide as the primary source of data collection. This

method was supported by my research methodology (basic interpretive qualitative approach)

(Merriam, 2002). Semi-structured interviews with open-ended questions generated contextually

rich descriptions and yielded deep insights into participants' experiences (Patton, 2002). The data

generated through this method "consist of verbatim quotations with sufficient context to be

interpretable" (Patton, 2002, p. 4).

Interviews were conducted using an interview guide (Appendix E and F)—that is, a list of questions and probes to be pursued during the interview (Patton, 2002). The interview questions were centered on participants' educational and work experiences before and after coming to the United States, the experience of coming to the United States, and the strategies they used to develop a career in the United States.

I collected data using Skype and face-to-face interviews. I tried to conduct as many interviews as possible face-to-face; however, since participants were professionals employed at different locations across the country, some interviews became feasible only through the use of Skype. Distance participants preferred to participate in the Skype interviews after their work hours or during the weekends. Face-to-face interviews were conducted during the day, in the interviewees' work offices. Interviews were scheduled on a day and time that was convenient for the participants.

I emailed the informed consent form to the interviewees before the scheduled meeting and asked them to read it and ask any questions (Appendix D). I requested participants to sign the form and return the scanned copy to me before the interview. During the interview meeting, I walked the participants through the informed consent form again and emphasized the major points. I gave sufficient time during the meeting for them to ask any questions.

Each interview lasted between 45 to 100 minutes (total 1,403 minutes; average 64 minutes). Before each interview, I gathered information about each participant by studying his/her LinkedIn profile, CVs available online, and Google Scholar records to familiarize myself with the background of the interviewee. Before the interview, I prepared a one-page summary profile for each participant (educational background, including institutions and degrees obtained) and work experiences (job titles, time spent in each job, and organizations, an example of which

is provided in Appendix G). After the interview, I communicated, via email, further questions and/or sought clarifications from participants.

Interviews were conducted in English and audio-recorded upon interviewees' consent. During the interviews, I took notes containing the description of what I believed to be worth recording (Patton, 2002). The notes complement interview data and capture the context, nonverbal behavior, feelings and any other important observations (Patton, 2002). I also kept a reflexive journal immediately after each interview. For example, I wrote a summary of the interview and recorded my major observations (Appendix H). I continued data collection until the data reached saturation (i.e., no new themes or ideas emerged from interviews) (Merriam, 2009).

Data Analysis

Qualitative data analysis is the process that "transforms data into findings" (Patton, 2002, p. 432). It is a process that synthesizes the socially constructed data and reconstructs them into meaningful wholes (Lincoln & Guba, 1985). Qualitative analysis aims to consolidate, reduce, and interpret the data in a meaningful way (Merriam, 2009). However, qualitative data analysis is guided by the research purpose and questions (Merriam, 2009). Therefore, I began the analysis with no pre-determined framework to allow the categories to emerge from the data. However, my goal was to address the research purpose and answer the research questions.

To prepare the data for analysis, I transcribed the interview recordings verbatim (the first seven interviews) and used professional transcription services to complete the process, which resulted in a total of 351 pages of transcripts (ranging from 12-27 pages; average 17.3 pages). I shared the interview transcripts with participants and asked them whether they would like to

change any part of the text. One participant asked for a section of the interview to be excluded, which I deleted from the final transcript.

I assigned numbers to participants from 1 to 22. I kept the names corresponding to the pseudonyms in a separate electronic file and stored them as confidential in an encrypted folder. I created an inventory of all interview transcripts and entered them into SQR NVivo software for coding and analysis.

Once the data were organized, I began the analysis using the constant comparative method (Glaser & Strauss, 1967; Lincoln & Guba, 1985). The research methodology (basic interpretative study) supports this inductive and comparative analysis method (Merriam, 2002). The constant comparative method includes coding incidents for a category and then comparing them with other incidents in all the categories (Glaser & Strauss, 1967; Lincoln & Guba, 1985). I took the following two steps:

(1) Coding or unitizing: This step includes reducing the data into codes and the smallest pieces of information as units of meaning (Lincoln & Guba, 1985). I began coding after the first interview. I first read through the transcript and the field notes related to that interview. Then, I read the transcript again and coded for units of meaning and assigned each unit an Nvivo code (using the exact words of the participants) (Merriam, 2009). I repeated these steps for each interview transcript. I read the whole transcript carefully, then read it again and coded it for units of meaning. For the first three transcripts, I wrote the codes on the margins of the printed transcripts. As I proceeded and codes began repeating themselves, I continued the coding in the NVivo software. I inserted the same codes written on the margins into NVivo and continued the same process using the software. As I did the coding, I wrote memos and notes in the reflexive journal to record patterns I observed in the data (Appendix H).

(2) Categorizing: This step involves bringing together the units of meaning or codes that relate to the same content (Lincoln & Guba, 1985). Constructing categories is a highly inductive process, through which bits of data are collapsed into clusters (Merriam, 2009). In this step, I constantly compared each unit of meaning or code with the previous pile of codes. I then grouped the codes relating to the same content into categories. I also constantly compared the categories to make sure they were mutually exclusive. I stopped the categorization once the categories reached saturation. Saturation is when the researcher realizes no new information is being added and the codes are being repeated (Merriam, 2009). Each saturated category consists of subcategories and properties that define its unique characteristics. During this step, I kept track, in my reflexive journal, of my decisions about categorization.

Table 2 presents samples of codes/units that have been coded under the same category based on their shared meaning. These categories resulted from taking the above two steps. The bold phrases in the table highlight the NVivo codes that relate each code to the label of the categories.

Table 2. **Sample of Coding and Categorizing**

Categories	**Example of codes**
Motivation - Quality of higher education in the United States	● I knew that was a **good quality university** (Interviewee 1). ● Myself liked US more, perhaps because of the **reputation**, the name (Interviewee 18). ● I always wanted to do my PhD at a very **good school** (Interviewee 12). ● In Iran … there are restrictions, limitations, you know, research has its own funding limitations, and **facilities are not** as, you know, **good sometimes** (Interviewee 5).

Table 2. **Sample of Coding and Categorizing (Continued)**

Categories	Example of codes
Challenges related to being Iranian - limited access to job opportunities	● This is my case, **being an Iranian** was a huge **obstacle to get a job offer** (Interviewee 17). ● They looked at my resume. They said that your resume is okay, **but you are Iranian** (Interviewee 17). ● I **applied** for a lot of huge companies, and I mean they hired all my lab mates and it was fine to just rehire from the same lab members, **but then they got to know me [being Iranian national]** (Interviewee 15).
Challenges related to being Iranian - Export control limitations	● The company should apply for something that's called an **export license** (Interviewee 15). ● Once you're in engineering, you will have those **limitations**, even if you have a Green Card, which is the case for me … I didn't have [export control] **clearance** (Interviewee 18).
Challenges related to being Iranian - Visa and travel restrictions	● I **haven't traveled** home for 7 years (Interviewee 19). ● I **couldn't** go because of my **visa** (Interviewee 22). ● It's a very **significant** part. So, I **couldn't meet** my family for seven years (Interviewee 5). ● I **didn't go back**, because I had single entry **visa** (Interviewee 4).
Challenges related to being a foreigner - Lack of networking skills	● I'm **not such a person** that go and just talk with everybody and say that, okay, I am this, I am that. So this is a problem … So **networking** here is very important in the U.S. (Interviewee 6). ● One more thing is more **networking**. That is something that I do **regret** (Interviewee 10). ● This influences everyone's career so it must have **influenced mine**, and that's the issue of **networking** (Interviewee 12). ● Something that they **didn't tell us**, my fellow colleagues, is the importance of the **networking** (Interviewee 16).
Challenges related to being foreigner - Language and communication	● Especially **language** is always a **barrier** (Interviewee 16). ● If I just talk in my own **language**. …this **barrier** always in front of us, that keeps us from expressing ourselves in the best way that we can" (Interviewee 21). ● And they talk in a **language** that sometimes it's hard to understand. They make a joke, and you don't know what that term is. You don't find it funny. And then, **there's no relationship** between you (Interviewee 20). ● When I want to **ask my colleagues** to do something, I'm not sure if **the way that I requested** that task was professional or not. That type of thing (Interviewee 17).

Table 2. **Sample of Coding and Categorizing (Continued)**

Categories	Example of codes
Self-directed actions	● I do actually **put the extra effort** to get it done (Interviewee 2). ● I **didn't use** like the LinkedIn or some, like the **traditional tools** to find my kind of job… (Interviewee 10). ● I **worked really hard**. That helped me a lot in my career later on, you know, because I was there - on that project (Interviewee 16). **Applied** for about 700 jobs (Interviewee 19).
Help of the right person	● I mean even this year I **got funding** for other projects and he [**mentor**] **helped** me a lot (Interviewee 3). ● He [**mentor**] **helped** me to **build a great network** and relationship with all the professionals that I know today (Interviewee 21). ● **The manager** of the company [which rejected my application] **referred** me to the company where I work now (Interviewee 19). **He** [**alumni**] told me to contact this company and say that he has **referred** me to them (Interviewee 1).
Career aspirations and goals	● At the very beginning, I talked about being a faculty member; but then after some time, I **changed my mind** (Interviewee 15). ● I wanted to go to a **big name company** … now I think **small company** is better (Interviewee 1). "When I started my work, I said, well, **what's important for me** is to **get my green card**, finish my dissertation, and support my wife (Interviewee 8).

Data Report

Qualitative researchers need to prepare a report to inform others of the research findings (Patton, 2002). However, there are no standard formats for reporting qualitative research findings (Lincoln & Guba, 1985; Merriam, 2002). The presentation of qualitative research can be very creative; nevertheless, the overall form includes the problem statement, the way the methodology and methods were used, and the findings and discussion in relation to practice and theory (Merriam, 2002).

The key to determining the qualitative report's format is to determine the audience or readers of the findings (Merriam, 2009). In the case of my study, the audience is academics; therefore, my writing is scholarly and follows academic conventions. I provided an introduction

to the topic, purpose, questions, and description of methodology and findings (Chapters I through IV). I also discussed the findings in relation to the literature and future research in Chapter V.

I used thick description in reporting my findings. Doing so enabled voices, contexts, feelings, actions, and settings to be heard (Denzin & Lincoln, 2005). I described the participants' characteristics and the context of the study. In addition, I presented the categories and subcategories using representative direct quotes from participants. The final report reflected both my interpretations and my participants' voices. I also maintained a nondiscriminatory language in my report.

Trustworthiness

Qualitative research has its own specific ways of establishing rigor (Patton, 2002). Trustworthiness (rigor) of qualitative research determines its worth and consists of criteria for credibility (trust in truth of the findings), transferability (applicability of findings to other contexts), dependability (consistency of findings), and confirmability (the extent to which the findings are the result of the study rather than the researcher's preferences) (Lincoln & Guba, 1985). Lincoln and Guba (1985) suggested a variety of strategies to ensure trustworthiness of qualitative inquiry. Based on their criteria, I used the following four strategies:

Member Checking

This technique is one of the most important to ensure trustworthiness in a qualitative study (Lincoln & Guba, 1985), allowing participants to verify the accuracy of the findings and interpretations and determine whether the researcher's analysis represents their experiences (Erlandson, Harris, Skipper, & Allen, 1993). This strategy contributes to increasing credibility of the research, which is analogous to internal validity (Erlandson et al., 1993; Lincoln & Guba, 1985). To conduct member checking, I sent transcripts to participants for their review. One

participant asked for a section of the text to be removed from the transcript. I also sent my findings (categories and subcategories with representative quotations) to two of the participants who were willing to provide their feedback. I made changes to the categories and subcategories based on their feedback (see Appendix H).

Reflexive Journal

It is recommended that qualitative researchers keep a record of their reflections on what is happening in the field in the form of a personal log (Lincoln & Guba, 1985). I kept a journal to track my decisions, questions, and reflections throughout the research process. Also, I reflected on my biases, assumptions, and experiences and how I planned to bracket my influence on the research (see next section). Reflexivity contributes to the rigor of the findings by increasing transferability (analogous to external validity), dependability (analogous to reliability), and conformability (analogous to objectivity) (Erlandson et al., 1993; Lincoln & Guba, 1985) (see example 2 in Appendix H).

Peer Debriefing

Peer debriefing involves discussing with a professional not involved in the study difficult questions that arise during the research process (Lincoln & Guba, 1985). I used peer debriefing at different stages of this study. I shared the interview questions and the findings with three qualitative researchers (two faculty and one Ph.D. student) who were not engaged in this study, and asked for feedback. To incorporate peer feedback, I changed the labels of four of my initial categories (e.g., the category *growth mindset* was previously labeled as the *right mindset*) and replaced a few representative quotes for some of the categories (see Appendix H). Throughout the process, I discussed concerns and questions with peers as I proceeded with the study. Peer

debriefing contributes to the rigor of the study by increasing credibility and internal validity (Erlandson et al., 1993; Lincoln & Guba, 1985).

Positionality

As a final attempt to increase trustworthiness in my study, I elaborated on my role as the researcher. In the next section, I discuss my position relative to the topic, the research setting, and explained how I had bracketed my influence on the study.

As mentioned above, one factor contributing to the rigor of qualitative research is recognizing and bracketing the researcher's influence on the study (Patton, 2002). The researcher impacts the study by reacting to participants during the fieldwork, holding dispositions, assumptions, and biases, and lacking competence (Patton, 2002). A way of representing researcher's self-awareness, cultural consciousness, and ownership of one's perspective is to be reflexive and to state one's own subjectivity (Lincoln & Guba, 1985; Merriam, 2009; Patton, 2002). In the following paragraphs, I discuss my identity, background, and biases and how they might influence my study. As a qualitative researcher, I have been aware of my subjectivity and have tried to bracket it at different stages of the research process.

I am a 31-year-old woman, born and raised in Iran. I completed my primary, secondary, and postsecondary education in my home country. I graduated from a top university in Iran with an undergraduate degree in management and a Master's degree in human resource management. I came to the United States in the summer of 2012 as a student to pursue my doctorate in Human Resource Development. At the time of conducting this study, I was a fifth-year Ph.D. candidate at a research-intensive university in the United States.

Being an Iranian and having moved from Iran to the United States as an international student give me an emic perspective (insider's view) (Lincoln & Guba, 1985; Merriam, 2009;

Patton, 2002) into my research topic. I may be more capable of understanding my participants'

experiences than someone who has not experienced living in the United States as a foreigner.

When I moved from Iran to the United States, many of my career expectations changed. In

addition, I needed to adjust to new ways of living and working. Also, my intention to build a

career in the United States after graduation made me curious to learn about how other Iranian

highly educated immigrants have navigated their careers in the United States context.

During my six-and-a-half years of stay in the United States since summer of 2012, I have

observed the experiences of many Iranian students graduating and finding employment. I have

heard stories about the challenges they faced during the job search and afterward at work. My

colleagues and friends' experiences made me even more eager to study career development of

highly educated immigrants from Iran in the US job/work context. Therefore, when I started

shaping my dissertation research, I was leaning toward focusing on the challenges and obstacles

facing this group of immigrants based on the stories I had heard. Upon reflection and receiving

feedback, I became aware of my bias toward focusing on the negative experiences of this group

of immigrants and thus consciously decided to take a balanced approach and explore both the

challenging and positive aspects of participants' experiences. As a result, I stayed neutral during

my data collection and analysis stages and let the participants determine whether an experience

they shared with me was challenging or positive to them.

Finally, being a foreigner in the United States provided me with an etic perspective

(outsider's view) (Patton, 2002) about the context of the study. I observed patterns and trends

that a person with an emic perspective might not be able to discern. The outsider's view helped

me capture factors in the U.S. labor market and/or the workplace that influenced careers of

foreign-born professionals. In addition, I am a human resource development major interested in

building an academic career, but my participants were working in STEM-related professional fields. I am an outsider to STEM-related careers, which offers me the opportunity to study the context and events associated with participants' careers with an open mind and fewer pre-determined assumptions.

Summary

In this study I adopted a base qualitative interpretive study design to understand participants' career experiences and the meaning they attribute to it. I used criterion-based and snowball sampling strategies to select 22 participants. Data was collected through semi-structured interviews, and a constant-comparative analysis method was used to analyze the interview transcripts.

CHAPTER IV

FINDINGS

Introduction

The overarching purpose of this dissertation was to describe the experiences of Iranian

highly educated STEM immigrants who tried to build their careers in the United States and to

explore how they navigated their careers in a politically challenging context. A deeper

understanding of this phenomenon would allow practitioners to proceed from informed

perspectives when designing and facilitating career development programs initiatives. My

findings also contribute to the young and emerging scholarship of skilled migrants' careers. This

study has adopted a basic qualitative interpretive approach guided by the constructivist

epistemological perspective. Through criterion-based and snowball sampling methods, 22 highly

educated Iranian immigrants working in science and engineering professional fields participated

in this study. Chapter IV begins with an overview of the participants' characteristics and presents

the categories and subcategories that emerged from data analysis. Direct quotes from participants

are used to present each category and subcategory. This chapter concludes with a summary of the

major findings.

The Participants

This section describes the demographic characteristics, educational background, and

work experience of the participants. Table 3 provides the profile of each participant. For

confidentiality, participants are numbered as Interviewee 1 to Interviewee 22.

Table 3. **Participants' Profile**

Interviewee	Sex	Age	Year arrived in the US	Job title	Education		Years of Work Experience		
					Iran	US	Iran	US	
								Student	Full-time
1	Female	28	2011	Project engineer	BSc	MSc	None	2	3-4
2	Female	36	2004	Bioinformatics scientist	BSc	MSc & Ph.D.	2-3	4	5-6
3	Female	33	2007	Assistant professor	BSc & MSc	Ph.D.	None	4	4-5
4	Male	40	2008	Senior electrical engineer	BSc & MSc	Ph.D.	3-4	3.5	3-4
5	Male	41	2007	Engineering startup CFO	BSc & MSc	MSc & Ph.D.	4-5	6	4-5
6	Female	41	2007	Assistant professor	BSc, MSc, & Ph.D.	Post-doc	2-3	-	5-6
7	Female	39	2007	Post-doctoral researcher	BSc, MSc, & MA	MSc & Ph.D.	4-5	4	2-3
8	Male	37	2009	Civil engineer and programmer	BSc & MSc	Ph.D.	8-9	4	3-4
9	Male	34	2010	Postdoctoral research scientist	BSc & MSc	Ph.D.	4-5	4.5	2-3
10	Male	31	2011	Data scientist	BSc & MSc	Ph.D.	None	4	1-2
11	Male	41	2007	Instructional assistant professor	BSc, MSc, & Ph.D.	Post-doc	7-8	-	7-8
12	Male	36	2005	Data scientist	BSc & MSc	Ph.D.	2-3	6	5-6
13	Male	34	2008	Assistant professor	BSc & MSc	Ph.D.	3-4	5	2-3
14	Female	30	2011	Architectural intern	B.Arch.	M.Arch.	1-2	1.5	2-3
15	Female	33	2008	Research assistant professor	BSc & MSc	Ph.D.	2-3	5	1-2
16	Male	33	2007	Reservoir engineer	BSc & MSc	Ph.D.	None	4	6-7
17	Male	33	2010	Structural Engineer	BSc & MSc	Ph.D.	2-3	3.5	2-3
18	Male	34	2004	Assistant professor	BSc & MSc	Ph.D.	None	3.5	6-7
19	Male	28	2010	Modeling and simulation scientist	BSc	MSc & Ph.D.	None	4.8	2-3
20	Male	28	2012	Project engineer	BSc	MSc	0-1	2	3-4
21	Female	28	2011	Structural engineer	BSc	MSc	None	2	4-5
22	Female	32	2009	Geotechnical engineer	BSc & MSc	Ph.D.	3-4	4.6	3-4

Demographic Characteristics

General

Twenty-two highly educated Iranian immigrants working in STEM professional fields in the United States participated in the study. My sample included 59.1% males and 40.9% females. Participants' age ranged from 28 to 41 years (63.64% were in their thirties). All participants had lived at least four years in the United States at the time of the study (81.8% lived in the United States 5-9 years).

Education

In terms of educational level, 18 participants held Ph.Ds. (81.82%) and four held Master's degrees (18.18%). The majority of participants (72%) obtained both a Bachelor's and a Master's degree from an Iranian university before moving to the United States. Twelve obtained a Ph.D. degree, four obtained both a Master's degree and a doctorate, four obtained only a Master's degree, and two obtained postdoctoral training in the United States. Twenty participants graduated from the top Ten Iranian Schools, which have international reputation for undergraduate engineering education.

Work experience in the United States

Participants could be considered as early career professionals in the host country based on the years of full-time work experience in the United States. The majority of participants (17 participants; 77.3%) had 2-6 years of full-time work experience, 13.63% (3 participants) had 6-8 years of full-time work experience, and 9.1% had 1-2 years of full-time work experience in the United States. In the U.S., 17 participants were pursuing science and engineering industry-based careers (77.27%), and five were science and engineering academics (22.73%). Participants

worked at small and medium-sized enterprise (SME) or startups (27.27%), large or multinational companies (31.82%), or higher education institutions (40.91%) at the time the study.

Work experience in Iran

Participants' work experiences before leaving Iran encompassed part-time jobs or internships (n = 9; 40.9%) and full-time work experience (n = 6; 27.3%). Five participants (22.7%) did not have any work experience in Iran. One reason for not having extended work experience before coming to the United States was prioritizing continuing higher education over full-time work.

<div align="center">

Categories and Subcategories

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This section describes the categories and subcategories of themes I identified from data analysis. The four major categories and 27 subcategories described in this section are summarized in Table 4. In the following sections, I will describe each subcategory in detail, along with direct quotes from the participants. In each category, the subcategories are listed in order, based on their importance in the participants' view. The numbers in parentheses in Table 4 represent the frequency of participants mentioning the subcategory.

<div align="center">

Motivation to Pursue Education and Careers in the United States

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Participants' narratives of coming to the United States illuminated what motivated them to leave Iran (push factors) and selected the United States as a destination (pull factors). Push factors in this study encompassed (1) a trend of going abroad among students graduating from Iranian universities, (2) participants' family encouragement and support to go abroad, and (3) lack of infrastructure, discipline, and societal challenges in Iran that participants tried to avoid by coming to the United States.

Table 4. **Categories and Subcategories**

Categories	Subcategories
Motivation for moving to the United States	Pull factors ● Quality and ranking of higher education in the US (12) ● Availability of financial aid for education in the US (11) ● Availability of a Market for Specialized Expertise in the United States (6) Push factors ● A trend of going abroad (8) ● Family encouragement and support to go abroad (7) ● Lack of infrastructure, discipline, and societal challenges in Iran (7)
Challenges of navigating careers in the United States	Unique to Iranian STEM professionals ● Limited access to opportunities (17) ● Visa and travel restrictions (12) Shared with skilled immigrants from other developing countries ● Unfamiliarity with US job market expectations and work culture (18) ● Language barriers (10) ● Need for employer work visa sponsorship (8) ● Educational credentials from Iran not recognized in the US (8) Shared with domestic highly educated professionals ● Requirements of the professional work (6) ● Challenges on the first job (5)
Positive outcomes of navigating careers in the United States	● Professional growth (10) ● Collegiality of the workplace environment (8)
Coping strategies	Psychological ● Adjusting career expectations (11) ● Embracing the growth mindset (10) ● Developing resilience (7) Behavioral ● Managing the immigration status (10) ● Pursuing learning (6) ● Seeking professional help (5) ● Working hard (3) ● Adopting non-traditional job search methods (1)
Social support	● A mentor (5) ● A colleague (5) ● A hiring manager (3)

Pull factors that attracted participants to choose the United States as a destination were (1) the quality and ranking of higher education institutions in the United States, (2) the availability of financial aid for education in the United States, and (3) availability of a market in the United States for the specialized expertise participants invested in obtaining. In the next few sections, I elaborate on these pull and push factors.

Pull factor 1: Quality and ranking of higher education in the United States

The most prominent factor that attracted the participants to the United States for education was the quality and ranking of the higher education institutions. Twelve participants wanted to compensate the challenge of coming to the United States by the quality and reputation of education they would get. One of the participants, who worked as an assistant professor, described her motivation for choosing a university in the United States as the following:

> Since I was leaving my family, I wanted to go somewhere that is worth the separation from what I belonged to. So, I decided to go to University [A] because I knew that was a good quality university. Because of the ranking; there is something behind that; the rank proves that it's a good university. (Interviewee 3)

As the following quote reflects, participants who had the option of choosing among destinations, preferred the United States because of the reputation of its universities.

> When I had the admission from [universities in] [Country X] and the US, both of them were fully funded. Even Singapore, converting all the currencies, perhaps was paying more than the one in the US. Of course, I liked the US opportunity more, perhaps because of the reputation, the name, and also when I consulted with any friend or relative, or even, my professor at that time … Everyone without hesitation said definitely go to the US, not Singapore, or something like this. So it was clear to me I should come here. (Interviewee 18)

Also, participants were looking for exposure to an education system that was not only reputable but also provided the resources they could not access in Iran: "I always wanted to do my Ph.D. at a very good school, obviously. But that wasn't really an option to stay in Iran

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because you'd be exposed to a limited amount of research and material when you do your Ph.D. in Iran" (Interviewee 12). Similarly, a startup CFO engineer said, "I don't think the education system in Iran is bad, but I do think that there are restrictions, limitations, you know. Research has its own funding limitations, and facilities are not good sometimes" (Interviewee 5).

Pull factor 2: Availability of financial aid for education in the United States

The second most important pull factor motivating participants to pursue education in the United States was the availability of financial support in the form of assistantships. Eleven participants were hired by professors to work as graduate students before or after arriving in the United States, which made continuing their education and international move possible. The following two quotes represent this motivating circumstance:

> In the first place, I didn't think about specifically coming to the U.S. But during my search, I realized that the conditions of the Canadian or Australian universities are much harder than universities in the U.S., especially because of financial situation. For example, in Australia, most probably you have to pay out of your pocket, and there's a very slim chance to get financial aid … So, that was another reason to think about the U.S. (Interviewee 20)

> The most important thing for me was the financial situation. The fact that my tuition could be waived. Because you know, with [Iran's] currency, I had to bring a lot of money to even pay for the rent. So, the assistantship and the money was the most important thing for me. And then, of course, I was interested in the research too …. (Interviewee 21)

Pull factor 3: Availability of a market for specialized expertise in the United States

Due to a high level of education and specialized skills, participants were motivated to pursue careers in the United States because of the availability of a labor market for their expertise. As one bioinformatics data-scientist participant mentioned: "The type of education I got is not useful unless living in an advanced country. If I go to Mexico, which is the neighboring country, I won't get a good job. It just depends on where you are" (Interviewee 2). Another medical data-scientist-participant said,

I think the expertise I gained, generally my Ph.D. and even, right now, [the expertise] I'm gaining as I work, it can be applied to different problems in Iran … but even if I could have a similar position to my current position in Iran, there were limitations for me to do that, because we don't have the medical health records for patients [in Iran]. It's like very limited in our operations in hospitals, it's [such records are] only here. (Interviewee 12)

Push Factor 1: A going abroad trend

Eight participants described a trend of going abroad among their friends and classmates at top engineering programs at Iranian universities, which also motivated them to pursue education abroad. An engineering assistant professor participant shared her experience of such trend, "In 2007, when I was pursuing my Master's degree in my university in Iran, my friends, all of them, wanted to go abroad; and they were actually very successful" (Interviewee 15). Similarly, another interviewee who worked as an assistant professor stated, "I had a few friends in [a university] where it was so common for the students in that [university] to go abroad. My friends motivated me to apply and told me all about the process." A project engineer described the atmosphere in his college, which motivated him to apply for a graduate degree in the United States.

In the last year of my undergraduate, everyone was looking for something, for an admission—they saw themselves overseas. Everyone was planning to do something to go out of Iran, and I was in the same group of people. So I started, I went through the regular, basic steps, like English test, GRE, finding universities. That was very time-consuming and very challenging, but that's the beginning of my story, how I decided to come to the United States. (Interviewee 20)

Push factor 2: Family encouragement and support to go abroad

Seven participants shared that the most important reason for their pursuit of higher education degrees and going abroad was their family's emphasis on continuing education. For example, a participant working as an assistant professor said, "My parents, similar to most of the Iranian parents, who push their kids to make sure they get the highest degree possible, [wanted

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me to get a Ph.D.]. So, I had the motivation, and I had the support … I would say, that was the main reason I came to the US" (Interviewee 18). Similarly, another engineering assistant professor participant working at a research-intensive university in the United States also attributed her motivation and success to her family: "My parents have always encouraged me that you can do it… So, I came to the U.S. with that background of family… which makes me a lot more motivated here to achieve my dreams" (Interviewee 3).

Push factor 3: Infrastructure, societal, and discipline challenges in Iran

One common reason for the participants to leave Iran was the lack of funding, equipment, and support for research (e.g., "lack of funding in Iran for fundamental sciences" (Interviewee 11)). Another participant working as a senior electrical engineer explained the challenges facing advanced engineering research in Iran: "the hardware is very scarce, the labs are really old because it costs money. It's hard to get equipment, moneywise. Because of all the sanctions, it was very hard to buy stuff" (Interviewee 4).

Also, societal problems in Iran (including political and economic situations) motivated participants to leave the country. As an example, one participant referred to "the Election in 2009 [that] was also as a major reason" for wanting to leave: "I thought okay, it's time to find somewhere else, because of the condition and everything, and the economy after that" (Interviewee 20).

Five female participants identified cultural issues as a drive for their coming to the United States. Female participants mentioned that the male-dominated nature of engineering work environments in Iran prompted them to seek education and careers abroad. A female participant elaborated on this cultural issue:

I really didn't want to be in a place where I was judged based on my gender. And I had experienced such issues when searching for a job and also at the University [in Iran]… It [the environment] was male-dominated culture-wise. I always felt that I was a woman and I am different. (Interviewee 3)

The Experience of Navigating Careers in the United States

When asked to describe their overall experience of coming to the United States and building their careers, participants referred to both negative aspects (i.e., challenges) and positive outcomes of their experience. Half the participants (Interviewees 1, 2, 3, 9, 11, 14, 15, 19, 20, 21, and 22) described their experience as "challenging but rewarding," "hard but worth it," or "gradually improving." These participants said that they would "do it all over again" despite the challenges they faced:

It's better to have this experience, rather than not having it and regretting this position for the rest of your life. I mean, seeing it as either good or bad depends on each person. But I think it's worth it that you have the experience. (Interviewee 20)

Five participants (Interviewees 4, 7, 8, 12, and 17) described their overall experience as predominantly challenging:

I would call it a terrible challenge... The challenge is always there. It never ends. A 'never-ending challenge' would be a better word. I think it was challenging to come here. It was challenging to settle in. It was challenging to start your career here. It was still challenging to keep your job. (Interviewee 4)

Four participants (Interviewees 3, 5, 13, and 18) described their overall experience as dominantly positive:

Amazing. This academic job was kind of a dream for me, I could never think that I could be a faculty … So the sky is the limit. That's what I like about it. You try hard, but you achieve what you were dreaming of, and that's just amazing. (Interviewee 3)

Other participants described their experience in relation to the aspects they enjoyed, such as "research" (Interviewee 6), "time and networking" (Interviewee 10), and "hope" (Interviewee 16).

Challenges

Challenges represent the difficulties participants faced in trying to build their careers in the United States. These difficulties encompassed (1) challenges unique to Iranian STEM professionals, (2) challenges participants shared with skilled immigrants from other developing countries, and (3) challenges participants shared with domestic highly educated professionals.

Being Iranian (holding Iranian citizenship or nationality) was the most significant factor that created unique challenges for the participants in the job market (e.g., limiting their access to opportunities) and at work (e.g., limiting their access to projects). Also, the visa and travel restrictions for Iranian nationals made the international move specifically challenging (e.g., not being able to travel for work or visiting family). Challenges that could be shared with skilled immigrants to the United States from other developing countries were language barriers, unfamiliarity with US job market expectations and work culture, need for employer work visa sponsorship, and educational credentials from Iran being unrecognized in the US. Challenges shared with domestic highly educated professionals (natives holding US graduate degrees) were related to the requirements to perform and sustain their professional positions (constant learning and pressure) and the challenges of the first job (student-work transition).

Challenges Unique to Iranian STEM professionals

Participants unanimously believed that being an Iranian in the US job/work context (specifically engineering industry) created challenges for navigating their career. The following quotation depicts this overarching theme: "I don't remember anywhere it [being an Iranian STEM professional] helped me" (Interviewee 11).

Limited access to opportunities for Iranians in STEM fields. Being Iranian (citizenship or nationality) created specific challenges for the participants in the engineering

industry, specifically limiting their access to employment opportunities (15 participants). The

following quotation describes the experience of a participant who tried to find a job in the

engineering industry job market after graduating with his Ph.D. from an American research

university:

> This is my case, being an Iranian was a huge obstacle to getting a job offer because of some political issues between the two countries. And in this particular industry, so many companies, I mean, many, many companies will not even interview you if you say you're Iranian. (Interviewee 17)

The participant mentioned that even before trying to find a job, he had tried obtaining

internships and failed to do so because of his nationality:

> When I started my Ph.D. in 2009 … I went to the career fair every year, but it didn't go anywhere … They looked at my resume. They said that your resume is okay, but you are Iranian. Based on my experience, the larger companies … don't even look sometimes at your resume. (Interviewee 17)

What limited participants' access to employment and work-related opportunities was a

specific legal procedure in the United States called the export control policy. The Export

Administration Regulations (EAR) implements the U.S. Government sanctions against Iran and

four other countries (Cuba, North Korea, Sudan, and Syria) and regulates exports of goods,

software, technology, and knowledge to those countries. As one participant explained, "the

export control policy aims to make sure that the [US employers] don't export the technology

through these individuals to the country—Iran. So, then getting jobs, as well as getting

internships, are difficult in high-technology companies for many Iranians" (Interviewee 15). The

export control procedure requires employers to procure extra documentation to hire Iranians.

Also, the export control policy requires Iranian workers (after being employed) to go through

background checks (clearance) to be able to work on certain projects. A senior electrical

engineer who was hired as an intern to work at a multinational company during his Ph.D. was asked to leave the company because of the export control documentation:

> They came and said after a week: "You can't work here. We don't have that documentation for you, and we don't know what to do, but the only thing that we do know right now is that you're not supposed to be in this building. So, you have to leave immediately." As you would expect, it was a very big let down. It was awful. (Interviewee 4)

Because of the export control policy, being Iranian created unique challenges for the Iranian STEM professionals at work due to their limited access to certain projects. Participants were excluded from projects (Interviewees 21 and 14), research labs (Interviewee 15), research grants (Interviewees 18 and 13), and conversations about certain projects (Interviewees 16 and 18) because they are Iranian.

Travel restrictions for Iranians. Twelve participants mentioned that the most significant challenges they faced were due to visa and travel restrictions. An Iranian passport is ranked 88th (out of 93) in terms of travel freedom ("Global Passport Power Rank," 2017). Iranian passport holders can travel to 35 countries visa-free or by obtaining visas upon arrival, whereas citizens of Germany and Singapore can travel to 185 countries visa-free (ranked 1st) ("Global Passport Power Rank," 2017). Specifically, for STEM professionals who arrived in the United States as students, travel restrictions limited their chance of visiting their families. "Because of the way visas are issued … it's such a restricted and complicated process that makes it so difficult for a student to travel back and forth just to visit the family or have a financial transfer in funds [from home to the United States]" (Interviewee 5).

Interviewee 4 explained that he did not go back home to visit his family for seven years because he had a single-entry visa and could not risk going back until he got a job and a green card. Interviewee 10 described his experience of arriving at the United States with a single-entry

student visa like "traveling to Mars and you know that you're not going to be back for a long time." Participant 19, working as a modeling and simulation scientist, described how such travel restrictions influenced him:

> In my case, I haven't traveled home for seven years now, and it has impacted my efficiency because part of my mind is always there. And if you can't work efficiently, it impacts your career. (Interviewee 19)

Another engineer participant described the negative impact of the visa and travel restrictions on her ability to participate in activities that would help her career advancement:

> They want you to go to field visits twice a year. For example, there was this project in Canada, and I couldn't go because of my visa … And right now, my job requires that I travel to Amsterdam, but I don't know how long my visa will take. They want you there now or in a week from now, not in three months. And they don't know you have this problem! They absolutely have no idea … and my manager keeps telling me that I need the field experience on my resume. (Interviewee 22)

Challenges Shared with Immigrants from Other Developing Countries

Some of the challenges facing participants could be considered common among highly educated immigrants from developing countries to the United States. "As a foreigner, you always have to face the challenge of not knowing enough compared to people who have grown up in this culture" (Interviewee 12). Being somewhere new without "having the correct information, or the right community to talk to, and to be well-informed about the processes" accounted for the challenging aspects of participants' experiences. Participants shared the challenges described below with other highly educated immigrants coming to the United States as adults.

Unfamiliarity with the US job market expectations and work culture. Eighteen participants recalled incidents in which they found themselves unfamiliar with expectations in the U.S. job market and workplace. Participants regretted that they were unaware of or unfamiliar with expectations of (1) engaging in networking and extra-curricular activities, (2)

preparing CVs/resumes and/or cover letters, and (3) navigating workplace etiquette, politics, and culture.

Five participants realized that the US workplace expected engaging in networking activities, with which they were not as familiar as their American counterparts. A data-scientist-participant working at a startup company reflected on his graduate school years: "More networking. That is something I do regret because especially in my case, I was pretty much close to New York City. So, I could attend so many meet-up events or that kind of networking events … I was so focused on my research; I missed that opportunity" (Interviewee 10). Another engineer participant said,

> Something that they didn't tell us [early on], my fellow colleagues, is the importance of the networking. Not just looking for Iranian fellows or not necessarily Americans, but to be open to having friends from any country. (Interviewee 16)

Two participants working as engineers in industry talked about their unfamiliarity with the expectation of having on their CVs extracurricular activities (leadership in student organizations or professional associations). One of them working as a project engineer said,

> I have realized that having participated in extracurricular activities [while a student at the university] are very important here in the U.S. I didn't know how important this is. If I had known, I would have done more such activities during my Master's in the U.S. We [Iranians] just push for a high GPA. Then, when you start working, you realize some other things were important. (Interviewee 1)

Four participants talked about how they had to learn, in the process of job application, resume and cover-letter writing skills required in the industry. A modeling and simulation scientist said, "You can't just sent your resume and wait. You really have to craft it to show your expertise as it fits each job. Because there are hundreds of specialties in engineering fields. It really took me a long time to learn how to do it" (Interviewee 19). An assistant professor shared

her experience of applying for jobs in two consecutive years and how better resume and cover-letter writing skills helped her get the job she desired:

> Last year, in my cover letter, I just listed the projects that I did at different universities and discussed each of them in paragraphs. This year, what I did, because people told me that you need to bring a story that connects these projects together. So, I tried to do it that way. My resume has not changed from last year. It's the same—maybe two papers more, which doesn't affect much really. But the results this year were better than last year. (Interviewee 6)

Four participants also acknowledged their lack of knowledge about the U.S. workplace etiquette and culture. For example, one structural engineer said, "When I ask my colleagues to do something, I am always concerned. Have I asked it in an enough polite way?" A senior electrical engineer shared, "In my culture, when someone walks into the room or office of a couple of people, you must say hi. If he doesn't say hi, it's offensive. And of course, in American culture, there's no intention of offense, but they just don't do it all the time." A postdoctoral researcher shared a similar sentiment,

> The work experience is confusing … I don't know the culture of the work, I should learn it and it's not easy for me. In Iran, when you say that you have graduated from [University A] it is enough for employers to know who you are. Your level is clear. Here, you are from a different background… It is complicated. (Interviewee 11)

One senior engineer and one project engineer specifically mentioned they felt unfamiliar with the office politics necessary for career advancement. As they put it, going up the ladder to managerial positions seems pretty impossible because "the politics are really strong" (Interviewees 4 and 20).

Language barriers. The challenges often phrased by participants as "barriers" related to English language skills (10 participants). Language barriers made expressing oneself at work challenging at times "because culturally it's different working in the U.S. than in Iran; it's not the

same, and especially language is always a barrier … I am quieter, very much quieter here … in

meetings and stuff" (Interviewee 16). Another participant said,

> It's so [hard]. Like if you want to talk—I mean sometimes, I feel I can explain better in my language. Or I might be presenting this presentation better in my language, or I might be getting what I want easier if I just talk in my own language. But there's something, this barrier always in front of us, that keeps us from expressing ourselves in the best way that we can. (Interviewee 21)

> Better language and communication skills, in participants' perceptions, would lead to

better career benefits (Interviewees 18, 20, 1, and 17):

> You can advance, just by speaking better or conducting a conversation at a more professional level. I found this very important. Rather than just being able to talk, you can negotiate your salary, you can negotiate your idea, and you can convince the person you're talking to, so you can get a better, more secure position for yourself, for your family and for your future. (Interviewee 18)

> Along the same line, Interviewee 1 who worked as a project engineer at a small company

said, "I may be stronger in technical aspects, but as far as communication skills or social skills,

the American colleagues are stronger. So if the company wants to send somebody to finalize a

contract or a deal, they would send an American colleague rather than me" (Interviewee 1).

Need for employer work visa sponsorship. Eight participants cited the need for work

visa sponsorship, the absence of which would create a challenge for obtaining jobs in the US. As

Interviewee 20 a project engineer, put it, "After noticing that I needed a visa sponsorship, they

refused to extend an offer or go to the next step." An architectural intern explained his situation

with employer visa sponsorship:

> Some companies would ask you in advance if you need a sponsorship, and they wouldn't consider you because they don't sponsor. For me, one company adjusted the job offer, they said because of the hidden costs of hiring an international, and the documentations we have to apply for … So, they lowered their offer. (Interviewee 14)

Educational credentials from Iran not recognized in the US. Eight participants

mentioned challenges because their credentials from Iran were not recognized by U.S.

employers. Interviewee 1 explained, "Here, they are not familiar with our 19 or 18 GPAs [out of

20]. In our system, it is so difficult to get those scores. The employers here have seen 3.8 GPAs

over and over. They don't get our scoring system, so what becomes important for them is your

English. They decide on based on your English score." Interviewee 7, a postdoctoral researcher,

put it this way: "they don't know the exams we take, the reputation of schools we attend."

Another postdoctoral research scientist said, "It is very odd, but the quality of engineering

education I received during my Master's in Iran was way more rigorous than my Ph.D. in the

United States. But nobody knows."

Specifically, two participants who obtained their Ph.D. degrees from Iran and tried to

establish academic careers in the U.S. said, "Having the [Ph.D.] degree from Iran made it more

difficult for entering the academic career here" (Interviewee 6). These two participants obtained

postdoctoral training in the United States, but not having a Ph.D. degree from the US was a

significant barrier to obtaining professor jobs.

Challenges Shared with Domestic Highly Educated Professionals

Participants identified challenges that they considered common by their domestic

counterparts (natives holding US graduate degrees): meeting the requirements of their

professional positions as an academic, a scientist, or a senior engineer (e.g., constant learning

and pressure); and overcoming the difficulties in a first job (e.g., student-work transition).

Requirements of the professional work. Part of the challenge participants faced was

due to requirements of their professional positions as an academic, a scientist, or a senior

engineer (6 participants). A data-scientist-participant said, "To get those very competitive

positions in the job market, you have to constantly push yourselves and try to build new skills.

That's what I mean perhaps by constantly challenging" (Interviewee 12). An assistant professor

related the challenges he faced in sustaining his engineering job (holding a Ph.D. degree) in the

U.S.,

> We were told that if you cannot find a funded project for yourself, so you should pay your salary based on your own project, [if you don't] you might not have this job next year. It was too much pressure … the management was pushing those with higher ranks. The Ph.D.s and masters had to work on developing proposals and meeting the program managers to make sure they sign the proposals. So, they were pushing us to write … writing plus marketing. (Interviewee 18)

> Interviewee 5, engineering startup CFO, indicated that in an oil and gas industry that has

"its ups and downs," there is a constant risk of losing promotion opportunities or being

dismissed: "My boss told me that he's going to promote me to the next level, but, unfortunately,

because the price of oil and gas started to go down in that company, I didn't get my promotion,

and I went to the third year." Interviewee 4, a senior electrical engineer, echoed this view:

> It is still challenging to keep your job. In U.S., things change very fast. For example, the hardware business is shrinking, because of the market forces. We might not see these things back home in Iran. But these things happen here every day, and you can't fight them. You just have to adapt yourself to them.

> **First job.** Participants shared their struggles in transitioning from being a student to a

professional. They often felt unprepared for challenges in their first job: "For every single career

phase, I had to be prepared in a certain way that you can get the job; not just go there and talk to

people and come back. I had to be completely prepared. I didn't know how …" (Interviewee 17).

Interviewee 3, an assistant professor, reflected on her early career challenges:

> When I chose to be in academia, I really didn't know about how the challenges would be; I just knew that I like teaching … The transition from a student to a faculty position was a huge change for me. So, in the beginning, it was difficult to adapt … the first semester, the teaching was challenging … I was just a student put into a faculty position, no post-doc in between …. (Interviewee 3)

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Participants noted that "time helped to figure out" (Interviewee 14) the differences between the academic context and business context, as well as learning how to be a professional.

Positive outcomes

Despite the challenges of navigating their careers in the United States, participants shared positive outcomes of their experience. The positive outcomes encompassed (a) professional growth, and (b) collegiality and positive workplace environment.

Professional Growth

Ten participants referred to the professional growth they obtained in the United States as the positive aspect of their experience. They were satisfied because they "got a lot of good experience in teaching and research" (Interviewee 22); and "got the chance to be in charge of several projects that were serious and big" (Interviewee 1). One male senior engineer working at a noted company said, "I'm happy with the situation where I am now, compared to what it would be if I pursued my Ph.D. back home" (Interviewee 4). One female participant found the United States a better environment for professional growth for women: "In my experience, the environment is better … Here, nobody is concerned about subjects unrelated to work" (Interviewee 15).

"Having reached this point" (Interviewee 20) and "learning a lot of things" (Interviewee 2, 8, and 21) in their careers, participants were "happy" (Interviewee 15). Also, certain professional achievements and milestones made the participants satisfied and their experience positive:

> I was the happiest when I got my first industry sponsor. It's not anywhere on the achievements on my CV. But I was just jumping up and down when they trusted me and decided to support my program at University B. The other one that I was kind of excited about was this X faculty award, because I did not think that I can get it anytime soon. (Interviewee 3)

Collegiality of the Workplace Environment

Eight participants identified their relationships with colleagues as another positive aspect of their experiences in the United States. In fact, most of the participants said that they never had any negative encounters with individuals at work because of their nationality. One participant said, "I work with American colleagues on a daily basis; they are very friendly and nice; it is very easy to work with them" (Interviewee 1). Similarly, a civil engineer and programmer said, "Many people at work have been absolutely kind, respectful, helpful, American and non-American" (Interviewee 8). Another participant noted, "With my fellow colleagues, we had very, very strong relationships when I was in school and even after that, so we still have it" (Interviewee 16). A female architectural intern reflected on an incident regarding her work visa lottery: "They [colleagues] were really happy my name came out through that lottery, and they threw a party in the office for me. I cried" (Interviewee 14).

<center>*Coping Strategies*</center>

As the following quote shows, participants found ways to overcome the challenges they faced in the process of navigating their careers in the United States.

> When you're in a very tough situation, when you're in a stressful situation, that you think all the doors are closed into your face, you somehow find this strength to fight for it, and find a way to the successful path …. (Interviewee 21)

Participants used two types of strategies to cope with the challenges facing them in the United States: psychological and behavioral strategies. I will describe these strategies in detail below.

Psychological strategies

To cope with the challenges facing them, participants adjusted their career expectations, embraced the growth mindset, and developed resilience.

Adjusting Career Expectations

In the face of challenging situations, eleven participants adjusted the career expectations they had before coming to the United States. For example, a few of the participants aspired to become university professors because being a professor has a highly respectable and prestigious social status. As a senior electrical engineer put it, "People think of [being a professor] as something that is really hard, something non-achievable. That's why I wanted to do it." However, their aspiration for academic careers changed when the participants found out that "it's a very hard to find a job, and the work environment is rather harsh for assistant professors" (Interviewee 13). The following quote illuminates this point:

> At the very beginning, I thought about being a faculty member; but then after some time, I changed my mind, and I thought maybe faculty member is too hard because I have to write proposals, and my writing at that time was not good … I was too afraid of writing, and then I changed, and I said maybe industry. (Interviewee 15)

Regarding expectations for industry-related careers, a project engineer said that she expected to "go to a big-name company" (Interviewee 1). Reflecting on her current work at a small engineering company for three years in the United States, she said, "Now that I think about it, I think a small company is better for those who want to begin their careers in the U.S." (Interviewee 1).

Participants—especially those with less work experience—were not sure what to expect for their careers. They talked about how they adjusted their expectations as time passed and they gathered more information.

> I wasn't quite sure because I didn't have any source of information at that time, where I was working in my school. I didn't have a chance to talk to non-academic people … I didn't have any idea of what was the difference between the larger-scale company and the smaller-scale company … I didn't have any job experience back in Iran … As time went on, I did more research … after that summer, [doing an internship,] I started to pay

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more attention to some tech news … listen to different podcasts, channels, videos, to make my understanding [of non-academic jobs] deeper. (Interviewee 10)

A postdoctoral researcher aspired to work for a world-renown non-profit organization, gaining an intern position (one year), then a consultant position (one year and a half) at that particular institution. However, her experience was not "as she had expected" and "disappointing," to the extent that she gave up that path and went back to work as a postdoctoral researcher, so she could look for an academic position.

Embracing a Growth Mindset

A growth mindset refers to believing that one can develop his/her ability through hard work and new strategies (Dweck, 2006). Ten participants interpreted the challenges they faced as a necessary component for their "growth" (Interviewee 22) or "maturity" (Interviewee 21). Participants believed that they attempted to "learn from" the challenges (Interviewee 13), noting that "it's just for the greater good" (Interviewee 14). The following quote reinforced this theme:

> If you want to grow, you challenge yourself. If there is no challenge, there will be no achievement. They have this good saying; they say: "no pain, no gain." That's what it is. There are pain and pleasure in all the steps that we took. (Interviewee 22)

> When I compare myself with the people that are in Iran or Americans here, I can really see that we [immigrants] are much, much more mature for our own age. And it's because of all the tough situations. (Interviewee 21)

One participant whose experience of navigating his career in the United States was particularly challenging (several negative incidents, including a layoff), said that if he knew that so many challenges awaited him in the United States, he probably would not have made the decision to come. But he also acknowledged,

> I'm really happy about the part that I've learned a lot of things, and those fires actually made me a mature person. I'm pretty sure that I wouldn't have had such experience in Iran. So many aspects of my personality could be dormant. I wouldn't think that when

such problems happen, I can fix them! Or such problems can happen, and I can put my trust in God, and I can find my way. (Interviewee 8)

Other participants also said that their "optimistic" worldview (Interviewees 2, 5, and 18) or "hope" (Interviewee 16) helped them minimize the impact of challenges on their journey. As the following quote shows, this participant developed a growth mindset, which was helpful in dealing with future challenges:

> "Coming from another country to a new country, moving from [City 1] to [City 2], just being able to establish yourself in a completely new culture, learning to speak another language and work in another language—that's what we all are doing. It's amazing … sometimes I compare myself with my American competitors. I'm like, 'oh my god,' they grew up in this culture. They know how things are, and I don't. I'm still a foreigner. I still don't know how things work … but I'm doing well as far as competing with them. This is a credit that we should all give to ourselves. It's a part of you growing as you challenge yourself. If there is no challenge and no obstacle, there is not going to be any achievement." (Interviewee 22)

Developing Resilience

Seven participants talked about how "not giving up" developed their resilience in the process of navigating careers in the United States. In light of multiple challenges, participants tried to "be patient, be patient, work hard, and be patient again" (Interviewee 15), or be "committed to making it work" (Interviewee 14). Participants persistently applied for jobs until they got results: "I have applied for about 700 jobs and got about 10 to 12 interviews, and out of the 10-12, four of them were the ones I really liked, including my current" (Interviewee 19). Participants also tried to keep their motivation high and be passionate for what they cared about:

> Things build up. I think it's very important to be open and be motivated, and try to especially spend time on what you're passionate about. Because I think … eventually … if you're doing what you like to do … still, have that happiness with you. (Interviewee 5)

Being in a state of insecurity was one situation that reinforced for participants the need to build resilience and not to give up in times of challenges. Interviewee 9, a postdoctoral research scientist, put it this way:

When you are an immigrant, usually you are not in a secure financial situation. When [you] are home, the worst thing that can happen is that you go to your parents and live there. So, you have that security; if I didn't find a job, I'll go to my parents, I won't die on the street! But when you are an immigrant that is not an option. (Interviewee 9)

Behavioral strategies

The behavioral strategies included actions that participants took in response to challenges facing them in the United States— problem-solving strategies (e.g., managing immigration status), pursuing learning, seeking professional help, working hard, and adopting non-traditional job-search methods.

Managing Immigration Status

Ten participants emphasized the actions they took to tackle the challenges caused by their immigration status or nationality. Interviewee 14, an architectural intern who obtained employment-based immigration status after graduating with her Master's degree in the United States, said, "It's [the immigration process] just a part of this experience. But it impacts you; if you don't have a status problem, it will be a very easier journey." Participants in this study experienced and managed one of the following immigration paths (organized from the most challenging to the less challenging in participants' views):

> Each step … is very frustrating and unpleasant. Because in the procedure, there are some steps that you do not have any control on, but they are real and important. Those steps may change your life, and that's a really disappointing and desperate time. (Interviewee 21)

Another participant described the process:

> At first I was on a single entry [student] visa, I couldn't go home. After I had graduated, I was on the H1-B visa, and I was working, and I definitely couldn't go. Then after I got my Green Card—then after that, last December was the first time in seven years I made it. (Interviewee 4)

Managing the immigration status became a goal of its own for some participants. "When I started my work, I said, well, what's important for me is to get my Green Card, finish my dissertation, and support my wife" (Interviewee 8). It was particularly important for participants to manage immigration status for career purposes:

> I started my work in [City,] and I worked there—my plan was to get the Green Card as soon as possible. So, I can move on and join one of these major [companies] because the current company wasn't the kind … it was a small company … So, when I got my Green Card in my hand, I went to the [major company]. (Interviewee 16)

Some of the participants obtained their permanent residency after they entered the country as students by seeking a National Interest Waiver: "I was able to have my Green Card approved when I was a student, under National Interest Waiver, in the third year of my Ph.D. If you have papers, conferences, and citations you can apply for a Green Card. At that time, I could not believe it. But I contacted an attorney, and he said that with my record I had a 99 percent chance to win" (Interviewee 18). "The National Interest Waiver, waives a labor certificate from Department of Labor, saying that I have a good record of research and that I don't need an employer to support my Green Card" (Interviewee 13).

Participant 2 described her journey as less challenging compared to her counterparts, because she entered the United States as a Green Card holder: "I think I was lucky in that aspect. I never had a working issue or anything that law needed to be involved. I was just like any other American; I just couldn't vote because I was not a citizen … But I didn't have any problems or challenges in terms of law" (Interviewee 2).

Pursuing Learning

Six participants engaged in self-directed learning to overcome some of the challenges they faced (especially challenges related to the first job experience in the United States). One

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participant, sharing the story of her first job in the United States, said, "My engineering

background helped me to know how to build queries… the parts that I didn't know I used books.

I used many books to make all those queries … And after a while it became easy … but at the

beginning, it was very challenging because I had no idea what they wanted" (Interviewee 2).

Similarly, another participant described how she used self-directed learning to tackle the

challenge of training new hires in her company: "I had to learn many of the software here at

work. I had to read the manuals myself and learn. I train the new-hires on it where I have learned

it all through reading the manuals on my own" (Interviewee 1). Another participant described her

strategy to overcome the language and communication barriers:

> I watch a lot of movies and learn words and expressions, and then I use those on so many occasions when I'm talking to my colleagues, or when I'm going to a new company, or when I'm presenting something. And still at work, when my manager who is an American is presenting something, or we are in a meeting, I have a little notebook that I write down the different phrases that they use, because the things that you hear at work is different from the things that you hear at school. (Interviewee 21)

Seeking Professional Help

A few of the participants used the formal career services at the universities where they

studied as a strategy to tackle the challenging situations they faced. However, they sought help

and advice only in dramatic or crisis situations. For example, Interviewee 4, a senior electrical

engineer, who was hired for an internship position and later dismissed from work (the employer

claimed there had been a mistake in hiring him because they did not know he was Iranian)

approached the Career Center at the University:

> My friends advised me to go to the career center. So, I went to the career center, and I told them, this is my situation, and this is what happened, what do you suggest I do? I want to get the best out of the situation. I want to really go back and work there because I think it's a good opportunity, what do you suggest? (Interviewee 4)

Two participants (Interviewees 1 and 22) approached formal career services at a critical time when they had to find a job in a short period of time to be able to hold their legal immigration status. In both cases, participants had been offered jobs previously, then the employers had withdrawn the offers, so the participants had to secure another job offer in a short period:

> The second thing that helped me—reaching out to the career center … I told them, "I'm in this crappy situation and am really scared. I really don't know what to do. Tell me what to do." I hadn't done this before, at the start of my job search. The guy was very helpful. He gave me all the resources, basically how to use the resources for career development. (Interviewee 22)

Working Hard

On the other hand, participants also worked hard and put extra effort into their work to achieve results:

> So I had to put in extra effort, extra time and try to stay positive and get things done. That's the same thing in my job. I say that everything is good and everything is working nicely. I do actually put the extra effort to get it done. Like if I have to work my weekend. I do that. I don't mind it. I think if you wanted to achieve your goal you need to do sacrifices for it. Nothing in life comes easily. (Interviewee 2)

Interviewee 16 had a difficult time securing an internship because of challenges specific to Iranians. Once receiving a position, he tried to work really hard.

> I was the first guy to show up in the company and the last guy to leave, and after that, I went home … I was still working … That's how I worked over there. I worked really hard. That helped me a lot in my career, later on, you know, because I was there—on that project I was the only petroleum engineer [there]. (Interviewee 16)

Networking

Although participants found networking a challenge, only a few mentioned that they actively tried to network to achieve their career goals. Interviewee 10 represents a unique case

who specifically used networking to obtain a position at a startup company he desired. To build career-related networks, Interviewee 10, working as a data scientist, said,

> The last summers, [during Ph.D. studies,] I attended so many meet-ups, like tech meet-ups or tech events or like job/career events, those kinds of things. So, I have pretty much good professional network here …. (Interviewee 10)

A few other participants also talked about their networking efforts, which helped them. For example, one participant said, "Because I was Iranian and it didn't help me … So, I'm still in touch with them [my network] so, I might use them later" (Interviewee 16). Another participant said: "I had my classmates … I helped one of them a lot with her project, a lot … when she went back to work, she said, 'I'll make sure I'll find you a job.' And she did, she referred me to her company" (Interviewee 8).

Non-Traditional Job Search Methods

Interviewee 10 had a unique career story and his approach to building his career in the United States was very different from other participants. He desired to work at a startup company in the Silicon Valley area. Through his job search and 70 job interviews with startups, he realized that startup companies prefer not to hire internationals because of the cost of sponsoring their visa applications. He described his non-traditional job search method to address this challenge:

> I didn't use the LinkedIn or the traditional tools to find my kind of job. I just searched on the web and just searched for companies in [X city] that used tools like [Y] science, graphs, so on, and so forth. And I just ended up with one single company, and that was the company I am working for. So, I mean—it is pretty funny. I left a message for the head of Human Resources in my company … that was just the fine lines of their taste. I just said, "I am 200% match to your company. My past internship experience, my Ph.D. were on [Y] science. My background is super-straight to your company." The hiring manager called me after four minutes. (Interviewee 10)

Although this strategy was employed by only one participant, it is important to share it, as it represents an outlier approach within the sample I interviewed.

Participants came across different people who helped them and made a significant impact on their career journey. The people who made a critical difference in participants' work experiences in the United States included a mentor (sometimes university advisor or a professor), a hiring manager, and a colleague.

A mentor

Participants with a mentor faced significantly fewer challenges as they tried to find a job and build their careers, in the United States. Interviewee 3, working as an assistant professor, described the role of her Ph.D. advisor (mentor) very positively: "He was very supportive. He tried to put me in different situations so I would learn. The success that I have now, I mean the kind of success that I have now, I owe him for that. I mean even this year, I got funding for other projects, and he helped me a lot, so even now he's very supportive" (Interviewee 3). Another participant identified a mentor who guided her through her career steps.

> I was so lucky to have met him in that conference … I wouldn't be here without him. He helped me to build a great network and relationship with all the professionals that I know today. Because he was a very famous and respected man in our area, and he knew everybody. And when I was working with him, he would introduce me to so many great people. (Interviewee 21)

However, finding mentors was a serendipitous endeavor and often based on luck. Interviewee 21, a structural engineer, used the phrase "lucky" whenever referring to having met her mentor. Interviewee 21 compared her experience with her sister who was also in the United States and concluded that her experience was less challenging than her sister's because of having a mentor. Her mentor offered her an internship position at his company and later recommended her to an open position at the company where she currently works. Her sister, however, had a

difficult time finding an employer that would sponsor her visa; she got many rejections and was facing the risk of having to leave the country if she couldn't secure employment.

Along the same lines, Interviewee 3 and Interviewee 15, who had very similar educational backgrounds (both graduated from a number-one-ranked university in Iran and top research universities in the United States), experienced two different career paths after graduation. Interviewee 3 found an academic job at a research university upon graduation, plus job offers in the industry, as well as industry funding for her research early in her career. Interviewee 15, during her doctorate, was denied access to the national lab where her advisor sent advisees. Thus, she ended up completing her degree working on her project in another department's lab. She could not get access to the lab equipment properly because she was not affiliated with the department in which she had to run her research. Her networks at the university were later not helpful in finding a job either. Interviewee 15 received multiple rejections because of being Iranian in a sensitive engineering field. She left the country and applied for a National Interest Waiver and got her Green Card so that she could apply for jobs. By the time she came back to the country, her husband had found a job, and she ended up in a research-associate position. In contrast, the critical factor making Interview 3's experience less challenging was having a supportive mentor.

A colleague

Colleagues and/or a classmate or alum acted as a referral and made a difference in the experience of a few participants. One participant, who was facing a great challenge to find a job in a limited time period, said, "He [alum] told me to contact this company and to tell them that he has referred me … They called me for an interview" (Interviewee 1). Another participant described the role of a colleague in his obtaining a position in the United States:

I thought … Why don't I just send an email to this colleague who happens to be visiting there [a University in the US] for a couple of weeks. As a matter of fact, I just sent an email telling him that, "Now that you're there, maybe, can you talk to them." He was about to come back. So, it happened like that. I think it was just a matter of him talking to them at a lunch or something saying, "We have this postdoc and he would like to come to the United States." And, probably, he said something nice about me. Two days, three days after that, one of the people in there said that "We can offer you a visiting position and here is the paperwork." (Interviewee 11)

A hiring manager

For some participants, a hiring manager who cared made a difference in the challenging experience. Interviewee 19 recalled his experience with a hiring manager who rejected his application at first, but referred him to another job opening.

I didn't have a strong network … and my advisor didn't care much about your job … The manager of the company [that rejected my application] referred me to the company where I work at now. He said he would have me in mind for another opening. Of course, I didn't believe him, but he did. He sent me an email later and referred me to my manager. (Interviewee 19)

Some participants were also chosen by a hiring manager who found their expertise a fit for a potential job. For example, Interviewee 18 shared,

My industry job after my postdoc, I never applied for it. I was happy with my project; it was a large grant … we were meeting in D.C. and presenting … at that time, a person that became my next boss, met me, and we had a good conversation and he hired me after a while. So, I never applied for that job.

Summary

This chapter presented four key findings uncovered by this study. Findings were organized according to four major categories (motivation to pursue education and careers in the US, the experience of navigating careers in the US, coping strategies, and social support) encompassing 27 subcategories. Data from individual interviews revealed research participants' motivations for and experiences of navigating their careers in the United States. As is typical in qualitative research, extensive samples of quotations from participants were included in the

report. By using participants' own words, I aimed to build readers' confidence in the data, by accurately representing the individuals and situations studied. Participants had high motivations for pursuing higher education and careers in the United States.

One primary finding of this study was that Iranian highly educated immigrants faced multiple challenges for navigating their careers in the US job/work context. However, participants also experienced positive outcomes of professional growth and collegiality of the workplace environment. The second major finding pertained to both psychological and behavioral strategies that participants used to tackle the challenges facing them. Finally, social support from a mentor, colleague, or hiring manager made a significant difference in helping participants navigate their careers in the United States.

CHAPTER V

DISCUSSION, IMPLICATIONS, AND CONCLUSION

Introduction

The year Mohsen was looking for a job was such a stressful time. Mohsen had to maintain his legal status by either securing a job that sponsored an H1-B visa or obtaining permanent residence through the US National Interest Waiver program. He faced the reality that the career he had in mind before coming to the United States would not happen at all. He may have had to accept any job opportunity available. Mohsen remained hopeful, persisted in his job hunting efforts, and mastered resume and interview skills. One day, his Ph.D. advisor forwarded a job announcement email that fit his dissertation work. Mohsen completed all the steps of the job application and the three-step interviews. At the final stage, the hiring manager told him that his engineering skills fit the job well; however, he came short in marketing skills and leadership experience. Although he could not offer Mohsen a job at his company, the hiring manager recommended him to another company's research lab, at which Mohsen currently works. Mohsen likes where he works; the workplace and the co-workers are respectful and professional. Looking back, he notices that he has grown professionally, has developed a specialized area of expertise, and, above all, has built his confidence. In the end, taking on challenges paid off. As it is said, "No pain, no gain."

The hurdles are not over, however, and challenges persist. The legal restrictions prohibit Mohsen from participating in some company projects. Just a few weeks ago, his boss had to politely ask him to leave the conference room where they would discuss a project funded by the US government. Aside from the restrictions prohibiting him from traveling to the company's on-site visits outside the United States, he has not been able to travel home to visit his family for more than five years. Sometimes, it feels like a never-ending challenge. Keeping his job remains a struggle; the specific engineering industry in which he works seems unpredictable. Advancing in the company is a challenge all its own. Mohsen is still unfamiliar with much of the workplace etiquette, culture, and politics. He also feels he needs language competencies beyond the graduate academic level to engage in higher level professional activities, such as recruiting new clients and closing contracts.

I opened Chapter I with Mohsen's story because it was representative of the

circumstances of my participants. The above vignette completes Mohsen's story, and, in so

doing, presents the *raison d'etre* of the findings of this study: to explore highly educated Iranian

STEM immigrants' experiences of navigating their careers in the United States upon completing

their graduate education. In this chapter, I discuss my findings by drawing upon both theory and empirical research. I will conclude this chapter by offering practical implications of my findings and recommendations for future research. Figure 6 presents a summary of the findings in an integrated model.

Discussion

In this section, I will discuss the findings of my study in response to the two research questions. I will highlight the contributions of my findings in addressing the gaps in the literature.

Discussion of Research Question One

The first research question sought to explore what constituted participants' career experiences as they navigated them in the United States. Categories that contribute to answering the first research question are the challenges and positive outcomes. Half of the participants indicated that their overall experience was "challenging but rewarding." Being an Iranian STEM professional in the US job/work context created unique challenges due to political conflicts between the two countries (limited access to opportunities by sanctions and export control policies). Being a foreigner, like immigrants from other developing countries, caused challenges for the highly educated Iranian immigrants (e.g., language barriers). Finally, being an early-career professional required participants to tackle challenges, such as difficulties in adjusting to the first professional position. Despite the multitude of challenges facing participants, they expressed gratitude for the resultant professional growth and collegial work environment in the United States. In the following sections, I will discuss the contributions of my findings in relation to theory and literature (from the most- to the least significant contribution).

A Context of Political Conflict between Home and Host Countries

Coping Strategies
- Psychological
- Behavioral

Home Country Context:
Iran, Iran's STEM Higher Education, Brain Drain

Motivation to Pursue Education and Careers in the United States

Pull Factors

1. Quality and ranking of higher education in the US
2. Availability of financial aid for education in the US
3. Availability of a Market for Specialized Expertise in the United States

Push Factors

1. A trend of going abroad
2. Family encouragement and support to go abroad
3. Lack of infrastructure, discipline, and societal challenges in Iran

Moving to the United States

Challenges Unique to Iranian STEM Professionals
1. Limited access to opportunities
2. Visa and travel restrictions

Challenges Shared with skilled immigrants from other developing countries
1. Unfamiliarity with US job market expectations and work culture
2. Language barriers
3. Need for employer work visa sponsorship
4. Educational credentials from Iran not recognized in the US

Challenges Shared with domestic highly educated professionals
1. Requirements of the professional work
2. Challenges on the first job

Social Support
A mentor, a colleague, or a hiring manager

Positive Outcomes

1. Professional growth
2. Collegiality of the workplace environment

Host Country Context:
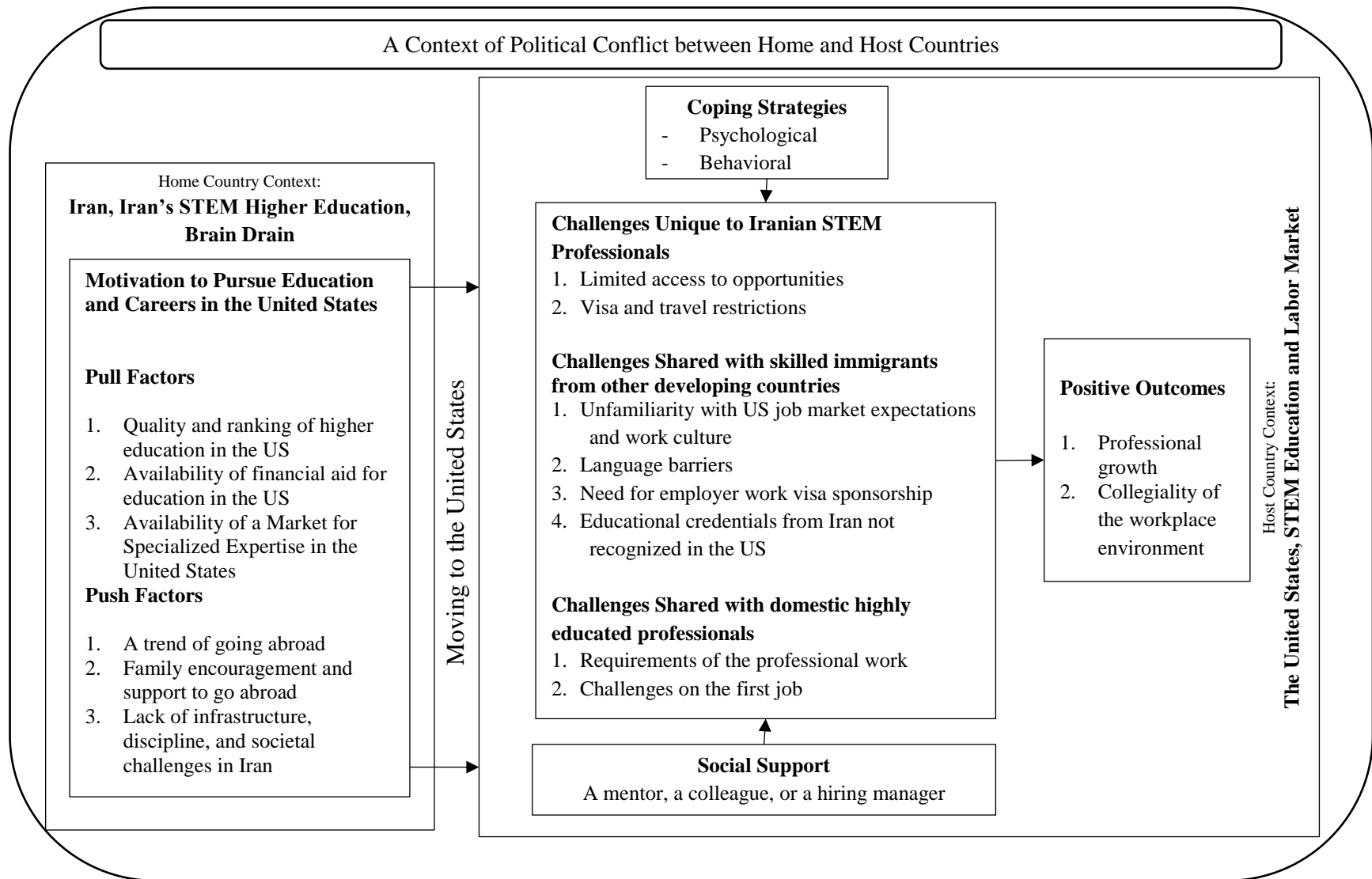**The United States, STEM Education and Labor Market**

Figure 6. Summary of Findings

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Challenges unique to the political conflict context

The most significant contribution of this study is unfolding the unique challenges of navigating careers in a context of political conflict (between the country of origin and destination). My findings suggested that, despite possessing high levels of human capital (in the form of graduate degrees), Iranian STEM professionals faced several barriers to obtaining job and career opportunities in the United States—specifically, the export control policy that prohibits the export of knowledge and technology to countries under U.S. government sanctions. This finding contradicts the conventional belief in the easier transition for science and engineering professionals because of the transferable skills they possess (Agullo & Egawa, 2009; Banerjee & Phan, 2014; Harvey, 2012; Mahmud, Alam, & Härtel, 2014).

In this study, having transferable science and engineering knowledge/skills functioned as a career *disadvantage* for the Iranian STEM professionals in the United States. The US export control policy inhibited employers from recruiting Iranians or hindered the participants from taking part in specific projects that could contribute to their career advancement, despite their high levels of human capital (graduate degrees) and transferable technical skills (science and engineering).

This finding challenges the rhetoric in the broader literature, which theorizes that building international careers is becoming easier (Andersson & Konrad, 2003; Scullion & Collings, 2011). Many scholars agree that, with the increasing rate of globalization and growth of multinational companies, there is an increasing demand for global talent. Thus, governments grant more freedom of movement across borders to facilitate inflow and outflow of skilled labor (Andersson & Konrad, 2003). However, my study offers a contrasting example and suggests that international transition into the host country may be easy for one group of skilled workers (e.g.,

migrants from developing countries) but difficult for other groups (e.g., migrants from developed countries). Future studies are needed to look at highly skilled immigrants from developing countries without a history of political conflict with the US, to compare findings from this study and enrich existing theory.

Findings regarding the challenges facing participants in this study can be explained, to some extent, by Career Stress Theory (Latack, 1989). In other words, the experience of navigating career in the United State was challenging for the participants because of the pronounced psychological stress. Rejections from employers or the need to find an employer who would sponsor a work visa was associated with psychological stress, exacerbating Iranian scientists' and engineers' difficult experience in the United States. In this respect, such challenges could be referred to as stressor situations that represent "demand, constraint, or opportunity" (Latack, 1989, p. 254).

The challenging experiences can also be explained by the Conservation of Resources Theory (Hobfoll, 1989), which suggests that "individuals react negatively to losses of resources and try to avoid such losses whenever possible" (Ng & Feldman, 2014, p. 169). The right to travel, the value of educational credentials, and work know-hows were considered lost, thereby making the interpretation of the experience negative and challenging. In this regard, the challenges identified in this study are parallel to the concept of "career hurdles" (p. 169) that represent the loss of resources in the individual's subjective career experience (Ng & Feldman, 2014).

Positive outcomes concomitant with the challenges

The second significant contribution of my study is the representation of positive outcomes concomitant with the challenges facing the participants. A recent literature review of

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skilled migrants' careers critiqued the existing studies for their over-emphasis on challenges, resulting in a negative portrayal of this immigrant population (Crowley-Henry et al., 2016). My study addressed this gap in the literature by making a more balanced presentation of skilled immigrants' career experiences by suggesting professional growth and collegial work environment as positive outcomes. However, these findings may have emerged due to the unique characteristics of my sample. In other words, previous research has mainly focused on foreign-trained immigrants (no educational credentials from the host country); however, in this study, participants obtained educational credentials from universities in both Iran and the United States. Specifically, professional growth as a positive takeaway may be due to participants' having obtained Master's or/and Ph.D. degrees from American universities and having developed specialized skills and knowledge.

The finding regarding positive outcomes is explained by Cognitive Adaptation Theory that suggests self-enhancement is more likely to occur under conditions of severe threat (Taylor, 1983; Taylor & Brown, 1988). Arguably, participants, through a cognitive mechanism, construed benefits as a way to cope with the challenges they faced. Particularly, the concept of "benefit finding"—"the positive effects that result from a traumatic event" (Helgeson, Reynolds, & Tomich, 2006, p. 797)—seems to explain the positive outcomes of the experiences shared by participants. Participants rationalized the beneficial aspects of their experience (e.g., professional growth) in the face of overcoming extremely challenging situations.

Challenges shared with American highly educated counterparts

Very few previous studies have focused on the shared aspects of career challenges among skilled immigrants and their domestic counterparts. Dealing with the challenges of transitioning from graduate school to work is one common theme among all graduates, native or immigrant

(Gardner, 2008). Previous studies have focused mostly on challenges specific to skilled/educated immigrants (e.g., Agullo & Egawa, 2009; N. Arthur & Flynn, 2011; Qureshi et al., 2013). Comparing my findings with the literature suggests that it is important to acknowledge the shared aspects of challenges between immigrants and domestic professionals because immigrants may not respond to them in the same fashion as do natives. Future research may collect data from both skilled immigrants and skilled domestic workers to compare the challenges facing these two groups of professionals.

Challenges facing skilled/educated immigrants from developing countries

Some of the challenges identified in this study were comparable with findings of previous studies summarized in Chapter II. For example, language barriers noted in this study were identified as a barrier by Chinese women professionals in Australia (Cooke et al., 2013) and skilled migrants in Norway (Fossland, 2013). The loss of professional network and support also impacted the career experiences of immigrant doctors in the United Kingdom (Bornat et al., 2011). Similarly, educational credentials of qualified immigrants losing value in the host country's labor market were reported in multiple studies (Al Ariss & Özbilgin, 2010; Fossland, 2013; Inal et al., 2013; Zikic et al., 2010). Also, the need for developing local know-how, as well as developing new social network, was reported in Zikic et al.'s (2010) analysis of immigrant professionals' careers in Canada. Finally, legal barriers, including visa restrictions, were cited in Qureshi et al. (2013) and Al Ariss & Syed's (2011) studies.

Most of the challenges identified in this category were shared with studies reviewed in Chapter II because I had included the articles focusing on immigrants moving from developing to developed countries. My study also fits into this body of research as the participants emigrated from Iran (a developing country) to the United States. However, it is important to remember that

"all immigrants are similar, but most importantly, they are not" (Dietz, 2010, p. 105). All immigrants are born in a foreign country, but the country from which they come differentiates the challenges they face (Owusu & Sweetman, 2015). Home countries of immigrants can be culturally similar or distant, or immigrants may come from various ethnic and religious backgrounds. Research suggests that Non-Caucasian immigrants experience noticeably poorer career outcomes than do Caucasians (Reitz & Verma, 2004; Swidinsky & Swidinsky, 2002). Immigrants from non-English speaking countries tend to suffer from language barriers and cultural issues more than immigrants from English-speaking countries (Brondolo et al., 2015; Lan, 2011). Immigrants from English-speaking backgrounds achieved better employment outcomes than non-English-speaking backgrounds in most of the literature (Banerjee & Phan, 2014; Ho & Alcorso, 2004).

Discussion of Research Question Two

The second research question explored "how" the participants managed to develop their careers in the United States. Findings regarding this question are specifically important, as there has been a call in the literature for more research regarding the strategies skilled/educated immigrants deploy and the networks they mobilize in their careers (Crowley-Henry et al., 2016).

Categories that contributed to answering the second question include coping strategies (psychological and behavioral) and social support. Participants embraced a mindset with which they interpreted challenges as opportunities for growth, adjusted their career expectations, and tried to be resilient, refusing to give up in the face of challenges. They also took problem-specific actions, such as managing immigration status and pursuing learning. Finally, having had a mentor, a colleague, or a supportive hiring manager was instrumental in helping participants overcome challenges.

Psychological coping strategies

One significant contribution of my study is identifying psychological strategies through which participants coped with challenges. The emergence of psychological coping strategies as part of the findings can be explained by the concept of career adaptability, within Career Construction Theory (Savickas, 2005). Career adaptabilities represent psychological resources that an individual can draw upon for "coping with current and anticipated tasks, transitions, traumas in their occupational roles that, to some degree large or small, alter their social integration" (Savickas & Porfeli, 2012, p. 662).

The strategies revealed by my study have the potential to extend the original career adaptabilities categories: career concern, career control, career curiosity, career confidence (Savickas, 2005). Abilities to see challenges as opportunities for growth, adjusting career expectations, and exercising resilience can be considered career adaptabilities or psychological resources from which immigrants draw to cope with the challenging tasks of navigating their careers in the host country. The psychological strategies of adopting the growth mindset and developing resilience deserve further exploration for immigrant populations facing a multitude of challenges in the host country—in particular, because career adaptabilities or psychosocial resources are seen to be transactional competencies more changeable than traits (Savickas & Porfeli, 2012). Thus, it may be more prudent for immigrants to develop or reinforce such psychological strategies to be successful.

Culture and context are specifically important in the development of career adaptabilities (Savickas & Porfeli, 2012). Countries vary in the degree to which they prompt the formation of adaptability because they provide different opportunities and imperatives to develop and express psychosocial resources and transactional competencies (Savickas & Porfeli, 2012). Therefore, it

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is probable that navigating careers in the context of the United States requires greater career adaptabilities and psychological strategies, such as developing resilience and networking among professionals.

Participants reported adjusting their career expectations in the process of navigating their careers in the United States and in the face of challenges. Some participants expecting to become professors in Iran adjusted their career prospects in the United States and accepted positions in industry. Some who aspired to work for large well-known companies accepted offers from small companies as their first jobs in the United States. This finding may be explained by borrowing some of the concepts from the Theory of Circumscription, Compromise, and Self-Creation (Gottfredson, 2002). Gottfredson's (2002) theory suggests that people hold images of occupations (or stereotypes), picturing the personalities of people in those occupations, the work they do, and the lives they lead. These common images are organized into a meaningful, shared cognitive map of careers. For example, Americans from all segments of society share the same images of occupations and their incumbents. However, immigrants in this study, highly educated Iranians, have grown up with shared images and maps of occupations that may be completely different from those held meaningful in the United States. Therefore, after participants in my study came to the United States, they realized their preferred careers were not necessarily realistic or available (largely due to the challenges). As a result, they had to exchange their idealized aspirations or most-preferred alternatives for the ones they perceived as more accessible. In other words, participants discovered they were unable to pursue their most-preferred career choices in the United States. Thus, they had to revise the choice process and reconsider their less-preferred alternatives—perhaps even the ones they had earlier ruled out as unacceptable.

Behavioral coping strategies

  The behavioral strategies represented actions or behaviors that participants exercised as a way to achieve desired outcomes, tackle a challenge, or cope with a stressful situation. Findings regarding behavioral coping strategies can be explained by Career Self-management (CSM) Frameworks (Greenhaus & Kossek, 2014; King, 2004). King (2004) proposed that career self-management strategies are techniques and coping strategies that career actors use to overcome career barriers (King, 2004). In my study, participants' actions reflected reactive responses to a challenge at hand (e.g., finding a job). Thus, the majority of behavioral strategies identified in the study leaned toward King's (2004) definition of career self-management strategies—behaviors used to respond to or eliminate thwarting conditions or career barriers. For example, managing the immigration status was a reaction in response to the barriers Iranian STEM professionals faced during job search in the United States (due to export control policy). In these cases, participants' strategies for managing their careers can be described as adaptive behavioral responses to changing conditions rather than proactive planned actions toward long-term career development or actions demonstrating their willingness to take charge of their careers (King, 2004).

  However, other portions of the data suggest some of the participants' actions were, indeed, proactive. These could be explained via Greenhaus and Kossek's (2014) definition of CSM: "problem-solving and decision-making process intended to help individuals achieve desired career outcomes" (Greenhaus & Kossek, 2014, p. 367). This perspective emphasizes the proactive steps that individuals can take, such as information seeking, goal setting, and career strategies to achieve their goals (Greenhaus & Kossek, 2014). Only the strategy of adopting non-traditional job search methods by one participant fit into the proactive category of CSM, as it

was initiated and pursued by the participant to achieve one specific desired outcome. This finding raises a question about the applicability of CSM to contexts that are stressful or politically challenging like the one in this study.

Behavioral strategies identified in this study are in line with Koret et al.'s (2011) finding, labeled as taking action. Ten educated immigrant women workers in their study found actions such as re-training, networking, and building personal capacity, helpful in dealing with changes in their work after immigration (Koert et al., 2011). Another similar category documented in the literature is Al Ariss' (2010) description of the maintenance strategy used by 43 skilled Lebanese migrants in France to manage the structural barriers they faced. Maintenance means recognizing career barriers and working within the imposed constraints to obtain desired career outcomes (Al Ariss, 2010).

Findings regarding coping strategies could be best viewed through the lens of Career Stress Theory (Latack, 1989; Lazarus & Folkman, 1984), which defines coping as "constantly changing cognitive and behavioral efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Coping is an important intervening process that helps explain the effects of stressful situations on individuals (Latack, 1989). For example, the strategy of managing immigration status and seeking professional help could be best understood as a coping behavior, as it represented efforts made to manage real or perceived threats of losing an opportunity (Lazarus & Folkman, 1984).

Social support

CSM frameworks assume that an individual is an active agent who takes the responsibility for managing his/her career (King, 2004). However, the framework asserts that

people do not have full control over their desired career outcomes; achieving outcomes depends on decisions made by some individuals who hold key positions within the wider organizational or social structure (gatekeepers, King, 2004). Gatekeepers make decisions about careers in a social context—about recruitment, staffing, project allocation, contract-awarding, and promotion decisions (Judge & Ferris, 1991).

In this study, participants' major challenge was to get through the U.S. job market gatekeepers and obtain a job. For example, certain companies in the hi-technology industry stopped hiring Iranian engineers and scientists. Additionally, the hiring managers at an engineering career fair could not accept resumes from Iranian applicants because of those applicants' citizenship or immigration status. However, social support from certain people was instrumental in helping the participants get through the gatekeepers.

Some hiring managers helped participants pass the gate. For example, a hiring manager took the initiative to share the resume of an applicant with a potential employer. Also, colleagues who acted as referrals helped participants be seen by the hiring managers or search committees. For instance, a classmate submitted a referral form to her current employer for an Iranian engineer. Finally, mentors held participants' hands through more than one gate and were reported to open doors and help participants overcome not just one challenge but several—for example, a supportive mentor and advisor who created various learning opportunities and shared information about job openings, as well as being available to address questions and concerns.

An important observation regarding helpful people was that participants came across them by chance. Interviewee 3, who found a supportive mentor (her advisor) during her doctoral studies in the United States, did not know her advisor personally and had not met him before coming to the United States. She simply relied on the fact that the professor replied to her email

after she had approached him for Ph.D. admission and sounded "nice, welcoming her to work with his team." Also, Interviewee 21 met, by chance at a conference, a successful Iranian manager who showed interest in mentoring her.

Meeting the right person (at a conference or during studies) could be counted as the networking or network-related aspects of immigrants' careers. However, serendipity reminds us not to assume that all career incidents can be planned, rationalized, and controlled by the individual. In fact, the impact of luck and chance has been analyzed in Bornat et al.'s (2011) study of migrant doctors in the UK. The authors argued that chance offered one way to explain how doctors trained in India, Bangladesh, Sri Lanka, Pakistan, and Burma, made a profession of geriatric medicine in the UK over the course of a year.

The role of mentors in career development and career success has been widely established in the literature (Allen, Eby, Poteet, Lentz, & Lima, 2004). However, there is a void in the literature of skilled migrants' careers as they might be influenced or shaped by mentoring and other developmental relationships. Consultation with mentors is a career-enhancing behavior or strategy that individuals need to possess or learn when they leverage their careers or if they desire to progress (Nabi, 1999). But, in this study, very few participants reported seeking mentors proactively, as having mentors was left to chance and luck. The issue of meeting a mentor by chance is particularly important for highly educated professionals because of heavy investments in obtaining education and skills as the basis for career progression (Lowell & Findlay, 2001).

Discussion of Findings regarding Immigration Motivation

Participants in this study were most motivated to move to the United States because of the quality and reputation of U.S. universities and to seek an education that was not only

reputable but also provided the resources they could not access in Iran. Participants belonged to a select group of a young generation of university graduates in Iran who sought immigration "to test themselves against the best in the world, to advance their careers and succeed at an international level, to develop international expertise, and to experience adventure, excitement, and other cultures" (Greenhaus & Callanan, 2006, p. 398). Home countries are often concerned with the international relocation of this group of young talent and describe this phenomenon as brain drain. Similar to my findings, undergraduate circles at the top Chinese universities were attracted to studying and working abroad (Yun, Jin, & Sixin, 2009). For engineering students at Beijing University, "the topic of going abroad was very hot," with America being the first preference (Yun et al., 2009, p. 767). Similarly, Turkish university graduates were motivated by overseas educational opportunities because they believed that international study programs offered higher-quality education in their chosen fields of study compared to universities in Turkey (Demet Güngör & Tansel, 2008).

Additionally, availability of financial assistance from American universities was another reason for moving to the United States. Immigration can be a costly process, and immigrants often have limited financial resources at the time of entry (Kler, 2006). Therefore, seeking higher education and securing financial aid as a graduate student is one strategy that makes international mobility feasible for highly educated immigrants to live in developed countries (Kler, 2006). My findings support the arguments in the literature about the importance of financial support for attracting highly educated immigrants for the purpose of benefiting from their contributions (Choudaha, 2017).

Practical Implications

Findings from this study have several implications for human resource (HR) practitioners and researchers. In this section, I will describe how my findings contribute to future practical applications.

My study has practical implications for HR professionals who work with Iranian scientists and engineers or with other populations of highly educated immigrants who came to the United States and obtain an education in STEM fields. First, findings from my study will enable HR professionals to better recognize and understand the challenges facing Iranian highly educated STEM immigrants in the U.S. job/work context. These immigrants, despite their high level of human capital, encounter a multitude of challenges that may prevent them from fully progressing in their careers. A better understanding of challenges can help practitioners to identify appropriate interventions for improving career/work conditions for highly educated immigrants, especially for those emigrating from Iran. With better understanding, practitioners can offer informed recommendations for policy makers at the organizational, state, or national levels to support the needs of this group of immigrant workers.

Higher education institutions in the United States can provide facilitators to immigrants who arrive and pursue graduate degrees in STEM fields. For example, the career center or academic departments can communicate job market expectations in the United States, initiate networking events, and create opportunities for international students to learn about potential employers, help international students negotiate educational credentials and work experience, and assist in developing negotiation and language/communication skills. Higher education institutions can ameliorate the challenges international students (including the participants in the

study) face in the U.S. job/work context by offering career counseling, formal mentoring, career booklets/pamphlets, job postings, and individual career plans (Baruch, 2006).

Similarly, organizations can combine career and training initiatives to provide customized workshops for highly educated immigrants. For example, training on workplace etiquette, culture, politics, and communication skills could directly help this immigrant population with career advancement. Employers can also use onboarding that includes "all formal and informal practices, programs, and policies enacted or engaged in by an organization or its agents to facilitate newcomer adjustment" (Klein & Polin, 2012, p. 268). Examples of onboarding activities that employers can use to help highly educated immigrants at their first job are: question and answer sessions, meetings with direct manager, HR representatives, and new colleagues, handouts for workplace culture and a glossary of buzzwords, on-the-job training and mentorship.

For challenges unique to the Iranian STEM professionals, effective strategies may include informing the immigrants or students about the challenges and helping them develop career resilience. Equipping students during their studies to foster the growth mindset and resilience may be the most practical solution to assist them in grappling with the different challenges they will face along the way. Career adaptabilities and resilience can be reinforced by building awareness and social support.

In this study, participants identified positive outcomes of their experiences despite the challenges they faced. HR practitioners can strengthen such positive outcomes by offering or sponsoring professional development opportunities. This population is motivated to pursue professional development and perhaps make up for experiences they have not been able to have because of not being born and raised in the United States. For example, many of the participants

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may not have had extracurricular activities or leadership activities because they were not in the United States during their undergraduate or even Master's studies to explore the opportunities at universities for developing such skills or accumulating experience. Offering professional opportunities to this group of students will likely have a strong impact on their job search and employment experience. Also, promoting positive workplace climate and collegiality at work would substantially benefit this population.

Findings of this study suggested that mentoring and support from a colleague or hiring manager had special effects and facilitated overcoming challenges. Thus, this study encourages HR professionals to offer mentoring and support for highly educated immigrants to reduce the impact of challenges in their careers. Examples of planned mentoring activities are: providing a single point of contact that immigrant new hires can reach out with questions, and assigning a "buddy" to help answer questions. Advisors and supervisors may offer more informed mentoring advices based on findings of this study to Iranian graduate students seeking jobs in the United States.

Theoretical Implications

Findings from this study have several implications for career development theory and research. First, this study contributes to career scholarship by conceptualizing how a career context can influence the way how immigrants navigate their careers. It raises a question about scholars' assumption concerning individual agency from a Career Construction Theory (Savickas, 2005; Savickas & Porfeli, 2012), and how highly skilled migrants, as well as their employers, may not have full control over their career outcomes.

Further, findings of this study demonstrate that political conflict between host and home countries can interfere with skilled migrants' careers. Previous research has examined the effects

of institutional barriers in the forms of pre-entry organizational scripts on careers of skilled migrants (Zikic & Richardson, 2016). This study expands our understanding of contextual barriers to extreme political conflict between the host and home countries. Such understanding is important because effects of political relationships between host and home countries are beyond the employers' and employees' control. This study reinforced Zikic and Richardson's (2016) finding that institutional barriers can impact immigrants at the point of finding jobs and even after participants are employed.

The challenging context of political conflict between host and home countries provided the opportunity to study how individuals responded to the environment in which their careers evolved. Career self-management and adaptability strategies adopted by my participants may inform other populations of skilled migrants facing a challenging career context in the US. My findings regarding perseverance and growth mindsets can extend the original career adaptability categories (i.e., career concern, career control, career curiosity, career confidence, (Savickas, 2005; Savickas & Porfeli, 2012). My findings suggest that, in a career context that presents various national restrictions, skilled migrants may develop growth mindset, and resilience, as well as adjust career expectations to manage their careers.

Limitations and Future Research Directions

In this section, I outline the limitations of this study and suggestions ways to address these limitations. First, participants in this study were navigating their career in a context characterized by political conflict and hostility between home and host countries. Therefore, specific parts of the findings are limited to such a context and cannot be generalized to other populations of highly educated immigrants. Future research may investigate the experiences of highly educated immigrants in a context free of political conflict and hostility. Further, this study

looked at STEM fields that are known for being challenging. Future on non-STEM disciplines in the United States may illuminate experiences of highly educated immigrants that are different from what I found in this study.

This study focused only on the work and career experience of participants in the host country. Other aspects of immigrants' lives are intertwined with their career experiences, including their spouses' careers or dependents' well-being. Future research can take a life-course approach to the study of careers of highly educated immigrants as a whole and include family or personal life aspects, in addition to work and career. The life-course perspective will offer a holistic view and a complete list of factors/aspects influencing participants' decisions and actions.

This study explored the strategies that participants used to manage their careers in the United States. In other words, all the participants had been able to obtain a professional position in the US job/work market. Adding perspectives of those who were unsuccessful in obtaining professional positions, and paths they take afterward in their careers, may complement my findings.

This study explored participants' experiences at the early stages of their careers in the host country. Future research could include stories of professionals at other career stages. Participants at more advanced career stages may face different challenges and adopt different career strategies. Listening to their stories can provide a new perspective.

The basic interpretive qualitative approach used in this study enables exploring in depth participants' experiences of navigating careers in the United States and the meaning they associated to their experiences. However, this methodology offers a limited understanding of the dynamic interactions among different factors influencing participants' experiences. Future

researchers may explore the relationships among factors identified in this study such as challenges and positive outcomes.

Conclusion

Iranian engineering graduates who possessed advanced higher education degrees and pursued professional careers in Science, Technology, Engineering, and Math (STEM) fields in the U.S. were the target population for this dissertation study. The purpose was to explore career experiences of this group of immigrants and the strategies they used to navigate their careers in the host country's context.

The significance and timeliness of this dissertation can be found in the overall trends of globalization and increased international talent flow. As part of the global talent flow trends, the United States has become the most attractive destination for the international movement of highly educated and skilled workers. As is the case in many developing countries that suffer from brain drain, the majority of Iran's young graduates from top universities immigrate to the United States to pursue education and careers. Although the Iranian immigrants living in the United States encompass about only 1% of the total immigrant population, those in STEM fields have made significant contributions to the U.S. knowledge-based economy via patents and inventions (Hakimzadeh & Dixon, 2006).

Despite the contributions of highly educated Iranian STEM professionals in the United States, there is a dearth of knowledge about their career experiences in the United States. To prevent skill underutilization of a population of workers who possess such a high level of human capital (advanced educational degrees), it is important to understand their career experiences in the host country. This study was an attempt in this direction.

Highly educated immigrants in the U.S. STEM professional fields provided a theoretically rich context to explore the potential impact of governments via their policies and extreme political conflicts on the individual experiences of their careers in the host country. This politically challenging context also provided the opportunity to explore strategies highly educated immigrants used to direct their careers and respond to the environment within which their careers evolve.

I conducted a qualitative interpretive study, informed by a constructivist philosophy. I interviewed 22 Iranian immigrants who possessed at least a Bachelor's degree in a STEM discipline from an Iranian university, pursued higher education the United States before obtaining employment, and worked as STEM professionals in the United States for at least one year. Interviews resulted in a total of 351 pages of transcripts for analysis. I used a constant comparative (Lincoln & Guba, 1985) method to analyze the data and identify major findings in four categories and 27 subcategories.

The most significant contribution of this study is revealing the unique challenges of navigating careers in a context of political conflict (between the country of origin and destination). My findings suggested that, despite possessing high levels of human capital (in the form of graduate degrees), Iranian STEM professionals faced multiple barriers to obtaining job and career opportunities in the United States. These challenges were at three levels unique to Iranian STEM professionals (e.g., limiting access to opportunities by sanctions and export control policies), and shared with other foreigner professionals of immigrant background from developing countries (e.g., language barrier), as well as shared with American highly educated counterparts (e.g., challenges of the first job).

The second significant contribution is that this study filled a gap in the literature about the representation of positive outcomes alongside the challenges. However, the challenges identified still outweighed positive outcomes. More than one decade of research on skilled immigrants' careers has repeatedly pointed out the challenges facing this group of immigrants. The fact that such challenges have persistently been emphasized in empirical research, including this study, signals that perhaps little change has occurred on key gatekeepers' end—most importantly policy makers. There is a need for further investigating experiences of educated/skilled immigrants and finding practical solutions to improve immigrants' experiences.

Third, this study is a response to a call in the literature for more understanding of the strategies skilled/educated immigrants deploy and the networks that they mobilize in their careers (Crowley-Henry et al., 2016). My findings suggest that the ability to see challenges as opportunities for growth, adjusting career expectations, and exercising resilience are career adaptabilities or psychological resources that immigrants could draw from to cope with the challenging tasks of navigating their careers in the host country. Behavioral coping strategies identified in this study were primarily focused on actions or tackling a challenge or eliminating a stressful situation. This finding raises a question about the applicability of career self-management frameworks to the contexts similar to the ones in this study, including stressful situations or politically challenges.

Social support from a mentor, a colleague, or a hiring manager helps participants overcome facing them. However, an important observation regarding helpful people was that participants came across them by chance. Taking the factor of luck into account reminds us to not assume that highly educated immigrants have full control over the course of their careers in

the host country. Therefore, achieving desired outcomes requires support from individuals who hold key positions within the wider organizational or social structure.

Finally, findings of this study remind us of the importance of context in the study of careers. A central tenet of the social constructionist approach is the examination of people's careers within their particular context (Cohen et al., 2004). Future research on immigrant careers need to take into consideration not just the historical, cultural, social, and political contexts but also the individual context within which careers unfold. In this study, the interaction of participants' country of citizenship, field of expertise, and the politically challenging context shaped their career experiences.

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LITERATURE REVIEW MATRIX

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
Carr et al. (2005)	New Zealand	Boundaryless career competencies framework	What are the push-and-pull factors with regard to returning to New Zealand versus remaining overseas?	Qualitative-Case study	Motivating factors for expatriation were factors concerned with economic, career, and family forces. High culture (such as the arts) tended to motivate expatriates not to return. New Zealand's lifestyle motivated migrants to return. New Zealanders with higher achievement motivation were less motivated to return. Talent Flow will be predicted by a mix of five core factors (economic, political, cultural, family, and career), whose relative salience will vary from group to group and context to context.
Cooke (2007)	From: China To: UK	Human capital theory, the resource theory of conjugal power, and gender role theory	(1) what career barriers Chinese professional women encounter after migrating to the UK (2) what consequences the migration has for their career; how they manage their work and family commitments; and (3) how much support they receive from their husband.	Qualitative-Interview	Themes: - background of the couples including their previous careers, - current employment profile and earnings, - post-migration familial strategy- husband's career and children's welfare first, - gender role and identity in making sense of the familial strategy, career aspirations and opaque career prospects.
Brekke and Mastekaasa (2008)	From: Eastern Europe,	Human capital theory (Becker,	(1) Whether or to what extent an immigrant disadvantage is found	Quantitative-	Natives' annual earnings were higher. Natives compared to immigrants were more likely to be employed. Natives were younger on average.

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
	Africa, Asia, and Latin America and Oceania To: Norway	1993)and the concept of cumulative advantage	even with detailed control for human capital. (2) How the extent of disadvantage develops over the individual's career	Secondary data	The probability of employment increased when the years of resistance increases for immigrants; however, the long-term development decreases with time. As the time of residency in Norway increased, the earnings-gap between native and immigrants increased.
Agullo and Egawa (2009)	From: India To: Japan	Not mentioned	Studying international career behaviors of Indian IT workers	Mixed methods- Secondary data and interviews	The policies have become liberated toward migration of IT professionals. The possibilities to work in Japan for Indian knowledge workers increased and more Indian professionals stayed in Japan after acquiring cultural work experience in Japan. Indian knowledge worker came to Japan through five channels (student, internship, sent by company, self-application to job, sent by companies other than Indianan companies). Some participants were planning to stay, some were debating between return home, and some were intending to migrate to a third country.
Fang et al. (2009)	From: not-specified To: Canada	Human capital theory	The purpose of this study was to examine how both individual (self-funded training) and organizational (organizational-funded training) investments in immigrant professionals' human capital influence career success.	Quantitative - Survey	Regarding the objective career success: immigrant professionals' income was lower, they held lower positions, and had shorter tenure. Regarding the subjective career success, immigrant professionals were less satisfied with their job and compensation compared with their native counterparts. Regarding the self-initiated human capital investments, immigrant professionals take the same amount of courses; however immigrants spend more time on the most recent training. In terms of organizational-initiated human capital investments, immigrants

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
					are more likely to work for firms that have less training.
Liversage (2009)	From: Eastern Europe countries To: Denmark	Not mentioned	It investigates how Eastern European women, coming to Denmark for reasons other than work, strive to validate their claims to high-skilled identity.	Qualitative-Interviews	The author used the concept of vital conjuncture, which refers to a period of uncertainty right after migration that immigrants struggle with. The author found that during the vital conjunctures most women revised their prospects and expectations and changed the way they acted and constructed/reconstructed their identities.
Al Ariss (2010)	From: Lebanon To: France	Duberley, Cohen, and Mallon (2006) and Richardson (2009): concept of "modes of engagement."	The first is to develop a conceptual framework for analyzing the strategies of internationally mobile professionals in managing barriers to their career development. The second goal is to better understand the nature of the careers that ethnic minority migrants undertake.	Qualitative-Interview	In order to manage structural barriers to their career development, participants navigated within the organizational and national structures using four modes: maintenance, transformation, entrepreneurship, and opt out. Themes: The immigration context in France The organizational context Modes of engagement (1) Maintenance, (2) Transformation, (3) Entrepreneurship)
Zikic et al. (2010)	From: Multiple countries To: Canada, Spain, and France	Subjective and objective career conceptualization	How do QIs interpret and make sense of their career transitions?	Qualitative-Interviews	Six major themes in QIs' subjective interpretations of objective barriers: Maintaining motivation, Managing identity, Developing new credentials, Developing local know-how, Building a new social network and Evaluating career success Three QI career orientations (with each portraying distinct patterns of motivation,

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
					identity and coping): Embracing, Adaptive, and Resisting
Tharmaseelan et al. (2010)	From: Sri Lanka To: New Zealand	Human capital	The questions asked in this study are therefore: . What are migrants' careers and human capital like before migration? . Why do they decide to migrate? . How do they integrate in the new culture? . What new behaviours do they use to develop their careers in the host country? . And as a result of these forces, how successful are their careers in the host country?	Quantitative - Survey	Most of the immigrants experienced underemployment (employed in lower status jobs compared to home country) and unemployment, although they were highly qualified immigrants. Some experienced advancement and same employment status. The results suggest that achieving career success in challenging for immigrants. Education in home country was found to be negatively related to success after migration. Effects of career self-management behaviours on success were relatively small.
N. Arthur and Flynn (2011)	From: China, India, Mexico, Sri Lanka, Bangladesh, Peru, Iran, Columbia, and Taiwan To: Canada	Not mentioned	This research focused on the career decision and planning needs of a unique group of migrants: international students who are completing their studies as temporary immigrants and who are embarking on the career journey of	Qualitative- Interview	Themes: Facilitators and barriers for international students' career decision-making or the Critical incidents: Enhanced quality of life Career-related opportunities Enhanced work environment Safety and political stability

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Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
			employment and permanent immigration.		
J.-L. Cerdin et al. (2014)	From: Middle East and other countries To: France	NA	The success of QIs depends in large part on their motivation to integrate into their host country, which is largely explained by their motivation to migrate	Qualitative (grounded theory)- Interview	"The relationship between the motivation to migrate and the motivation to integrate is moderated by "met expectations" and "organizational integration policies" (p. 159). Types of migrants based on motivation are: (1) Felicitous migrants have strong reason to leave home country and expect significant gain from migration; (2) Desperate migrants have to go somewhere; so, the choice of destination doesn't matter to them; (3) Chance migrants relocate to a destination by chance and have no particular attraction or reason to move; (4) Dream migrants don't have a particular reason to leave home country but is highly attracted to the host country.
Bornat et al. (2011)	From: South Asia (India, Bangladesh, Sri Lanka, Pakistan and Burma) To: UK	Not mentioned	Accounts of career making by South Asian overseas-trained doctors; geriatric medicine's own career as a follow-on from this; and the ways luck and chance feature in the recall of the making of careers	Qualitative-Interviews	Authors used the concept of luck and chance to demonstrate how a group of migrant doctors from South Asia could make careers in the field of geriatric in the UK. They argued that doctors have had a critical role in covering labor shortage in health care services in the UK. They argued that although, the literature had addressed the mobility of migrant doctors from brain drain lens; luck and chance can explain the career of these doctors who find their way to a specific specialty. Findings showed that luck was part of the narrative of South Asian geriatric doctors.

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
Al Ariss and Syed (2011)	From: Lebanon To: France	Capital Theory (Bourdieu, 1977)	"How immigrants from developing countries use multiple sources of capital to move to a developed country (undertake international mobility)?"	Qualitative-Interviews	Themes described the strategies used for capital mobilization - Use of social capital included personal contacts and friendships, family support, and professional and educational networks. - Use of cultural capital included academic qualifications and skills, knowing the host culture, and visa obtained. - Use of economic capital was summarized in economic support by family and friends, and scholarships and financial aids. - The symbolic capital was reflected in subjective values assigned to the other sources of capital.
Sabharwal (2011)	From: multiple countries To: the US	Not mentioned	"How does job satisfaction of foreign-born faculty members belonging to various citizenship categories compare with native-born citizens?"	Quantitative - Secondary data	"After controlling for various job, organizational, personal, and cultural factors, the findings of this study indicate that foreign-born faculty members across all citizenship categories express lower job satisfaction than native-born faculty members" (p. 143).
Koert et al. (2011)	From: North America, Western/Eastern Europe, and Asia To: Canada	Positive psychology framework Bridges's (2009) theory of transition	What helps immigrant women workers to do well with changes affecting their work and what hinders them in that process? What would have been helpful to these workers to do well with these changes?	Qualitative-Critical incident interview	A set of personal characteristics (beliefs and values, taking action, skills and education, personal challenges, and self-care) and external factors (social support and government/community resources) contributed to immigrants' successful transition.

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
Fossland (2013)	From: 13 nations To: Norway	A relational perspective (Bourdieu, 1977)	What kinds of negotiations are important for highly skilled migrants' career development and labour market participation?	Qualitative-Interviews	"Recruitment is a multi-layered and relational process, involving different negotiators, negotiations and inequality regimes. Language skills, gendered expectations, networks, local knowledge and the attitude of employers play an important role in skilled migrants' careers development and labour market participation" (p. 193).
Cooke et al. (2013)	From: China To: Australia	Career capital (Inkson & Arthur, 2001)	How did Chinese professional immigrants mobilize their human capital to compensate for the lack of social and cultural capital to redevelop their post-migration career?	Qualitative-Interviews	Themes: Motives of migration Career development patterns Perceived key factors influencing career advancement and strategies adopted Perceived fairness at work Gendered patterns of (managerial) career aspirations
Qureshi et al. (2013)	From: India To: UK	Not mentioned	The purpose of this paper is to examine the careers of skilled migrants from Indian Punjab.	Qualitative-Interview	"Skilled migrants were able to migrate on their own auspices through migration economies in Punjab. Once in Britain, however, they were directed to universities and labour markets in which they were not able to use their skills. They experienced underemployment, devaluation of their qualifications and downward mobility, which forced them into ethnic and gendered markets within their home networks and created ambivalence about migrant success and issues of return" (p. 182).
Inal et al. (2013)	From: Turkish-Cypriot	Social, cultural, economic and	The purpose of this paper is to examine the self-employment process of	Qualitative-Interviews	"Findings indicate that Turkish-Cypriots in Britain deliberately draw on social, economic, cultural, and symbolic forms of capital in order

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
	To: UK	symbolic (Bourdieu, 1977) forms of capital	Turkish-Cypriot restaurateurs and lawyers in the UK, in particular, the way they mobilize resources as a strategic choice for their career transition.		to pursue their career projects. The impact of the interconnectedness and availability of one resource on the participants' ability to acquire other resources is shown to have a key role in developing and transitioning into careers in self-employment" (p. 166).
(Ellis, 2013)	From: Albania To: the US and the UK	Not mentioned	The purpose of this paper is to assess the role that transient interpretation jobs play in the career development of skilled migrants.	Qualitative-Interviews	"Interpretation jobs enable highly-skilled immigrants to initially sustain themselves abroad while adjusting to the host country. Interpretation is one area where skilled women can find a professional voice. Yet, the social capital value of interpretation exceeds its economic benefits. Migrant interpreters acquire human capital and social and cultural networks through their jobs and pass this "know-how" to their communities through their volunteer work" (p. 152).
Al Ariss et al. (2013)	From: Arabs and Turks To: France and Germany	Bourdieu's theory of capitals	What forms does the agency of highly skilled minority ethnic workers take in France and Germany?	Qualitative-Interviews	"In both countries, skilled ethnic minorities receive very little support in terms of HRM, with more attention being given to the unskilled. Findings suggest that when faced with labour market structures, skilled ethnic minorities are able to mobilize their resources, differentially in France and Germany, to exercise varied forms of agency" (p. 1252).
Cao, Hirschi, and Deller (2013)	From: China (58 percent), Western European	Developmental-contextual career theory (Vondracek &	A model examines the potential positive effects of a protean career attitude on SIE outcomes	Quantitative-Questionnaires	Protean career attitude positively increases career satisfaction as well as life satisfaction and intentions to stay in the host country.

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Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
	countries, North America To: Germany	Schulenberg, 1986)	(i.e. career satisfaction, cross-cultural adjustment, life satisfaction, and intention to stay in host countries) and how those positive effects might be explained.		
Fang et al. (2013)	From: all immigrants To: Canada	Media-richness theory	The main purpose of this paper is to test the liability-of-foreignness (LOF) hypothesis by analyzing the job-search methods used and the associated job success of comparable immigrant and native workers, using data available for Canadian workplaces.	Qualitative-secondary data	"Authors found support for Liability-of-foreignness (LOF) when job applicants used the rich media job-search methods of social networks and recruitment agencies, but not when they used the lean media of newspaper ads and the Internet" (p. 98).
Ravasi, Salamin, and Davoine (2015)	From: more than 30 countries To: Swiss	Three dimensions model of cross-cultural adjustment (Black, 1988)	This study aims to deepen knowledge of these issues by empirically examining the relationship between the use of particular practices and the adjustment of employees and their partners.	Quantitative - Survey	Results indicated that the adjustment for the foreign workers were similar to other studies in other countries and were not necessarily higher because of Switzerland's context. Language proficiency adjustment had positive relationship with interaction adjustment but not with general or work adjustment. Results also showed that foreign employees' cross-cultural level was higher than their partners' adjustment scores showing that adaptation was more challenging for their partners.

Author/s (Year)	Context	Theory Used	Purpose or Research Questions	Research Design & Methods	Findings
Zikic and Richardson (2016)	From: several developing countries To: Canada	NA	Examines the impact of large scale, 'macro' role transitions on professional identity	Qualitative-Interview	"The study demonstrates how identity work evolves among each group as they navigate the permeable and impermeable pre-entry scripts in their respective professions. It identifies both barriers and facilitators to engagement with, and fulfillment of, local pre-entry scripts. These findings demonstrate how different professional domains and power structures create different opportunities for re-entry and as a result give rise to different forms of identity work – involving, for example, identity customization, identity shadowing, struggle and enrichment" (p. 139).

APPENDIX B

IRB APPROVAL

TEXAS A&M UNIVERSITY

DATE: July 05, 2016

MEMORANDUM

TO: Jia Wang
TAMU - College Of Education & Human Dev - Educational Adm & Human Resource Develop

FROM: Dr. James Fluckey
Chair, TAMU IRB

SUBJECT: Expedited Approval

Study Number:	IRB2016-0363D
Title:	Navigating Careers in the United States: Experiences of Middle Eastern Immigrant Professionals
Date of Determination:	
Approval Date:	07/05/2016
Continuing Review Due:	06/01/2017
Expiration Date:	07/01/2017

Documents Reviewed and Approved:

Only IRB-stamped approved versions of study materials (e.g., consent forms, recruitment materials, and questionnaires) can be distributed to human participants. Please log into iRIS to download the stamped, approved version of all study materials. If you are unable to locate the stamped version in iRIS, please contact the iRIS Support Team at 979.845.4969 or the IRB liaison assigned to your area.

Submission Components			
Study Document			
Title	Version Number	Version Date	Outcome
Recruitment Email- Revised	Version 1.1	05/19/2016	Approved
Texas A&M - Standard NDA Wang, Jia TAMU Transcription Divas	Version 1.3	05/18/2016	Approved
Recruitment Email	Version 1.0	05/19/2016	Approved
Melika Shirmohammadi's Dissertation Proposal- Revised	Version 1.0	05/19/2016	Approved
Demographic information sheet and interview guide	Version 1.0	05/19/2016	Approved
consent form	Version 1.2	05/19/2016	Approved

Document of Consent: Written consent in accordance with 45 CF 46.116/ 21 CFR 50.27

Comments:
- This IRB study application has been reviewed and approved by the IRB. Research may begin on the approval date stated above.
- Research is to be conducted according to the study application approved

by the IRB prior to implementation.
- Any future correspondence should include the IRB study number and the study title.

Investigators assume the following responsibilities:

1. **Continuing Review:** The study must be renewed by the expiration date in order to continue with the research. A Continuing Review application along with required documents must be submitted by the continuing review deadline. Failure to do so may result in processing delays, study expiration, and/or loss of funding.
2. **Completion Report:** Upon completion of the research study (including data collection and analysis), a Completion Report must be submitted to the IRB.
3. **Unanticipated Problems and Adverse Events:** Unanticipated problems and adverse events must be reported to the IRB immediately.
4. **Reports of Potential Non-compliance:** Potential non-compliance, including deviations from protocol and violations, must be reported to the IRB office immediately.
5. **Amendments:** Changes to the protocol and/or study documents must be requested by submitting an Amendment to the IRB for review. The Amendment must be approved by the IRB before being implemented.
6. **Consent Forms:** When using a consent form or information sheet, the IRB stamped approved version must be used. Please log into iRIS to download the stamped approved version of the consenting instruments. If you are unable to locate the stamped version in iRIS, please contact the iRIS Support Team at 979.845.4969 or the IRB liaison assigned to your area. Human participants are to receive a copy of the consent document, if appropriate.
7. **Post Approval Monitoring:** Expedited and full board studies may be subject to post approval monitoring. During the life of the study, please review and document study progress using the PI self-assessment found on the RCB website as a method of preparation for the potential review. Investigators are responsible for maintaining complete and accurate study records and making them available for post approval monitoring. Investigators are encouraged to request a pre-initiation site visit with the Post Approval Monitor. These visits are designed to help ensure that all necessary documents are approved and in order prior to initiating the study and to help investigators maintain compliance.
8. **Recruitment**: All approved recruitment materials will be stamped electronically by the HRPP staff and available for download from iRIS. These IRB-stamped approved documents from iRIS must be used for recruitment. For materials that are distributed to potential participants electronically and for which you can only feasibly use the approved text rather than the stamped document, the study's IRB Study Number, approval date, and expiration dates must be included in the following format: TAMU IRB#20XX-XXXX Approved: XX/XX/XXXX Expiration Date: XX/XX/XXXX.
9. **FERPA and PPRA:** Investigators conducting research with students must have appropriate approvals from the FERPA administrator at the institution where the research will be conducted in accordance with the Family Education Rights and Privacy Act (FERPA). The Protection of Pupil Rights Amendment (PPRA) protects the rights of parents in students ensuring that written parental consent is required for participation in surveys, analysis, or evaluation that ask questions falling into categories of protected information.
10. **Food:** Any use of food in the conduct of human research must follow Texas A&M University Standard Administrative Procedure 24.01.01.M4.02.
11. **Payments:** Any use of payments to human research participants must follow Texas A&M University Standard Administrative Procedure 21.01.99.M0.03.
12. **Records Retention**: Federal Regulations require records be retained for at least 3 years. Records of a study that collects protected health information are required to be retained for at least 6 years. Some sponsors require extended records retention. Texas A&M University rule 15.99.03.M1.03 Responsible Stewardship of Research Data requires that research records be retained on Texas A&M property.

This electronic document provides notification of the review results by the Institutional Review Board.

RECRUITMENT EMAIL

Subject: Seeking your help with my dissertation project

Howdy!

My name is Melika Shirmohammadi and I am an Iranian student majoring in Human Resource Development at Texas A&M University, College Station, Texas. Currently, I am a Ph.D. candidate working on my dissertation project. I am writing to warmly invite you to participate in my study that aims to understand how highly educated professionals like you navigate your careers in the United States. I would be deeply grateful if you will spare a few minutes to read this invitation.

Why you? I believe you will be the ideal participant for my study because you were (1) born and raised in Iran; (2) are holding a Bachelor's degree or higher from one of the universities in Iran; and (3) have worked at least for one year in the United States. Thus, your career experience will be extremely valuable and informative to this study. I sincerely hope you will consider sharing your career stories with me!

How can you help me? To help me with this study, all you need to do is to have a *1-2 hours face-to-face or Skype conversation with me*. We will do it on the date and at the time that is most convenient for you. To participate, you do not need to prepare in advance; however, to facilitate our conversation, you may want to reflect on your professional experiences so far.

Your personal identity (e.g., name and affiliation) will not be revealed, nor attached to any written documentation or verbal presentation of my research. **Your confidentiality will be maintained at all times**, in accordance with the guidelines of the Institutions Review Board (IRB) at Texas A&M University (Reference number: IRB2016-0363). If you have any questions please contact me (melika@tamu.edu) or my Ph.D. advisor, Dr. Jia Wang (jiawang@tamu.edu).

As a small token of big appreciation, I will send you a *$20 Amazon gift card* upon your participation. I look forward to your positive support! Thank you so much for reading my letter.

Appreciatively,
Melika Shirmohammadi
Ph.D. Candidate, Graduate Research Assistant

Department of Educational Administration and Human Resource Development
CEHD Writing Initiative (P.O.W.E.R.)
College of Education | Texas A&M University
E-mail: melika@tamu.edu
LinkedIn: https://www.linkedin.com/in/melika-shirmohammadi-11698191

APPENDIX D

CONSENT FORM

Project Title: **Navigating Careers in United States: Experiences of Middle Eastern Immigrant Professionals**

You are invited to take part in a research study being conducted by Melika Shirmohammadi, a PhD student, and Dr. Jia Wang, an associate professor from Texas A&M University, College of Education and Human Development. **The information in this form is provided to help you decide whether or not to take part. If you decide to take part in the study, you will be asked to sign this consent form. If you decide you do not want to participate, there will be no penalty to you, and you will not lose any benefits you normally would have.**

Why Is This Study Being Done?
The purpose of this study is to explore career experiences of Middle Eastern immigrant professionals and the strategies they used to develop their careers in the United States.

Why Am I Being Asked To Be In This Study?
You are being asked to be in this study because you are a Middle Eastern immigrant professional currently residing in the United States.

How Many People Will Be Asked To Be In This Study?
Ten to one hundred participants will be invited to participate in this study locally.

What Are the Alternatives to being in this study?
The alternative to being in the study is not to participate. No other activity will be given if you choose not to participate.

What Will I Be Asked To Do In This Study?
You will be asked to take part in a face-to-face or Skype interview, which lasts one-two hours. A short follow-up interview may be conducted face-to-face or by phone or email. You may also be asked to review the transcript of your own interview afterwards. Participation in this study will last up three hours and includes maximum of two visits.

Visit 1
This visit will lasts one-two hours. During the first visit the interviewer will introduce the study briefly and walk you through the consent form. You will be provided time (as much as you require) to read through the consent form and ask any question. After you signed the consent form, the interviewer will proceed with the interview.

Visit 2
If the interviewer have further questions or need clarifications about the interview, they may contact you and ask for a second visit. During the second visit, the interviewer will ask questions

they have regarding the first visit. These questions may be asked through a telephone call or an email.

Will Photos, Video or Audio Recordings Be Made Of Me during the Study?
Your participation in the interview will be audio recorded with your permission.

The researchers will make an audio recording during the study so that the interview can be transcribed verbatim. The researchers will take notes of your comments during the interview, if you do not give permission for the audio recording to be obtained.

The researchers will make an audio recording during the study so that the interview can be transcribed verbatim only if you give your permission to do so. Indicate your decision below by initialing in the space provided.

_____   I give my permission audio recordings to be made of me during my participation in this research study.

_____   I do not give my permission for audio recordings to be made of me during my participation in this research study.

Are There Any Risks To Me?
The things that you will be doing are no more/greater than risks than you would come across in everyday life. There are no physical, criminal, social, financial, economic, and psychological risks. The only risk would be the breach of privacy or confidentiality.

Although the researchers have tried to avoid risks, you may feel that some questions/procedures that are asked of you will be stressful or upsetting. *You do not have to answer anything you do not want to.*

Are There Any Benefits To Me? (***If there are no direct benefits, this section may be omitted**)
The direct benefit to you by being in this study is you will have a chance to reflect on your work experiences. You will be paid $20 (Amazon gift card) after the interview.

Will There Be Any Costs To Me?
Aside from your time, there are no costs for taking part in the study.

If you suffer any injury as a result of taking part in this research study, please understand that nothing has been arranged to provide free treatment of the injury or any other type of payment. However, all needed facilities, emergency treatment and professional services will be available to you, just as they are to the community in general. You should report any injury to 979-219-7475. You will not give up any of your legal rights by signing this consent form.

Will I Be Paid To Be In This Study?

You will receive a $20 Amazon Gift Card. Disbursement will occur after the interview is completed. The interviewer will hand you the gift card by at the end of the interview. Participants taking part in a Skype interview will receive the gift card through their email.

Will Information From This Study Be Kept Private?
The records of this study will be kept private. *No identifiers linking you to this study will be included in any sort of report that might be published.* Research records will be stored securely and only Dr. Jia Wang and Melika Shirmohammadi will have access to the records.

Information about you will be stored in locked file cabinet; computer files protected with a password. This consent form will be filed securely in an official area.

People who have access to your information include the Principal Investigator and research study personnel. Representatives of regulatory agencies such as the Office of Human Research Protections (OHRP) and entities such as the Texas A&M University Human Subjects Protection Program may access your records to make sure the study is being run correctly and that information is collected properly.

The funding agency for this study and the institution(s) where study procedures are being performed (Texas A&M University) may also see your information. However, any information that is sent to them will be coded with a number so that they cannot tell who you are. Representatives from these entities can see information that has your name on it if they come to the study site to view records. If there are any reports about this study, your name will not be in them.

Information about you and related to this study will be kept confidential to the extent permitted or required by law.

Who may I Contact for More Information?
You may contact the Principal Investigator, Jia Wang, Ph.D., to tell him/her about a concern or complaint about this research at 979-862-7808 or jiawang@tamu.edu. For alternate contact you may also contact the protocol director, Melika Shirmohammadi at 979-739-1464 or melika@tamu.edu.

For questions about your rights as a research participant, to provide input regarding research, or if you have questions, complaints, or concerns about the research, you may call the Texas A&M University Human Subjects Protection Program office by phone at 1-979-458-4067, toll free at 1-855-795-8636, or by email at irb@tamu.edu.

What if I Change My Mind About Participating?
This research is voluntary and you have the choice whether or not to be in this research study. You may decide to not begin or to stop participating at any time. If you choose not to be in this study or stop being in the study, there will be no effect on your student status, medical care, employment, evaluation, relationship with Texas A&M University, etc. Any new information discovered about the

research will be provided to you. This information could affect your willingness to continue your participation.

STATEMENT OF CONSENT
I agree to be in this study and know that I am not giving up any legal rights by signing this form. The procedures, risks, and benefits have been explained to me, and my questions have been answered. I know that new information about this research study will be provided to me as it becomes available and that the researcher will tell me if I must be removed from the study. I can ask more questions if I want, and I can still receive services if I stop participating in this study. A copy of this entire consent form will be given to me.

_____   _____
Participant's Signature   Date

_____   _____
Printed Name   Date

INVESTIGATOR'S AFFIDAVIT:
Either I have or my agent has carefully explained to the participant the nature of the above project. I hereby certify that to the best of my knowledge the person who signed this consent form was informed of the nature, demands, benefits, and risks involved in his/her participation.

_____   _____
Signature of Presenter   Date

_____   _____
Printed Name   Date

APPENDIX E

PARTICIPANT DEMOGRAPHIC SHEET

Gender: ☐ Male ☐ Female

Age: [   ]

Year of birth: [   ]

Family Status: ☐ Married ☐ Single

Parental Status: Number of Children [   ]

Year came to United States: [   ]

How many years you have lived in the United States? [   ]

Have you lived in another country before coming to the US? [   ]

How times you visited home since you came to the US? [   ]

How many years you stayed in United States before you visited home? [   ]

THE INTERVIEW GUIDE

Opening question:

1. I have had a chance to look at your LinkedIn account and record your background so I would ask relevant question. Please help complete a few demographic questions and details (Complete profile record and demographic sheet).

Transition question:

2. Tell me your story of coming to the United States.
   Probes:
      a. When did the thought of going abroad come to your mind?
      b. Why did you choose to move to United States?
      c. What prompted you to leave Iran?

Key questions:

3. Now, let's continue the story into your experience of building your career in the United States.
   Probes:
      a. Tell me about your work experiences, let's start with the first job. How did you get the job?
      b. How did you feel about that job?

4. Think about your career with your first job in the US, from that point till now. What do you consider to be critical events in your career? Please give specific examples.
   Probes:
      a. What were some important things that happened and led you to be where you are at?
      b. What led to your promotion? What led you to leave your job?

5. Can you tell me of moments when being an Iranian in a US work context/job made a difference?
      d. Can you tell me of a moment/incident that you felt being an Iranian has positive or not so positive impact?
      e. Think about one of your team projects where you work with people from other cultures, do you see differences, how does your culture come into play?
      f. How do you feel about working in a different cultural context?

Transition questions:

6. Reflecting on your career, what are some lessons you have learned that you would share with someone who wants to follow a similar path?
7. If you were to choose one or two words to describe your career experience what would that be?
8. If you were to start over again what were the things you would do differently?

Ending question:

9. Is there anything else you want to add to what we were talking about today?

Note: Thank you so much for your participation. I will go back and transcribe this interview and send you a copy of the transcript for you to check if it captures what you wanted to communicate. If further clarifications were needed, I may come back for a brief meeting or send you an email with follow-up questions.

PARTICIPANT'S PROFILE INFORMATION SHEET

Interviewee #: _____

Date: _____

Educational Background

Country obtained	University	Level	Major
Iran	University X (2006-2010)	B.Sc.	Z Engineering
USA	University Y (June 2011- 2013)	B.Sc.	Z Engineering
-	-	-	-

Work Experiences

Country	Duration	Title	Organization
Iran	None	-	-
USA	January 2013 – Present (4 years)	Z Engineer	X Company (Large Company)
	June 2012 – August 2012 (3 months)	Intern	Y Company

Other

- Ranked among top 10 students at university in Iran
- One registered patent
- X number citations

APPENDIX H

EXAMPLES OF REFLEXIVE JOURNAL ENTRY

Example 1
Date: 09/25/2016
The Interviewee is a young Iranian engineer, who loves her current position as a project engineer at an SME in city A in the United States. Her American colleagues are friendly and polite, and she finds working with them easy. A small company seemed to work as a good starting point for a career after all. The big-name companies are famous but offer fewer opportunities to work on a range of diverse projects. She has got her hands on different projects in the last three years and has recruited and trained new hires. But none of what happened was exactly according to her plans and aspirations. Initially, Interviewee was inspired to be a faculty member. Back in Iran, she was one of the few female students ranking first in her engineering program. So, she planned that a Master's degree from a top ranking university in the US may lead to an even higher ranked Ph.D. program that would eventually pave the way to becoming a professor in the US. But during the Master's education in a program, Interviewee figured that a Ph.D. and the academic work were not what she would enjoy. One day, she received this email from the professors in her department about a job opening. After she was hired and was getting ready to move to the city to start her work, the company contacted her and said the job opening was closed. Interviewee's status allowed her to stay in the country legally only for a short time so she started reaching out to graduates from her program, sending many emails asking for job opportunities. She was referred to her current company by one of the alumni and succeeded to secure a position soon after. Although there have been challenges and it has been hard live away from family, Interviewee would repeat the experience again for what its worth if she had the chance to go back.

Example 2
Date: 11/21/2016
I am starting to see patterns of factors influencing the career experiences of participants. Some factors are hindering (immigration status) and some are helpful (mentor). Factors related to the "individual" and the "environment" (for example, legal factors such as the OPT, work visa, entry visa, special documentations; employers in the job market, certain employers have specific policies that require residency, workplace; and colleagues; managers). It is not really the job market that is hostile it is the law (the federal level which in turn is impacted by the general political situations and policies) that don't allow recruitment of Iranians. The recruiters are just equally (like the participants) impacted by the law and policies. The managers and recruiters and the colleagues at the workplace at the employer level have not shown any hostile behaviors toward participants. To expand this study it is meaningful to look at the legal documents that impact the Iranian national hiring (immigration and travel and visa issuing processes, OPT, H1b, sponsorship, access to labs, access to funds and grants). And of course, there is a shared background (limited career choices in Iran and little option to change, push for STEM fields because of future job prospects as an engineer limited knowledge about US context, limited chances to explore work context and change careers).

CATEGORIES AND MEMBER CHECKING

Categories and Subcategories before Feedback	Categories and Subcategories after Feedback
Attraction to higher education in the US ● Trend ● Culture and family valuing education quality **Availability of financial support opportunities** **Opportunity to use expertise**	**Motivation to pursue education and careers in United States** ● Family encouragement and support ● A culture of going abroad ● Social and cultural issues ● Quality of higher education in United States ● Availability of financial support ● Availability of a market for specialized expertise
Challenges of navigating careers in the United States ● Limited access to job opportunities ● Export control limitations ● Visa and travel restrictions ● Lack of networks and networking know how ● Un-recognized educational qualifications and achievements Language: a barrier or a plus **Positive aspects of navigating careers in the United States** Positive outcomes ● Maturity ● Growth ● Independence Opportunity to use expertise Positive workplace experiences	**Negative career experience** Challenges related to being Iranian ● Limited access to opportunities ● Visa and travel restrictions Challenges related to being a foreign-born ● Networking ● Educational qualifications and achievements ● Language and communication ● Cultural differences Challenges related to being an early-career professional ● Feeling un-prepared ● Advancement support **Positive career experience** ● Challenges as opportunities for growth ● Professional growth ● Positive workplace experiences /colleague relationships
Career strategies ● Going beyond traditional methods ● Working hard ● Adopting patience and resilience ● Networking ● Taking initiatives in learning ● Seeking NIW ● Ignoring the dark side Help-seeking **Career enablers** ● Having a mentor ● Meeting the right person Working as an intern	**Adaptations to the career context in the United States** Adaptations through self-directed actions ● Limited access to opportunities ● Visa and travel restrictions Adaptations through help from the right person ● A mentor ● A hiring manager ● Colleagues Adaptations of career aspirations and goals ● Adjusting career aspirations ● Managing immigration status as a goal