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Los Angeles

Postdoctoral Scholars at the University of California:
Constructing a Migrant Identity Within the Workplace

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy in Education

by

Maria Sayil Camacho

2017

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ABSTRACT OF THE DISSERTATION

Postdoctoral Scholars at the University of California:
Constructing a Migrant Identity Within the Workplace

by

Maria Sayil Camacho

Doctor of Philosophy in Education

University of California, Los Angeles, 2017

Professor Robert A. Rhoads, Chair

The knowledge productivity of world-renowned universities is greatly advanced by the fastest growing research workforce—60,000 postdoctoral scholars in the United States. This increasingly instrumental segment of academe’s labor force is also the most internationalized group within higher education. However, despite the diversity of the workforce and their recognized academic capital, the postdoctorate is oftentimes experienced as a low-paying academic position that offers limited employment stability due to the nature of temporary workplace visas. The purpose of this study, *Postdoctoral Scholars at the University of California: Constructing a Migrant Identity Within the Workplace*, is to better support international postdoctoral scholars that are employed through temporary workplace visas and makeup over 50 percent of the workforce. The study examined the workplace experiences of international postdocs at the University of California (UC), and was guided by two theoretical

frameworks—Mary Waters (1999) migrant identity framework and Kimberlé W. Crenshaw’s (1989, 1991) intersectionality framework. Waters’ (1999) migrant identity framework posits that migrants’ attitudes, beliefs, and actions are changed and influenced by experienced conditions in the U.S., inclusive of race relations and social hierarchies. The transformative mixed methods research design was employed to support the application of critical frameworks and a research process that sought to understand the relationship between work experiences and academic migrant identity formation. Quantitative (550 multilingual surveys) and qualitative (26 in-depth interviews) data was collected from all ten UC campuses. The findings extended Waters’ framework, and identified the personal characteristics and work experiences that negatively influenced the migrant identity formation. The findings also unpacked the nuances of workplace agency and illustrated the spectrum of vulnerabilities that academic migrants experience as a result of their temporary workplace visas. The triangulation of data supported the development of a new academic migrant model that interrogates previous class and race assumptions in regards to migrant identity formation. The newly proposed model can be utilized as a tool to measure campus climate for academic migrants. The ability to examine academic migrant identity formation within the institution that employs the largest number of international postdocs advances knowledge for an understudied population. Findings from this research study also support equitable policies that recognize the challenges international academic employees navigate within U.S. postsecondary institutions.

The dissertation of Maria Sayil Camacho is approved.

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Dedication

“And the little screaming fact that sounds through all history:
repression works only to strengthen and knit the repressed.” – John Steinbeck

To the participants of this study—for your courage, contributions, tireless sense of purpose, dignity, and sacrifice.

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Rhoads, R., Camacho, S., Toven-Lindsey, B. & Berdan-Lozano J. (2015). The massive open online course movement, xMOOCs, and faculty labor. *Review of Higher Education*, 38(3).

Awards and Grants

March, 2017

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UCLA Academic Senate on Diversity and Equal Opportunity

Award Amount: \$2,000

January, 2017

Bruin Excellence & Student Transformation Grant Program

UCLA Office of Equity, Diversity, and Inclusion with Kareem and Manpreet Dhillon

Grant Award for the 2016-17 academic year: \$230,000

July, 2016

Institute of American Cultures

Asian American Studies Center

with Dr. Robert Teranishi

Award Amount: \$2,000

June, 2016

UCLA Dissertation Year Fellowship

UCLA Graduate Division

Award Amount: \$20,000

CHAPTER ONE: INTRODUCTION

Introduction

Li Chen anxiously looked at me as we prepared for our labor management meeting. He¹ was about to confront his supervisor, and arguably *the* gatekeeper to his livelihood. Li met his future employer, a Principal Investigator, at a science conference through a former colleague. The Principal Investigator (PI) was the figurehead to world renowned chemistry lab at the University of California. The PI was impressed with Li's research experience, numerous publications, and glowing recommendations. Shortly after meeting him, the PI offered Li a two year postdoctoral appointment to work at the prestigious chemistry lab. In subsequent phone conversations the PI also promised additional funds to alleviate his relocation costs, healthcare for him and his family, and most importantly, the coveted H1B visa. The H1B visa is the only employment non-immigrant visa whereby "dual intent" is recognized. This workplace visa would allow Li to petition for Permanent Residency in the United States. If all went according to plan, the H1B visa would also permit Li to obtain a spousal visa (H-4), and Li's wife would be able to immigrate and work with him in the United States.

Li obtained his doctoral degree at one of the top research universities in China, Peking University, and had tirelessly worked as a research assistant hoping to one day be a prominent chemist. However, when his immigration paperwork was processed, he noted that his supervisor had instead sponsored a J1 visa. The new visa type would require annual renewal, complicate the process of migrating with his family, and make it nearly impossible to obtain permanent residency in the U.S. Despite the fact that Li could no longer relocate with his wife and children, he decided it was best not to lose the opportunity to work at a premier research university. Surely his supervisor could help transition from one visa type to another. Surely. At the last

¹ In some instances the gender of the subject may be changed as a means of providing greater anonymity.

minute, the PI informed him that there were no funds available to support his relocation, and Li had to exhaust personal savings to migrate. Though his transition was not ideal, Li decided it was best not to complain, lest his supervisor think hiring him was a mistake. Unfortunately, as soon as Li began his appointment he felt micromanaged, had little opportunity to provide professional expertise, and was expected to work over 60 hours a week—for the sake of the research project and upcoming grant opportunities. Li was used to long hours, but when his supervisor sent him an e-mail stating that his two year appointment was going to be reduced to one year, Li thought it was time to voice his concerns. Nervously, Li wrote an email to his PI and explained the numerous sacrifices he made to work for the lab...concluding that the two year appointment was necessary for his well-being.

Within minutes of sending the e-mail, Li's PI made an unexpected visit to his office and under no uncertain terms communicated disappointed with his performance and thought it was best if they parted ways. The PI was a formidable opponent, and they both knew that. Should Li attempt to assert himself, his supervisor might poison his professional network...or worse yet, if he were fired he would have to leave the United States immediately and go back to China. Li would not be entitled to the 30 day post-completion period in the United States, given that a termination by his visa sponsor automatically meant he did not fulfill the stipulations of the J1 visa. Had it not been for Li's former academic advisor, who intervened and was able to assist Li in securing a new position in the Midwest, Li would have had to leave the United States. Li used what little money he had left to relocate for the second time that year and with the understanding that he would not be able to reference his University of California appointment on his resume.

The topic of immigrant postdocs lends itself to a host of issues. I cannot help but wonder if Li's experience would have been different if he were a U.S. permanent resident, or at the very

least, if he did not have to worry about being deported. In conversation, Li had also informed me that his American white colleagues were treated better by his supervisor. This leads me to consider if Li's ethno-type, nationality and/or visa status affected the way he was perceived by his supervisor. Though Li was a member of one of three postdoctoral labor unions in the U.S. and seemingly had the protections of the collective bargaining agreement, the agreement did not supersede the risk of deportation, and Li felt without recourse. Conceivably Li might have felt additionally burdened if he were female scientist and/or had the added responsibility of being the primary parent in the U.S. Perhaps no one will ever know why Li's supervisor disposed of him, but his story illustrates the layered and complex terrain that immigrant postdoctoral scholars navigate.

Academic Apprentice or Guest Worker?

Unfortunately, Li's experienced vulnerability is not unique to academic migrants or International Postdocs (IPD). Issues of visa types, various degrees of rights and freedoms, institutional power dynamics, workplace advocacy, and the fragility of one's academic reputation are inherent matters to the IPD workforce. Academic migrants, through either seemingly inescapable or negotiated mobility, migrate to advance within the postsecondary pyramid structure in hopes that their experience abroad will actualize professional aspirations. Though the research university is the official employer of international postdoctoral scholars, it is oftentimes the case that the PI (or supervisor) determines the type of visa received, wages, benefits, appointment notification, job security, workload, and the quality of the recommendation letter post appointment. Indeed, much rests on the PI and the university to support its international workforce.

IPDs are generally sponsored by non-immigrant visas and each visa type outlines different conditions and privileges. For example, the J1 Visa stipulates that the visa holder can only stay in the U.S. for a maximum of three years and does not include a pathway to citizenship. Oftentimes, J1 visa holders are also required to renew their visas annually in their home country and complete a two-year home residency post residency in the U.S. The H1B Visa does not allow changes to the original employment and appointment conditions (hours of work, salary, home department, etc.) and dependents of H-1B visa holders (i.e., spouses) are not legally authorized to work in the United States. However, the H1 B visa does allow postdocs to remain in the U.S. for up to five years, and includes a pathway to permanent residency (DCISS, 2010). The university and/or the Principal Investigator can determine which visa to issue the international postdoc and length of sponsorship.² Though seemingly a straightforward immigration system within higher education, the decisions made by the employer has profound implications for the IPD workforce.

The postdoctorate is described in a multitude of ways and the description is oftentimes dependent on the employer and/or institution. Typically, the postdoctorate is by definition an academic appointment for those who have completed their PhD. It is generally understood that postdoctoral scholars or ‘postdocs’ work under the supervision of a faculty person, oftentimes referred to as the PI, during the duration of their appointment. The postdoctoral appointment is considered to be a temporary, transitional career path that (conceivably) provides the experience necessary to secure a more permanent job. The postdoc can be an opportunity for PhD graduates to receive additional research experience and mentorship, if appropriately supported by the supervising faculty and institution. Note that there generally exists an unspoken mutual understanding between a postdoc and PI— the PI will be a professional reference throughout the

² A complete list of the various U.S. immigrant and non-immigrant visa types can be found in Appendix E.

postdoc's career. Thus, the present hierarchical structure within the academy allows PIs to govern working conditions *and* remain a permanent fixture in the postdocs' career.

The Postdoctoral Workforce

The ability to determine the exact number of postdocs working within the U.S. is challenging for a number of reasons. First, temporary appointments are tied to the availability of research funding which makes for an irregular workforce. Second, postsecondary institutions employ research analysts and scientists that for all intents and purposes are working as postdocs but are not classified as such. In addition, the PIs ability to hire postdocs independently of university-wide staffing protocols further complicates matters. Consequently, university administrators are less likely to know and accurately report how many postdocs are employed. However, The National Postdoctoral Association (NPA) and most postdoctoral research studies rely on the data procured by the National Science Foundation (NSF) to cite postdoctoral workforce statistics. The NSF utilizes the Survey of Doctorate Recipients³ and the Survey of Graduate Students and Postdocs in Science and Engineering⁴ to determine the approximate number of postdocs.

In the United States there are an estimated 60,000 to 100,000 postdoctoral researchers⁵ (NAS, 2014). The 2014 Survey of Graduate Students and Postdoctorates in Science and

³ The NSF Survey of Doctorate Recipients (SDR) only accounts for U.S resident postdocs with U.S. research doctorates in the science, engineering, and health fields.

⁴ The NSF Graduate Student Survey (GSS) accounts for postdocs regardless of residency status or where they earned their doctorate. However, the survey does not consider postdocs in nonacademic employment, some university research centers, or academic programs that do not have a graduate programs.

⁵ The NSF defines a postdoc as meeting both of the following qualifications: 1) holds a doctoral degree, generally awarded within the last 5-7, such as a PhD or equivalent and 2) has a limited a limited appointment, generally no more than 5-7 years. Note that for the purposes of the GSS survey, respondents were instructed by the NSF to use their institution's definition of a postdoc.

Engineering estimated that there are 63,593 postdoctoral appointees in science, engineering, and health in all U.S. academic institutions with master's or doctorate-granting programs in science, engineering, or health (NSF, 2014). Data also illustrates an increasing trend of postdoctoral appointments within U.S. higher education institutions; for example, from 1998 to 2007 there was a 27 percent increase of postdocs and from 2002 to 2007, 45 percent of all PhD recipients were or had been postdocs at some point in their academic careers (Hoffer et al., 2008). The majority of U.S. postdoc appointments are federally funded and within the science, technology, engineering, and mathematics (STEM) disciplines. Additionally, an estimated 4 percent of postdocs work within the social sciences field and 1 percent are in uncategorized fields (NAS, 2014).

Research also demonstrates that U.S. universities employ an ever increasing number of IPD scholars, and present government policy stimulates employment opportunities for International Postdoc (IPD)⁶ workforce (Cantwell & Taylor, 2013). For example, in 1982 37 percent of U.S. postdocs were internationals sponsored by temporary visas, in 2002 the number had risen to 59 percent (NRC, 2005b). According to the most recent Survey of Graduate Students and Postdocs in Science and Engineering (2013), 52 percent of postdocs are nonresident visa holders; 71 percent of the nonresident postdocs were in the science and engineering fields, 28 percent in the health disciplines, and less than one percent were in the social sciences and humanities disciplines. Given the internationalization of the postdoctorate, and in light of their engagement in research and development, the IPD workforce is of great significance within higher education.

⁶ For the purposes of this study the term International Postdoctoral (IPD) scholars and immigrant postdocs will be used interchangeably to reference the non U.S. resident postdoctoral scholar.

Postdoctoral Capital and Higher Education

Economists and policymakers postulate that the 21st century economy will be defined by the knowledge-based economy, and U.S. research universities are central to the country's economic development (Kim, 2006, 2009; OECD, 1999, 2008). Indicative of U.S. research productivity: U.S. universities account for approximately 60 percent of basic research conducted, surpassing federal, industry, and nonprofit sectors) (Stephan, 2012; NSB, 2010). In addition, 75 percent of published scholarly articles are authored by scientists and engineers working at U.S. universities (NSB, 2010), and the U.S. ranks second in the world for its number of patents (WIPO, 2012). Thus, the U.S. academic workforce secures the country's innovation, international competitiveness, and the prestige of the research university. Therein lies the importance of the postdoctoral workforce.

The postdoctoral workforce conducts cutting-edge research that is essential to actualizing higher education's fundamental mission to teach, serve, and research. Specifically, the postdocs' ability to secure patents, acquire research funding, and support graduate student development is indicative of their productivity and substantial responsibilities (Deem, 2001; NRC, 2000; NRC 2005a, NRC, 2005b; NRC, 2000; NSF, 2009; Stephan, 2012). The postdoc workforce is indeed valuable, as are the contributions of the IPDs. Not only do IPDs constitute the majority of the workforce, but they disproportionately contribute more to academic research than U.S. resident postdocs, strengthen diplomatic relationships and goodwill, and actualize intercultural exchanges that are essential to the global economy (Cantwell & Lee, 2010; Levin, Black, Winkler & Stephan, 2004; Stephan 2012, 2013). Moreover, since U.S. universities associate academic achievement with mobility (Cruz-Castro & Menendez, 2010; Kim, 2006; OECD, 1996), the

importance of a thriving international community within the U.S higher education system is self-evident.

Postdoctoral Work Experiences

Despite the fact that the U.S. postdoc appointment dates back to the 19th century and recent federal STEM recruitment policies support the internationalization of the workforce, research suggests unfavorable working conditions. The first report to investigate postdoctoral education in the United States demonstrated inadequate support for postdocs, both financial and within the university system (NRC, 1969). Since then, several academic research organizations, nonprofits, and governmental agencies have sought to understand the quality of the postdoctoral training experience and subsequently advocated for the welfare of the postdoctoral workforce (Reed & Micoli, 2005). For example, NSF modifications of the postdoctoral fellowship programs and the increased monetary allowances by the National Institute for Health (NIH), have improved aspects of the postdoctorate (ACA, 2007; NIH, 2012; Wasem, 2012). In addition, the National Postdoctoral Association (NPA), founded in 2003, lobbied postsecondary institutions to implement their recommended policies and practices so as to alleviate vulnerability within the workplace (NPA, 2005; Reed & Micoli, 2005). However, despite some progress, administrators and faculty supervisors are not obligated to uphold or enhance postdoctoral working conditions nor are postdoctoral rights and benefits tied to research funding (NPA, 2005; Camacho & Rhoads, 2015).

Though few studies have sought to understand the IPD experience within higher education, research indicates that one's postdoctoral experience may be impacted by: race, nationality, international status, gender, and type of work permit (Cantwell, 2009; Cantwell,

2011; Cantwell & Lee, 2010; Stephan, 2012; Stephan, Black, & Chang, 2007). The limited research available also suggests that IPDs struggle with additional hardships over and above those experienced by resident postdocs that can be partly attributed to their international status (Camacho & Rhoads, 2015; Cantwell & Lee, 2010; Stephan, 2012). This is especially troubling since migrants' negative struggles within their host country impacts their commitment and productivity—aspects of their respective migrant identity (Berry, et al, 1989; Portes & Rumbaut, 2006; Waters, 1999).

With the preceding in mind, the level of support experienced by IPDs may influence productivity and retention within postsecondary institutions. Perhaps even more importantly, the treatment of the postdoctoral workforce may speak to the institution's campus climate for international populations. As Li's story demonstrates, the way in which he was treated may be indicative of how the institution perceived his worth and determined the quality of his life.

Research Questions

Given the importance of a thriving IPD community to the U.S. economy and university research efforts, it is imperative that U.S. universities play a more proactive role in supporting the IPD workforce. The University of California (UC) is not only the largest postdoctoral employer, employing approximately 10 percent of the U.S. postdoctoral workforce, but has also developed more patents than any other university in the nation—producing an average of three inventions a day (Tuna, 2010). Given the size and scope of the UC postdoctoral workforce, the University of California's ten campuses comprise the sites that were used for this study. Fifty seven percent of postdocs at the University of California are academic migrants (De Jairlais, 2012). Five of the University of California campuses (UC Berkeley, UC Los Angeles, UC San

Diego, UC Davis and UC Santa Barbara) are nationally recognized, premier research institutions as determined by The Center for Measuring University Performance (Phillips, Lombardi, Abbey, & Craig, 2015). In addition, six of the UC campuses (UC Berkeley, UC Los Angeles, UC San Diego, UC Santa Barbara, UC Davis, and UC Irvine) are internationally recognized as the top universities in the world (Times Higher Education, 2017). The UC, arguably, sets a standard, both nationally and internationally, as to how international employees are supported within academia

To advance scholarship concerning the international community within higher education, this study examines how IPD work experiences shape their academic migrant identity and factors that contribute to workplace vulnerability within the University of California. To date, empirical studies have not a) explored the ways in which the work experiences of IPD scholars construct their academic migrant identities or b) examined the complex relationships between diverse nonresident status, demographics, and workplace vulnerability. My mixed methods study explores the intersections of these aforementioned factors identities and how IPD work experiences within the largest U.S. employer of IPD Scholars—the University of California—affects their academic migrant identity.

The ability to understand how IPD work experiences influence academic migrant identity and which factors contribute to workplace vulnerability informs supportive policies for the international community. As well, this study also enables future research to expand and challenge current understanding of academic migrant theory. This study was guided by the following general and subsidiary research questions:

1. What workplace experiences and personal factors influence migrant identity formation for international postdoctoral scholars at the University of California?

- a. What factors and experiences impact agency within the workplace?
 - b. What factors and experiences contribute to vulnerability within the workplace?
 - c. Which demographic groups and types of nonresidents experience varying levels of vulnerability within the workplace?
2. How do international postdoctoral scholars at the University of California think about and interpret their experiences working within the U.S. relative to various identity influences and their immigration status?
- a. How does their overall IPD work experience influence their academic migrant identity?
 - b. What are the characteristics of vulnerability within the workplace and how do those experiences respectively influence their migrant identity?
 - c. What is the relationship between their respective resident status and preferred residency status to their academic migrant identity?
 - d. What postsecondary policies and systems should be implemented to support academic migrants?

Conceptual Frameworks

Since studies suggest that work conditions and academic mobility *is* a complex phenomenon (e.g., Ackers, 2008; Mahroum, 2003, 2007), the theoretical framework utilized for this study needs to support the richness and diversity of experiences. For these reasons, two theoretical frameworks were utilized to guide this study—Mary Waters (1999) migrant identity framework and Intersectional theory, as developed by Kimberlé Crenshaw (1989).

Waters' (1999) migrant identity framework affirms that immigrants have complex multiracial and multiethnic identities, as their identities are shaped by their respective sociopolitical histories. Subsequently, attitudes, beliefs, and actions are changed and influenced by experienced conditions in the United States, which includes U.S. race relations and social hierarchies. The utilization of Waters (1999) migrant theory allows for the examination of experiences as it relates to the construction of their identity, accounting for the unique histories and origins of an international population.

To further support the diverse experiences and identities of an international community, I also apply a critical intersectional framework. A critical intersectional framework assumes that there are various social, political, and economic inequities (linked to facets of one's identity) that perpetuate conditions of marginalization (Crenshaw, 1989; Choo & Ferree, 2010; Choo, 2012). For example, a woman of color deals with multiple sources of marginality linked to two facets of identity, given her gender and being a person of color. An intersectional analysis will support the examination of distinctive intersections of power and marginalization, per the experiences of the participants (Crenshaw, 1991; McCall, 2005; Davis; 2008). As such, the experiences and identities of the participants will not be limited to a single construct (i.e., race, class, or gender). Rather, participants will be able to narrate how they experience inequalities and the ways in which their identities perpetuate marginalization (Adams & Padamsee, 2001; Choo & Ferree, 2010). Collectively, the frameworks will advance dialogue that is culturally responsive to diverse communities. Hence, postdocs such as Li will be able to illustrate how being an ethnic minority in the U.S. *and* an international employee have shaped his migrant identity. Li will not have to choose which factors contributed to his workplace vulnerability. Rather, Li will be able to contextualize social constructs as he remembers experiencing them. Ultimately, the

application of Waters (1999) conceptualization of migrant identity and the intersectional theoretical framework support objectives of my study.

Scope and Methodology

In an effort to comprehensively explore the international postdoctoral work experience, a mixed methods strategy was employed. Mixed methods is a research approach that utilizes both quantitative and qualitative procedures to address the complex aspects of social and behavioral sciences (Creswell, 2009). To further strengthen the theoretically-based research objectives and amplify marginalized perspectives, I utilized a transformative mixed methods design. The transformative design enhances the preceding theoretical frameworks, as it requires the researcher to identify ways in which marginalized populations are oppressed and ultimately affirms the needs of the participants (Creswell, Plano Clarks, 2011; Mertens, 2003; Mertens & Gingsberg, 2009).

The collection of data occurred sequentially in two phases and with the assistance of the UC Postdoctoral Labor union and the UC Postdoctoral International Working Group.⁷ The first phase was the quantitative data collection and analysis via an open and close-ended survey (N=550). The second phase, informed by findings in the first phase was the qualitative data collection and analysis (Creswell & Plano Clark, 2011) of 26 in-depth interviews. The development and analysis of quantitative and qualitative data was be guided by Waters (1999) conceptualization of migrant identity and the critical intersectional framework. The survey data was used to compare work experiences across demographic groups (e.g., visa status,

⁷ A UC postdoc collective established through the UC Postdoctoral labor union. The Postdoc International Working Group seeks to improve the rights of nonresident employees within the UC and is a collective of fifty eight individuals, most of which are UC postdocs from various campuses and from different STEM disciplines.

race/ethnicity, etc.), and understand which factors contribute to workplace vulnerability. The interview data explored work experiences in relation to the postdoc migrant identity at the UC.

Phase I: The International Postdoctoral Work Experience Survey

The quantitative data was gathered via a bilingual *International Postdoctoral Work Experience Survey* that collected data on different facets of the postdoctoral work experience, demographics, and residency status. The survey questions corresponded to six overarching workplace topics: (1) Preferred rights and protections; (2) Experienced Support (components of migrant identity); (3) Union involvement; (4) Experienced Vulnerability; (5) Reasons for non-advocacy within the workplace; and (6) Workplace Rights. The majority of the survey utilized hybrid questions, closed and open-ended questions, providing postdocs the opportunity to further elaborate on their experience and beyond the items presented in the survey (Dillman, Smyth, & Christian, 2009). In an effort to yield a higher IPD participation rate and considerate of the fact that the majority of the UC IPD workforce are Chinese immigrants (60 percent), the survey was also translated into Chinese Mandarin and postdocs had the opportunity to take the survey in English or Chinese. The postdoctoral survey was distributed electronically to every postdoc within the UC system.⁸ A total of 550 UC nonresident-postdocs completed the survey. The survey participants makeup 15 percent of the UC international postdoc population.

⁸ Note that neither the postdoctoral union nor the researcher of this study could differentiate postdocs by resident status. Therefore the invitation was individually sent to all 6,081 postdocs. The invitation to participate in the survey clearly stipulated that the survey was specifically for international postdocs. Participants were asked about their resident status and U.S. citizen postdocs that participated were omitted from the analysis.

Phase II: In-Depth Interviews according to Participants Experienced Vulnerability

A purposeful sampling technique was employed to gather participants for the second phase the study— qualitative data collection via in-depth interviews. Specifically, participants were categorized (low, medium, high) according to the number of workplace violations they experienced as UC postdocs. Purposeful sampling ensured information-rich cases that yielded in-depth understanding and insight (Patton, 2002). In sampling, the goal was to have variations in experiences and perspectives in order to identify both convergent and divergent themes. A total of 12 low vulnerability, nine medium vulnerability, and five high vulnerability in-depth interviews were conducted.⁹ In-depth interviews explored how work experiences impacts their academic migrant identity.

Analysis and Findings

The analysis began after the first phase of data collection, dichotomous variables and categorical responses from the survey were quantified to produce descriptive statistics. In addition, where possible standards test of significance were completed to compare and contrast among various demographic groups. To account for the various work permits and work experiences, distinct groups were created per visa types and desired residency status. Work experiences were computed to understand the levels (low, moderate, and high) of experienced discrimination. As well, Factors and Factor Scores relating to migrant identity formation,

⁹ A concerted effort to have an equal number of interviews was made. However, only 118 total participants agreed to be interviewed and were contacted for in-depth interviews. Specifically, 83 participants who agreed to be interviewed were from the low vulnerability group, 19 were from the medium vulnerability group, and 16 were from the high vulnerability group. This study was not able to secure a uniform number of interviews, and this resulted in varied in-depth interview participation—14 percent participation from the low group, 47 percent from the medium group, and 31 percent from the high group. Though it may seem that the low vulnerability group is oversampled, it is not. I chose to conduct the maximum number of interviews possible. Per the theoretical framework and research design, it is important to especially understand experiences from the most marginalized groups and it is the researcher's responsibility to help amplify these perspectives. For those reasons, all interviews conducted were utilized in this study.

workplace supports received, and reasons for not reporting work violations were computed and utilized as dependent variables in the Analysis of Variance (ANOVA). The ANOVA with Post-Hoc test was conducted to compare and identify the statistically significant effects of demographics and personal characteristics—pan-ethnicity, gender, residency status, and country of origin—on the aforementioned dependent variables. In addition, independent sample t-test were conducted to compare the dependent variables in men and women, the gender independent variable.

Thereafter, survey data was triangulated with themes that emerged from the in-depth interviews. Specifically, the analysis of the survey data was guided by the transformative design, in which the workplace topics served as preliminary set of themes. However, characteristics of the vulnerability groups (low, medium, and high) and themes relating to supportive university policies were inductively derived from the interview data (Miles & Huberman, 1994). Note that postdoc participation was included throughout the analysis of the data, and the Postdoc International Working Group provided feedback to: building of themes, code hierarchies, data reduction, and simplification specific to challenges encountered within the university system as postdoctoral scholars.

There are several key outcomes to this study. The first phase of the study informs outcomes measuring migrant identity, workplace vulnerability, and workplace supports. In addition, demographic variables that were most salient in regards to experienced vulnerability were identified. The second phase, in triangulation with the first phase, also illustrated characteristics unique to degrees of experienced vulnerabilities. As well, participants provided significant university recommendations to establish a supportive working environment that is considerate of their international, migrant status.

Significance of Study

The necessity for IPD research is even more pressing considering the exponential increase of university research facilities within the last decade (Stephan & Ma, 2005; Stephan, 2012; Cantwell, 2013). Postdoctoral scholars shoulder university research efforts that directly influence U.S. academic capital and the global economy. Accordingly, realizing the good and welfare of IPD scholars is essential to equitably advancing the university research enterprise and demonstrating support for a valuable workforce. This study amplifies the perspectives of an international community, validates their experiences and contributions to the U.S, and facilitates the actualization of policies and systems that support academic migrants. The ability to explore academic migrant identity within the institution that employs the largest number of IPD scholars translates to advancing knowledge for an understudied and arguably marginalized population. Findings from this research necessitate additional equitable policies that support diverse populations and recognize challenges that international academic employees navigate within higher education.

CHAPTER TWO: LITERATURE REVIEW

Literature Review

The concept of academic apprenticeships within higher education is as ancient as the institutionalization of the modern university, dating back to the 11th century (Domonkos, 1977). Similarly, the idea of scholars migrating to different parts of the world is an enduring academic tradition. There is evidence of early civilizations striving to disseminate knowledge across cultures and borders, and the first premier-Western research institutions attracted an international student population (Domonkos, 1977). Undoubtedly, the topic of an immigrant workforce within U.S. postsecondary institutions is an inherently complicated phenomenon. However, for the purposes of this chapter, the objective is to contextualize the study within academic research and identify its respective limitations.

To facilitate understanding of the topic, the review of the literature is organized in three parts. The first part of the literature review titled, “Internationalization of the U.S. Postdoctoral Workforce,” examines literature pertaining to the U.S. postdoctoral workforce and work experiences. The section thereafter titled, “The Postdoc as Academic Migrant,” provides additional information regarding factors that influence the work conditions of academic migrants. In consideration of the preceding literature, the third section titled, “Migrant Identity and Intersectionality,” provides additional information about the theoretical frameworks utilized for this study. Due to the complicated nature of the topic, and following Maxwell’s (2006) conceptualization of a literature review, the chapter reviews studies that further implicate the design, conduct, and interpretation of my study. Therefore, despite the rich history and origins of

the postdoctorate, the scope of the study will only focus on the present day postdoctoral scholar employed by U.S. universities.

Part I: Internationalization of the U.S. Postdoctoral Workforce

A Brief History

The beginning of the modern day postdoctorate can be traced to the formation of the U.S. higher education system. The U.S. adopted the postdoctorate appointment in the 19th century, during the proliferation of research institutions (NRC, 1969). The size of the postdoctoral workforce remained relatively small until research grants secured additional postdoctoral appointments. Funding sources from the National Research Fellowship Program and the Rockefeller Foundation created 1,300 postdoctoral appointments in 1919 (NRC, 1916, 1969). Thereafter, the size of the workforce continued to grow according to available research funds. The second exponential increase of the postdoctoral workforce occurred during the 1950s. Specifically, Cold War geopolitics drove increases in “big science” research grants and substantially increased the demand for postdocs in the U.S. (Geiger, 1986; Thelin, 2004; Zumeta 1985).

In spite of the increasing prominence of the workforce, the first widespread evaluation of the postdoctoral workforce did not occur until 1960 (Berelson, 1960). Postdocs were surveyed from ten institutions and the researcher, Berleson (1960), concluded that the workforce was indeed an important component to the country’s research enterprise. Six years later, and undeterred by objections from Principal Investigators (PI) and university administrators, the National Research Council (NRC) produced the first comprehensive postdoctoral workforce

report (1969). The study was significant in that it provided workforce statistics across various sectors, recognizing the international postdoctoral population. Similar to Berleson's (1960) report, the NRC (1969) report expanded upon the reasons as to why the growing workforce was a healthy development for the U.S. research system. Perhaps most important to my study, the NRC (1969) report was the first to illustrate workforce vulnerability, and consequently the NRC advocated for increased institutional and administrative support for postdocs. The report (NRC, 1969) critiqued aspects of the research-grant mechanism and questioned the ability of PIs to mentor postdocs. The study admittedly "rocked the boat" (NRC, 1969, pg. xii), and was the first to challenge inherent aspects of the postdoctoral appointment. Though the study did not seek to understand the postdoctoral experience in relation to the International Postdoctoral (IPD) population, the report did conclude the number of IPDs employed and retained in the U.S.

Following the first study in 1960, governmental agencies continued to provide annual demographics, but work issues remained unexamined for decades. Specifically, the National Science Foundation (NSF) and the National Institute of Health (NIH), instituted surveys¹⁰ to further understand the characteristics of the STEM workforce. However, the second large-scale postdoctoral workforce report was not published until 1985. Specifically, Zumeta's (1985) study

¹⁰ The National Science Foundation collects postdoc data via the *Survey of Doctorate Recipients* (SDR), the *Survey of Earned Doctorates* (SED), and the *Survey of Graduate Students and Postdoctorates* (GSS). The three surveys comprise the Scientists and Engineers Statistical Data System (SESTA), designed to provide information about the U.S. science and engineer workforce. The SDR survey is a longitudinal survey and is conducted every two years. The SED and the GSS survey is conducted annually; however, only university administrators are surveyed for the GSS. All surveys provide information about the characteristics of the postdoctoral workforce, including: demographics, residency status, work-related training, length of appointment, types of degrees received, professional aspirations, field of degree, source of support, and institutional information. The SDR survey is the only survey to inquire about job satisfaction. Similarly, the National Institute of Health *Research Portfolio Reporting Tools* (RePORT), *Expenditures and Results* (RePORTER), and the *Division of Information Services* provides information about the workforce. Specifically, these NIH databases reports the following about the workforce: postdoctoral funding, emerging research topics conducted, and characteristics of fellowship recipients.

utilized 8,000 survey response data, from the Higher Education Research Institute (HERI)¹¹, to explain the rapid postdoctoral growth during the 1970s. Zumeta's (1985) study concluded that the increased workforce and length of the postdoctoral appointments were due to the deteriorating PhD job market at that time. As such, doctoral recipients became postdocs to improve their marketability and/or due to their inability to establish alternative employment. However, after Zumeta's (1985) publication, postdoctoral work issues were not examined for another 15 years.

The history of the postdoc workforce demonstrates that despite its humble beginnings, the economics of science significantly influenced the demand for the workforce. In addition, it is important to note that for much of the history of postdocs, only two studies discussed the responsibility of supporting the workforce within the university system. Aside from Zumeta's (1985) study, the relatively limited amount of information regarding work experiences did not consider the rapidly changing research infrastructure. Arguably, the limited discussion and assessments of work conditions influenced the extent to which postdocs were considered within the academy as workers. The workforce history also demonstrates that the postdoc population continued to grow, regardless of the lack of evaluations and/or established policies and procedures.

A Decade of Research

The 2000s marked an expanded commitment to understanding U.S. postdoctoral working conditions within higher education. Namely, the following studies pioneered scholarship and discussed implications for the postdoctoral workforce: 1) the NRC 2000 and 2014 reports; 2) the

¹¹ Higher Education Research Institute (4555 West 77th Street, Minneapolis Minnesota) Survey of Mobility and Nontraditional Careers of PhDs in Science and Engineering

Sigma Xi Postdoctoral Survey (Davis, 2005); 3) studies by Paula Stephan (2009, 2010, 2013); and 4) research by Brendan Cantwell (2009, 2010, 2011, & 2013). The preceding research is presented to further contextualize present work experiences and methodological limitations.

Enhancing the Postdoctoral Experience for Scientists and Engineers. Guided by the Committee on Science, Engineering, and Public Policy (COSEPUP), the NRC (2000) report titled *Enhancing the Postdoctoral Experience for Scientists and Engineers*, was a result of an increasing human resource emphasis towards STEM graduate students. Also known as the COSEPUP Report, the NRC report brought forth a conversation that had begun in 1969, and the findings were pivotal to future research efforts. Given the importance of this particular study to the decade of research, additional information is provided to better understand how scholarship was built upon the findings.

The NRC gathered postdoctoral work experience data from 39 postdocs groups, 11 universities, seven national laboratories, and five private research institutes/industrial firms. The data from the closed-ended survey and follow-up interviews, echoed sentiments from the first NRC report (NRC, 1969). The findings demonstrated that especially within higher education, the institutional status of a postdoc was poorly defined. This led to a series of issues that contributed to a general dissatisfaction within the workforce. For example, postdocs reported that there was no clear institutional process for assuring fair compensation, benefits, and/or job security. In part due to their nebulous status, postdocs also stated that they did not know where to report grievances or how to clarify expectations. Consequently, postdocs felt that they were too reliant on their PIs which added to workplace vulnerability.

The NRC (2000) report also highlighted the ‘embarrassingly’ low wages and inequitable access to healthcare benefits. Specifically, the report acknowledged that pay varied by

institution and field, and the majority of postdocs within academia were paid at the lower end of the range. For example, stipends for academic postdocs (especially in the life sciences and chemistry) were as low as \$15,000 to \$20,000 per year. Note that at that time there was no standard health benefit package for postdocs, therefore not only was their variability in whether postdocs had access to healthcare benefits, but also in the types of benefits postdocs received. Per postdocs, their ability to support themselves was especially difficult for those that had families and/or had to pay out of pocket for healthcare. In addition, the report documented instances of postdoctoral exploitation within the workplace. Whether postdocs' professional development was neglected by the PIs, or the postdocs were required to work above and beyond their understood duties (without professional recognition), the NRC report evidenced the implications of their disempowered position within academia.

Indeed, the findings of the report are significant to understanding the present day postdoctoral experiences. However, the research methodology and subsequent findings were limited for several reasons. First, the survey data compiled responses from postdocs, advisors, and administrators. Given the described challenges that postdocs experience within the workplace, it is likely that self-reported experiences were quite different from the perspectives of administrators and faculty. The report did not clarify how conflicting data was managed, or why the authors thought it was best to compile data from all participants. Second, the description of the methodology is quite vague. The majority of the data was mostly collected at an all-day workshop, and the workshop was heavily attended by postdocs, administrators, and faculty. Approximately 100 attendees were invited to participate in the survey, and the majority of qualitative data was gathered through smaller working groups. However, the report did not discuss how power dynamics were managed within the working groups, as the presence of

administrators and faculty could have limited the discussion. Finally, though the report acknowledged the increasing presence of minority postdocs and IPDs, the data sought to capture generalities of the postdoctorate. The report did not compare responses by various groups (i.e., gender, race, etc.), and so additional nuances of the experience were not captured.

The Postdoctoral Experience Revisited. Approximately 15 years after the publication of, *Enhancing the Postdoctoral Experience for Scientists and Engineers*, the Committee on Science, Engineering, and Public Policy collaborated with additional stakeholders (Committee to Review the State of Postdoctoral Experience in Scientists and Engineers, Policy and Global Affairs, National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine) to assess the impact of their previous COSEPUP recommendations. Titled, *The Postdoctoral Experience Revisited*, the contributors of this report emphasized that since the publication of the previous report, the number of postdoctoral researchers in all of the disciplines continued to increase sharply and the number of academic positions did not increase accordingly. Therefore, another examination of the postdoctoral experience was deemed as timely and necessary. The contributors to *The Postdoctoral Experience Revisited* analyzed publicly available postdoctoral data to understand present day postdoctoral characteristics and provided updated recommendations in support of the workforce (NAS, 2014). Specifically, the report examined the following information about the population: academic discipline, workplace (academic institution), place of origin, means of support, degree of satisfaction, career outcomes, and which recommendations from the 2000 COSEPUP report had been implemented by academic institutions.

However, despite the 15 year time lapse, the contributors of this report confirmed that the quality of data regarding the workforce was still significantly limited. As such there was no

convincing evidence that present day conditions had improved significantly. In fact, the findings suggested that the workforce still lacked adequate support (i.e., mentorship, professional development opportunities, sufficient funding, living wages, etc.) and institutional recognition (i.e., status, and access to structured programs), so much so that postdocs indicated feelings of invisibility and marginalization. The most significant development that occurred during the 15 year time lapse was an increase in postdoctoral support offices that sought to streamline postdoctoral affairs within postsecondary institutions. However, the effectiveness of these increased institutional resources for the workforce remained unclear, and did not translate to establishing effective data-gathering systems and practices. Consequently, the 2014 recommendations report echoed the 2000 COSEPUP report and called for: 1) a defined period of service; 2) the postdoctoral title to be commensurate with job duties; 3) increased career development; 4) increased compensation and benefits; 5) increased mentorship; and 6) increased data collection about the workforce (NAS, 2014).

Although this report is useful in providing a consolidated summary of the postdoctorate, the limitations of the data prohibits a uniform benchmark to assess the workforce. The findings do, however, suggest that matters have not improved for the workforce despite an increased awareness about the postdoctorate population. It is also important to note that the revised report did not significantly contribute to the knowledge of the international postdoctoral workforce and/or workplace challenges as they pertained to residency status. Consequently, this report is useful in broadly confirming challenges experienced by the workforce and utilizing the omission of information as a point of reference for future inquiry.

Doctors Without Orders

The Sigma Xi Postdoc Survey (Davis, 2005) titled, *Doctors Without Orders* was another collaborative effort that sought to understand the postdoctoral work experiences. Directed by the National Postdoctoral Association (NPA) and the National Bureau of Economic Research, the study invited 1,432 university administrators in 174 institutions to encourage postdoc participation. Their efforts resulted in 7,600 survey responses from 46 institutions, including the top 20 academic employers. Contrary to the previous survey, the responses were compared across various groups and tested for nonresponse bias. Though the majority of postdocs (70 percent) reported satisfaction with their overall current working conditions, postdocs who experienced the greatest amount of structured supervision and training, were more likely to experience fewer conflicts. In addition, benefits and higher salaries were also associated with job satisfaction. Ultimately the survey data was utilized to advocate for additional structure and mentorship within the workplace.

The survey provided rich descriptive statistics, and outlined important correlations to postdoctoral working conditions. However, data collection limitations were not addressed. For example, there was no explanation as to why the overwhelming majority of participants were white (78 percent). Relatedly, a discussion about race and international status was also absent. Although responses from corresponding institutions were compared to control for response bias, responses were not compared across different demographics (i.e., race, gender, etc.). In addition, questions regarding wages and benefits did not contextualize the cost of living or healthcare affordability. Further limiting the applicability of the findings, the data was not disaggregated specific to the types of work conflicts experienced; rather all work conflicts were aggregated.

This method of reporting findings did not provide sufficient clarity, and so one cannot know the varying types of challenges experienced. In addition, there was no participation follow-up to further understand and confirm survey findings. Nevertheless, the extensive participation from postdocs, across many academic institutions, is significant and further informs my study.

An Economist Perspective

Paula Stephan is a notable economist who specializes in the economy of science, and has explored careers of the immigrant STEM workforce. Stephan's (2013) most recent book, *How Economics Shapes Science*, recognizes postdocs as an important workforce within the research system. Specifically, Stephan (2013) provides cost-benefit calculations of the postdoc workforce, and the ways in which knowledge production influences the resources and reputation of research universities.

Based on Stephan's analysis, the postdoctoral workforce is perceived by institutional administrators as "cheap and expendable" labor, within the present research system. Specifically, as university administrators and PIs seek to increase funding and lower cost, staffing labs with an immigrant workforce and temporary visas is the cost-effective choice. Also echoing previous research (i.e., Zumeta, 1985; NRC, 2000), Stephan confirmed that economics are lengthening the postdoctorate career path. Subsequently, there is also a widening earnings gap between established faculty and temporary scientists. Per Stephan (2013), the average postdoc salary can be half or a third less expensive than a staff scientist's¹² salary. Employing a postdoc can also be less costly than employing a graduate student, when tuition is factored into

¹² A staff scientist has similar duties and responsibilities in comparison to a postdoctoral scholar, but the staff scientists is not a temporary employee.

the equation. In addition, since some postdocs are supported by fellowships and not necessarily the faculty's grant, the upside to hiring a postdoc is obvious.

To better understand the influence of IPDs, Stephan quantified the production of knowledge. Grant C. Black and Stephan (2009) were the first to conduct a resident-analysis of scholarly published articles, and their findings were striking—86.5 percent of recently published articles have either a postdoc or student as an author. Among the published postdocs, international postdocs makeup the majority of published authors (59.2 percent). Though Stephan did not elaborate on the work experiences of the postdoc workforce, Stephan did illustrate how workplace practices are influenced by economics. For example, most STEM labs are not only guided by the PI, but there exists a pyramid structure within the workplace. According to Stephan, the PI is at the top of the pyramid or “God of his realm,” and postdocs are essentially regarded as faithful subjects. The pyramid structure does not permit workplace self-advocacy, and work experiences are dependent on the benevolence of the PI. Though Stephan acknowledged that the pyramid structure is an efficient training model, the model relies on recruiting young, temporary workers and does not consider the difficulty in gaining permanent positions within academia. This conclusion was further developed in several different studies by Stephan and co-authors. For example, Stephan, Black, and Chang (2007) drew comparisons between the job market for highly skilled academics and the universities response towards providing training. The study found that the pipeline is being filled through PIs, and reinforcing the pyramid lab structure. Similarly, Stephan conducted an (2005) analysis on job market effects and scientific productivity. The findings concluded that the pyramid lab structure and scientists concern for economic growth, contributed to the dismal outlook of future job prospects.

Qualitative Inquiry

More closely aligned with my study, Brendan Cantwell (2009, 2011, 2013; Cantwell & Lee, 2010) sought to understand workforce dynamics and experiences. Cantwell's (2009) first postdoctoral study, qualitatively explored the correlation between increasing international postdoctoral employment and economic benefits for postsecondary institutions. Cantwell (2009) concluded that academic capitalist principles, within higher education, established postdocs as a workforce and not as apprentices. In this study and in following studies (Cantwell, 2011; Cantwell & Lee; 2010), he also highlighted the systemic marginalization of IPDs within higher education. Cantwell illustrated the ways in which the economic modes of academic production marginalize postdoctoral employees. Similar to Stephan, Cantwell advanced the economic analysis of the workforce. However, Cantwell's analysis included a more forthright neoliberal critique of the academic labor market.

Most important to my study, Cantwell and Lee (2010) explored the ways in which international postdocs' experienced additional discrimination. This particular study is the only study that considers U.S. racial relations (post September 11th), diverse resident status, and institutional power dynamics (Cantwell & Lee 2010). Cantwell and Lee's (2010) qualitative study assessed 44 interviews (22 postdocs) from four different universities. Findings from the study revealed that IPDs experience culturally specific stereotypes, which are amplified within the "Anglo-American" academy.¹³ The authors concluded that the experienced stereotypes were detrimental to the postdoc experience and professional careers. Further, Cantwell and Lee's study also provided insight as to how varying visa types, distributed by the university, translated

¹³ Referring to the U.S. and UK dominance over the 'global research university' model.

to different rights and benefits. Thus, a significant finding in the study was understanding that the PIs influence extends beyond the workplace, as they are also perceived to take on the role of the U.S. Immigration and Customs Enforcement (Cantwell & Lee, 2010).

The decade of research brought forth important aspects of the workforce and workplace experiences. First, the economics of science, whether described as the “current research system” or understood to be rooted in an increasingly capitalistic market, provided insight as to how postdoc vulnerability is compounded within the economic system. Second, the literature also highlighted how the very structure of their appointment contributes to workplace vulnerability. The survey data was illustrative of workplace challenges, and has provided additional descriptive statistics of the workforce. Yet, despite the fact that each study provided new and significant understandings of the workforce, each study has methodological limitations.

Paula Stephan is an economist, and her research was guided by an economic framework. As such, Stephan’s research did not include personal narratives or illustrate the experiences of marginalized communities. Correspondingly, the analysis and collection of survey data from past studies did not seek to understand the diversity of work experiences, as the objectives of the surveys were to understand the generalities of the workforce. For these reasons, the decade of research also demonstrates that there is indeed a necessity for mixed methods research, extending beyond the general experiences of the workforce and inclusive of diverse populations.

Inequitable Support

In the absence of system-wide policies and procedures, governmental organizations such as the NS, NRC, and NIH have developed working conditions for postdocs. Governmental research grants have outlined wages for postdocs since 1975 and began to allocate healthcare

stipends in 2007 (NIH, 1975; NIH, 2012). In addition, the NSF added a mentorship and training component to their postdoctoral appointments in 2007 (America COMPETES Act, 2007).

However, despite the recent progress for the workforce, only postdocs sponsored by governmental funding agencies are recipients of their established benefits. Illustrative of the inequitable access and insufficient support for postdocs, governmental agencies have also frozen postdoctoral wage scales and there is no additional cost of living stipend for postdocs working in expensive metropolitan cities (NPA, 2006). Subsequently, organizations such as the National Postdoctoral Association (NPA), have lobbied government agencies to increase funding and provide access to cost-of-living increases (NPA, 2006).

The most prominent organization to advocate for the postdoctoral workforce is the National Postdoctoral Association, which was founded in 2003. The NPA utilized guidelines established by governmental funding agencies to develop additional policies for the workforce (NPA, 2005). The NPA hoped to establish minimum, nationwide standards, so that postdocs could benefit from increased workplace security, regardless their employer and source of funding (NPA, 2005). The NPA partnered with governmental and nonprofit organizations, lobbying university administrators to adopt their *Recommendations for Postdoctoral Policies and Practices* (2005). The NPA was successful in that over 100 institutions agreed to implement the recommendations.

Though the NPA was able to set a new precedent within higher education, there is no established mechanism to ensure that working conditions are upheld to a certain standard. For example, the NIH has recommended a postdoctoral salary scale since 1975 (NIH, 2006), but the UC did not uphold the NIH wage scale until the ratification of the UC postdoctoral labor union contract in 2010 (UAW, 2010). Further illustrative of the PIs ability to undermine university

policy, the UC postdoctoral union has filed numerous wage grievances¹⁴ since the ratification of the contract to present day (Sweeney, personal communication, 2014). Nevertheless, labor unions are the only organization that can contractually assert and protect postdoctoral rights and benefits.

The unionization of postdoctoral researchers is a new phenomenon. On August 11, 2010, after 18 months of negotiations, a collective bargaining contract was ratified—the first postdoctoral labor union was established at the University of California (UAW, 2010). Postdocs at the University of Massachusetts, Rutgers University, and Western Ontario have also followed suit. Postdocs at these universities seek to establish a union so as to professionalize the workforce, secure higher wages, and establish a grievance process (Gevin, 2010). Yet, it is also important to consider that published studies have not explored the unionization of the workforce. The unionization of postdocs has fundamentally changed the workplace (i.e., bargaining contract, grievance procedure, third party representation, etc.), and arguably sets a new precedent within their respective institutions (Camacho & Rhoads, 2015). However, the absence of a discussion regarding the most recent workforce development also limits the understanding of postdoctoral work experiences.

Pilot Studies

The topic for my dissertation emerged from two previous research studies, which provided new information about the workforce. The first study examined the formation of the postdoctoral labor union at the UC. More specifically, I interviewed the postdoctoral union organizers to understand the reasons they felt compelled to form a union, and compared their

¹⁴ Wage grievances are filed when a postdoctoral scholar's earnings are below the minimum wage scale, established by the collective bargaining contract and per the NIH wage scale.

previous rights and benefits to the new collective bargaining contract. The study was situated within the broader theoretical context of neoliberal influences and the corporatization of the contemporary U.S. research university. Accordingly, I relied on two primary sources of data: the collection and analysis of key documents and semi-structured interviews with postdoctoral union organizers. The findings focused on three key issues and helped advance understanding of the following: 1) conditions of workplace vulnerability; 2) challenges of organizing a postdoctoral union and negotiating a contract; and 3) outcomes of the unionization process.

The second study examined the workplace experiences of the postdoctoral workforce at the University of California. Specifically, a survey instrument was utilized to identify and compare work issues across residency status, to interpret disparate work experiences that could be attributed to various forms of discrimination, and to better understand the extent to which IPD scholars engage in union advocacy to address work-related discrimination. The survey was administered to all postdocs who were working at the University of California, and 14 percent of the postdoc population completed the survey. The quantitative data highlighted statistically significant differences by resident status (see Appendix B). The qualitative data revealed unfavorable work conditions for both residents and nonresident postdocs.

Collectively, the studies have served to better inform the complicated nature of work experiences. The ability to have an in depth understanding of the postdoctoral collective bargaining contract, per the elected postdoctoral leadership, is illustrative of work conditions specific to the UC. As well, the ability to develop a pilot survey, helped inform the development of the survey for this study. The decision to employ a multilingual survey that is considerate of the postdoctoral migrant identity, stems from the limitation of the previous resident based study. As a result, I am better prepared to undertake this study.

Evidently there is a limited amount of literature pertaining to the international postdoctoral scholar, the study necessitates a broader understanding of academic migrant literature and work experiences. In the next section, I discuss work conditions of academic migrants and its implications for the international postdoctoral workforce.

Part II: The Postdoc as Academic Migrant

Introduction

For the purposes of this study, the topic of academic mobility is limited to academic-migrants.¹⁵ According to Ackers (2008) and Van De Sande (2005), this approach is counter to the dominant immigration discourse,¹⁶ as it is specific to international migrants, who are temporarily employed by U.S. research universities. To appropriately situate this topic, it is important to note that international postdocs only makeup part of the academic migrant workforce, and do not represent the entire highly skilled immigrant population in the United States. Therefore, the work conditions and challenges discussed, within this section of the literature review, implicate additional academic migrants.

Academic Scientific Mobility

An increasing number of STEM academics, especially those who do not have ‘within-country’ access to premier research universities, find themselves pressured to work abroad

¹⁵ According to the immigration literature, academic migrants have specialized human capital that allows them to access employment within a host country. The host country benefits from the specialized human capital. Within the immigration literature, international postdocs are regarded as “highly skilled immigrants,” “knowledge immigrants,” or “academic migrants,” thus these terms are used interchangeably.

¹⁶ As such, within-country mobility and inter-institutional mobility are not considered.

(Jons, 2007; Jean-Baptiste, Kaplan, & Charum, 2001; Rothwell, 2002).¹⁷ In certain disciplines, such as the natural sciences, geographic mobility is understood to be the de facto career pathway and/or an ‘indicator of excellence’ (Cruz-Castro & Mendez, 2010; OECD, 2001). Statements such as, “you’re only as good as your last position in the UK...unless you’ve been to the U.S.,” (Ackers, 2008, pg. 420) illustrate the value, elitism, and arguably the necessity to access a premier research institution. Also supporting the significance of such experiences, studies indicate that academic mobility translates to accessing important professional networks and resources (e.g., Ackers, 2003; Ackers & Gill, 2008; Jalowiecki & Gorlezak, 2004). However, given that premier research universities exist in small clusters in the United States, United Kingdom, and more recently Canada, and Australia¹⁸—not all academics can access the academic migrant process¹⁹(Mahroum, 2003; Mohrman, Ma, and Baker, 2008; Meyer et al, 2001; Pelizon, 2002). Academics who cannot participate in this exchange, experience delays in their professional advancement; this is akin to a glass ceiling and more difficult for migrants from lesser developed parts of the world (Mahroum, 1998; Mahroum, 2003; Meyer et al, 2001; Salt, 1997). Subsequently, U.S. academic mobility is an incredibly competitive process, and additionally difficult for academic migrants who try to secure appointments at prestigious institutions, such as the University of California (Mohran, Ma, & Baker, 2008; Stephan, 2012). Further, advancing a critical analysis of academic mobility, scholars have examined its socioeconomic implications.

¹⁷ Further, the majority of workers who do not have ‘within-country’ access are from the Global South and are subject to stricter visa screenings.

¹⁸ Further illustrative of the concentration of premier research institutions are the 2013 global university rankings by the University of Oxford. The study measured universities on graduate employability, in which the U.S. secured 45 places in overall rankings and seven of the top 10 universities (Times, 2013).

¹⁹ The United States, United Kingdom, Canada, and Australia have developed selective immigration programs designed for high-skilled migrants (Australian Government, 2013; Becker, 1993; Government of Canada, 2002; Lamm & Simpson, 2001).

Considerate of race, class, and an inequitable global economy, Ackers (2005, 2008) and Wood (2004) have provided alternative perspectives to academic mobility. Traditional migration and labor market theories assume profit maximizing and a meritocratic based recruitment system, and consequently fail to acknowledge the personal cost migrants experience when they relocate (Currie, 2006; Ferro, 2006). Recent studies have indicated that not all academic migrants are equally free of responsibilities and obligations. Issues such as personal financial status, physical ability, language competence, and so forth, significantly influence the academics decision and/or ability to migrate (e.g., Ackers, 2004; Ackers & Gill, 2008; Ackers, 2007; Ackers et al, 2006). In addition, the ways in which academic migrants are perceived is also problematic. Specifically, academic migrants are perceived to be “early professionals,” when most are in fact in mid-life, and their responsibilities (i.e., partners and children) make migrating more difficult (NRC, 2000; NSF, 2005, Raghuram, 2004). Similar to other life experiences, a person with sufficient capital could more easily navigate and overcome migration challenges (e.g., Bhugra, 2004; Levitt & Jaworksy, 2007). Whereas, an academic migrant, with limited financial means and/or additional responsibilities in their home country, experiences added difficulties relocating, adjusting, and taking on an appointment abroad (Currie, 2006; Dickmann et al, 2006).

Perhaps most significant to my study, Ackers (2008) and Wood (2004) also examined the academic capital flow (research funding) and the ways in which institutional research funds influences academic mobility. Their analysis illustrated and developed different types of international mobility—forced mobility, involuntary immobility, content mobility, constrained mobility— and more specifically, highlighted factors that influenced forced mobility. For example, a lack of employment in the academic’s home country obligates academics to look for

employment outside of their country, essentially resulting in a form of ‘forced migration’ (Ackers, 2008). Ackers and Wood differentiate between experiencing challenges in relocating and the lack of career opportunities that necessitate mobility. The latter is additionally difficult for migrants to experience. The authors illustrate the ways in which academics from the Global South do not have access to an equitable international exchange. They describe the present academic migration system as a type of social Darwinism, whereas advantageous countries can ‘skim and poach’ from less developed regions (Ackers, 2008; Wood, 2004). Further supportive of their critique, studies suggest that academic migrants who engage in frequent (i.e., from a short term appointment to another short term appointment) international mobility do so because they have limited choices to further advance their career (Meyers et al, 2001; Golyner, 2006), and contrary to popular belief, it is atypical to migrate in an effort to solely advance their professional capital (Mahroun, 2003, 2007). In addition, academic migrants who move by choice, frequently have lesser responsibilities (Ackers, 1998; Ackers, 2010; Ackers, 2005b). For all of these reasons, work conditions for academic migrants include various degrees of insecurity.

The immigration discourse presumes that international temporary migrants do not have access to the same rights and benefits as citizens within their host country (Massey & Taylor, 2004). Lesser rights for immigrant and non-immigrant visa holders are varied, and each visa type contains specific stipulations, rights, and privileges that the visa holder must adhere.²⁰ Further, though highly skilled immigrants (in the U.S.) benefit from additionally supportive

²⁰ A complete list of the U.S. immigrant and non-immigrant visa types and their respective stipulations can be found in Appendix E.

policies,²¹ the power dynamics between state and academic immigrants exist—contributing to workplace insecurity and migrant vulnerability (Ackers & Oliver, 2007). This dynamic coupled with post September 11th policies and racial relations, has also influenced work challenges for academic migrants. The security-motivated tracking systems (i.e., the Student Exchange Visitor Information System for foreign students, researchers, and skilled workers) and increased racial bias, have created a less than welcoming attitude for academic migrants. For example, after September 11th, academic migrants, have reported increased hostility, and covert and overt forms of racism within the workplace (Bonilla-Silva, 2010; Lee, 2007, Lee & Rice, 2007). These experiences have been especially difficult for historically marginalized populations, and for immigrants who are or perceived to be Muslim (Critelli, 2008; Shridan, 2006). Within the STEM disciplines, instances of Islamophobia, difficulty establishing cross-cultural dialogue, and workplace discrimination have also been reported (Hansen-Devaux, 2011; Metcalf & Rolfe, 2011; Morrow, 2007). Evidently, issues of U.S. race relations and social hierarchies influence work conditions (Portes & Rumbaut, 2006; Waters, 1999).

The literature suggests that academic migrants experience unique work conditions per their residency status. Moreover, given that the internationalization of a workforce implies increased diversity, work experiences and conditions are not invariable. Rather, experiences are influenced by a host of factors, some of which are not controlled by academic migrants. The academic migrants' personal characteristics and subsequent factors related to the country of origin (i.e., ethno-type, political relationship between country of origin and the host country, immigration policies and procedures, etc.) influences diverse work experiences. Nevertheless, it

²¹ In comparison to immigrants with less capital, U.S. academic migrants have benefited 1990 amendments to the Immigration and Nationality Act. The Immigration Act of 1990 reformed immigration protocols to expedite and prioritize the admission of highly skilled academics

is important to recognize the present sociopolitical reality that academic migrants encounter and the ways in which their vulnerability is perpetuated within the workplace.

Part III: Migrant Identity and Intersectionality

Introduction

The topic of migrant identity has been studied from various vantage points, and the dominant discourse has emphasized migrant assimilation, especially within Western and European host countries (i.e., Berry & Sam, 1998; Gordon, 1964; Powell, 1880; Redfield, Linton, & Herskovits, 1936). This perspective is problematic in that assimilation is oftentimes explored without examining migrants' personal process (Bowskill, Lyons, & Coyle, 2007; Rudmin, 2003). If assimilation is perceived to be the objective of the process, then there are also inherent limitations to understanding the migrants' experiences. In addition, acculturation can assume that the host country's values, norms, and way of life are superior to the migrants' identity (Chirkov, 2009; Chun & Akustu, 2003; Hing, 2000). Since studies suggest that work conditions and academic mobility *is* a complex phenomenon (e.g., Ackers, 2008; Mahroum, 2003, 2007), the theoretical framework for this study needs to support the richness and diversity of experiences. For these reasons, I chose to apply two theoretical frameworks—Mary Waters (1999) migrant identity framework and Intersectional theory, as developed by Kimberlé Crenshaw (1989).

Migrant Identity

Waters approach in conceptualizing migrant identity suits my study for several reasons. First, my study is specific to migrant experiences in the U.S., and since Waters also examined the experiences of an immigrant population living in the U.S, the framework is contextualized within American race relations and social hierarchies. Second, Waters counters the dominant discourse by establishing that migrants have unique sociopolitical histories. This positionality aligns with my objective, as I also seek to understand diversity of experiences. The framework accounts for the ways in which technology has advanced transnationalism and the diaspora of culture across borders, which recognizes the present day experiences of postdoctoral scholars. Perhaps most meaningful to my study, Waters advanced identity discourse by exploring the intersection of migrants' socioeconomic capital, personal culture, and the formation of their identities. Relatedly, international postdoctoral scholars have highly skilled academic capital, unique sociopolitical histories, and may be likely to form or refashion identities within their host country. Thus, the breadth and depth of my study are aligned with Waters' development of migrant identity.

Waters focused her study on the experiences of Caribbean, West Indian immigrants. Consequently, Waters recognized that though West Indian immigrants perceive themselves to be Caribbean, their residency in the U.S.—and subsequently U.S. race relations and social hierarchies—forced a U.S. Black identity upon them. To fully support the social and historical implications of being perceived as a Black American, Waters extended Robert Merton's (1936) understanding of identity. Merton (1936) described the ways in which some populations experience race as their master status, regardless of other characteristics. Waters developed this premise further by illustrating how not all immigrants have equal access to the presentation of

self. Rather, the process of developing migrant identity is influenced by the ways in which society perceives and defines ethno-types. Per Waters, U.S. racial relations and social hierarchies require immigrants to constantly participate in. These identities are influenced by socio-political conditions that impact the presentation of race. Given that my study focuses on a highly diverse population, the use of Waters theoretical framework facilitates a complex understanding of identity formation for different populations and ethno-types.

Initially, Waters sought to expand the way in which academia conceptualized migrant identity. However, Waters' approach and assumptions brought forth a discussion about migrant identity that was not limited to the process of acculturation. For example, Waters' inquiry began prior to the migrants' relocation, and Waters examined the participants' sociopolitical histories, and how their identities (pre-migration) were negotiated within the context of U.S. racial relations and social hierarchies. Terms such as immigration, race, ethnicity, and identity were subject to interpretation according to the migrants' experiences. Therefore, the way in which Waters examined the concept of identity is especially supportive of diverse populations and relevant to my study. Also unique to this migrant identity framework, is Waters' examination of the identities and beliefs of adolescent West Indian Americans, a second generation in the United States. Ultimately, Waters' study broadly informs about American society and the present and future of U.S. race relations.

Waters longitudinal migrant identity framework is presented by developing different aspects of the immigrant experience. The framework outlines eight different facets that are at times intersecting experiences for immigrants, and not necessarily limited to a specific point in time. The eight facets are as follows: 1) *historical legacies* of immigrants which accounts for their personal sociopolitical pre-immigration histories and the pre-immigration history between

the U.S. and their home country; 2) the *racial and ethnic choices* that migrants make when negotiating their identity within their host country 3) migrants' *work experiences* and more specifically evidence for and against their success within American life; 4) the ways in which immigrants *encounter race relations* within their host country, subsequently producing a direct comparison between West Indians and African Americans (and the West Indian cultural response to Black-white U.S. race relations); 5) the *intergeneration dynamics* to examine the assimilation process among the children of immigrants; 6) *segregated neighborhoods and schools* further acknowledging U.S. race relations and the implications regarding segregation for immigrants and their families; 7) the *identities of a second generation* which focuses on the identities and beliefs of second generation youth; and 8) how this particular study informs *immigrant and American race relations*, both present and future. Waters migrant identity framework attempts to provide a comprehensive approach to understand and interrogate the ways in which migrants form their identities while abroad in the U.S. However, for the purposes of my study, I only focus on four aspects of the Waters migrant identity model.

The diverse international status of the studied population coupled with their inherent temporary resident status in the U.S. required me to adopt and modify the framework. In the following sections, I delineate how the four selected topics—historical legacies, race and ethnic choices, work experiences, and encountering America Race Relations—within Waters' framework further develop my approach in conceptualizing migrant identity for international postdoctoral scholars. Moreover, since Waters' framework was developed for a specific ethnic group (most of whom are not high-skilled immigrants),²² I have also extended aspects of the framework by noting its limitations. Although some features of migrant theory apply more

²² Per Waters and Thomas Sawell (2002), West Indians have higher socioeconomic performance among unskilled and poorly educated workers.

broadly than others, Waters' framework cultivates reflexivity in considering which experiences shape migrant identity and how my study will broaden established migrant identity perspectives.

Historical Legacies

Waters provides insight as to how the histories of the migrants' home country are both significant and implicative to identity formation. Specifically, Waters explains the ways in which the media can influence perceptions about a particular country. The media's portrayal oftentimes simplifies the country's complex sociopolitical history, and subsequently, perpetuate stereotypes and/or biases. Therefore, upon arriving to the U.S., migrants experience the dominant discourse, and depending on the discourse, this can be particularly challenging for migrants. Waters also illustrates how particular labels from the dominant discourse, can limit the migrants' ability to assert a multiracial and multiethnic background. Per the participants of Waters' study, sociopolitical histories are inextricably tied to race relations. Factors such as the diversity of the population, the determination of racial status, and historical commonalities between the U.S. and the country of origin (i.e., slavery, colonization, etc.), all shape ideas about race and ultimately the migrants' experience.

The ability to consider the historical legacies of the migrant's home country, while examining work experiences, broadens my perspective and challenges my own sociopolitical biases. Though work conditions are my topic of interest, participants will encompass a complex sociopolitical history that may have influenced their work experiences. Subsequently, the consideration of sociopolitical histories, enable a conversation between myself and the participants that is more inclusive to the migrants' identity prior to their migration. This will also

help me develop a conversation that is personalized to the history of each migrant, as well as challenge biases enabled by the dominant American discourse.

Racial and Ethnic Choices

The process of constructing an identity, Waters explains, is a multi-dimensional process. To contextualize the bounds of identity, Waters utilized and expanded upon the definition developed by Virginia Dominguez (1998), “an identity is a conception of self, a selection of physical, psychological, emotional, or social attributes of the a particular individual” (Waters, 1999, pg. 140). Per Waters, there exists the personal identity and the host societal identification of a migrant. Within the personal and societal identification of identities, migrants engage in an identity negotiation process. The negotiation process is not solely for migrants; rather, migrants also facilitate the identity formation of others, in relation to the migrant. However, issues of identity are further complicated due to the compounding of race and ethnicity in the United States. Whereas a migrant may perceive her or himself belonging to a specific ethnic group (with similar cultural attributes and characteristics), the migrant might be categorized within a specific racial group due to her or his physical attributes. Moreover, identity in relation to race and ethnicity are additionally negotiated and dependent on context, which includes international relations between the U.S. the migrants host countries. Migrants can hold several identities within one space (i.e., Oaxancan, Mexican immigrant) or another (i.e., Latinx, ethnic minority). Yet, Waters contextualizes multiplicity by describing the ways in which “ethnic options” and “racial labels” are not equitably accessed by migrants in the U.S., as immigrants experience racial stigmas and discrimination.

Though Waters does not explicitly state that a migrant identity ultimately influences migrants' beliefs, attitudes, and actions, the subsequent sections illustrate how the process of developing a migrant identity indeed effect beliefs, attitudes and actions. Similar to Waters, I am also extending the definition to include beliefs, attitudes and actions. Waters' critical race and ethnic analysis serve to contextualize different types of privilege among the participants of the study. This approach allows me to better understand how race and ethnic dynamics within the workplace perpetuate conditions of vulnerability and/or enable participants to access certain types of identities.

Work Experiences

Waters explored work conditions of the West Indian immigrant population. Though the majority of the participants were employed within the service work sector, there were specific aspects of work experiences that Waters developed that are applicable to developing my study. Specifically, Waters found that networking, comparison among immigrant workers and native workers, and the marked preference white managers have for West Indians over native Blacks to be significant labor market dynamics. For example, networking was found to be central to the migrants work experience because of their established, outstanding work ethic. Immigrants facilitated the job application process for members of their community, and management deferred to their recommendations based on their experience in working with West Indians. Consequently, management admitted to nepotism and were in violation of their own hiring practices. This practice had adverse effects, since managers admitted to hiring immigrants with less experience over natives who were more qualified—solely basing their decision on the recommendation of the worker, stereotypes, and preconceived beliefs. However, Waters also

found that ‘preferential’ treatment of immigrants over natives had negative consequences for immigrants as well. According to the West Indian immigrants, management expected them to carry a heavier workload, be additionally flexible about their hours, and essentially, “be willing to do anything” (Waters, 1999, pg. 94). Thus, Waters is able to demonstrate that networking, comparisons among workers, and preferential treatment influences work experiences for immigrant workers.

As illustrated by Waters, the discrimination African Americans experience in comparison to West Indians is another example of the ways in which certain populations have access to different types of privilege within the workplace. Waters’ ability to examine the cultural, structural, *and* political reasons for the differentiation between natives and immigrants is helpful in understanding the psychological consequences of ethnic preferences within the workplace. For example, in addition to West Indians receiving preference over native-born Blacks, Waters also discussed the ways in which West Indians placed higher value in working within the service sector compared to native-born workers. Waters attributes the differing value system to the marked difference between work opportunities between the immigrants’ home country and their host country. Per Waters, immigrants have a different value system because their point of reference is their home country. The ways in which Waters unpacks the concept of ‘preferential treatment’ is instrumental to understanding the complexity of migrant identity. I utilized this aspect of Waters’ framework to better understand the assumptions of seemingly ‘positive’ work experiences, and the ways in which ‘access’ further implicates working conditions.

Encountering American Race Relations

The topic of racial discrimination among immigrants was also examined by Waters. Specifically, Waters illustrated the ways in which previous experiences, within similar racial structures, and cultural responses to discrimination, influenced the experiences of West Indian immigrants. For example, their generally low expectations of difficult interpersonal race relations and preparedness to engage in self-advocacy enabled mostly positive experiences for West Indian immigrants. Waters delved deeper into the generality of experiences and found that the West Indian culture supported self-advocacy. Moreover, self-advocacy coupled with the colonized history of their homeland better prepared the immigrants to navigate U.S. race relations.

Though this aspect of migrant identity was also particular to the West Indian experience, Waters' insight as to how migrants interpret race relations is significant to my study. Waters' distinction between previous experiences and cultural responses also enables a more in depth understanding and differentiation of experiences. Hence, even among the same ethnic population, disparate experiences can be attributed to their sociopolitical history, experiences, and interpretations. Undoubtedly, contextualizing work conditions within the diversity of experiences, will broaden dialogue between myself and the participants.

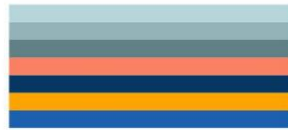
In an attempt to further illustrate Waters' migrant identity framework and the ways in which this framework relates to my study, the infographic below illustrate Waters and my specific point of departure to emphasize which facets of the migrant identity experience I am further developing.

Reconceptualizing Migrant Identity Formation for Academic Migrants

Mary Waters Migrant Identity Formation

Identity is the conception of self—physical, psychological, emotional, and social attributes—that makes up how one perceives themselves and how one experiences perceptions from others. Migrant identity formation is a negotiation process, whereby complex multiracial and multiethnic personal histories interact with U.S. race relations and social hierarchies.

Continuous Migrant Identity Formation



- Historical Legacies
- Racial & Ethnic Choices
- Work Experiences
- Encounter Race Relations
- Intergenerational Dynamics
- Segregated Residence & Schools
- Identities of a 2nd Generation



Academic Migrant Participation



- Academic Capital
- Hyperproductivity
- Academic Excellence
- International Goodwill
- Diversity

Interrogating Work Experiences

Academic migrants that are sponsored by temporary workplace visas must be employed to remain in their host country. To them, work is a central component of their professional and personal livelihoods.

Workplace Agency



Labor Violations



Working Conditions



Professional Development



Figure 1. Reconceptualizing migrant identity formation for academic migrants.

This figure illustrates how I am extending Waters migrant identity framework.

Limitations

Waters' migrant identity framework extends beyond work experiences. For example, Waters' analysis includes home life and intergenerational dynamics. As such, I will not utilize all aspects of the framework, but will attempt to extend her conceptual framing to the international postdoctoral work experience. I recognize that both previous studies and Waters' framework highlights the ways in which system-wide power structures and personal characteristics influence migrant identity. To recognize differences of experience *and* broaden the way in which categories are interpreted, my study will also include an intersectional framework (see section below titled *Intersectionality*). However, in part due to the fact that Waters and I studied two different immigration populations and have different objectives within our respective studies, there were also various limitations that I identified within her framework.

International postdoctoral scholars have by definition temporary resident status within their host country and in this case within the United States. Therefore, Waters' complete theoretical framework would be best suited to study the immigrant phenomenon of an established immigrant population with the U.S. The present theoretical framework does not account for the rapid migrant flow, and the oftentimes temporary resident status of academic migrants. As such, this framework does not fully support the examination of identity formation of academic migrants whose residency is short-term. My study also necessitates the differentiation between low-skilled and high skilled migrants, as immigrants academic capital influences their ability to migrate and may also influence experiences within their host country.

Subsequently, a theoretical framework that fully supports academic migrants should include language considerate skillset and abilities. Perhaps most limiting to my study, Waters' framework does not fully explore all aspects of an immigrants' work experiences. Topics such as health and safety, wages, relationships with colleagues, and experienced hardships (beyond preferential treatment) are not examined at length or discussed within a labor analysis. My study requires that a theoretical framework expand and utilize specific labor issues to allow immigrants to identify which workplace experiences influence migrant identity.

Although Waters recognizes how U.S. race relations and social hierarchies support the inclusion/exclusion of historically marginalized populations, the fundamental racism that exists in the U.S. is limited by the ways in which Waters discusses class differences among immigrants. Whereas a critical, intersectional approach recognizes inherently oppressive systems and structures, Waters' theoretical framework permits an identity-negotiation process that is influenced by class. Subsequently, Waters does not interrogate the multi-subordination of identity. In the U.S. there is a racial dimension to disadvantage—class extends and entrenches discrimination. An immigrant identity theoretical framework that is considerate of U.S. race relations needs to intentionally examine identity formation within oppressive systems and structures to operationalize discrimination.

Within higher education, oppressive structures and systems are oftentimes experienced as campus climate. As such, my study also requires that a theoretical framework account for campus climate. More specifically, a theoretical framework should permit the examination of how academic migrants are supported and regarded as immigrants within their postsecondary institutions. The process of examining their experiences and subsequent feelings needs to differentiate between campus climate from the types of workplace supports provided. The

aforementioned additions and identified limitations to the Waters Migrant Identity, allowed me to conceptualize and develop a labor-specific framework for academic migrants that similar to Waters' framework also seeks to understand their unique migrant identity formation (see chapter three).

Intersectionality

Kimberlé Crenshaw (1989), a legal scholar, critical race scholar and feminist, sought to include the multidimensionality of experiences across social identity to map and understand how power functioned.²³ Crenshaw (1989) asserted that the experiences of multi-burdened populations were not being examined because only one of their salient social identities is addressed. Thus, their lived experience were distorted and silenced. As such, the examination of experiences is not a zero sum game, but rather to affirm identity and authenticity it is necessary to understand the ways in which experiences are compounded. Crenshaw coined the term *intersectionality* to redefine discourse and support intersectional experiences. Per the central tenant of intersectionality, the identification of self and power structures do not operate in isolation of one another.

Crenshaw (1989) examined the intersection of race and sex for African American women to illustrate the marginalization of experiences, and ultimately challenged the dominance of single axis frameworks. More specifically, Crenshaw's (1989, 1991) analyses acknowledged within groups differences that shape experiences, as well as illustrated dimensions of

²³ Though I mainly reference Kimberlé Crenshaw in discussing the topic of intersectionality, it is important to recognize that Intersectionality Theory has been developed by critical scholars prior to the late 1980s. For example, W.E.B. Du Bois examined roles of race in conjunction with class and gender (Du Bois, 1940, 1968). Similarly, prominent work by ethnic studies scholars and feminists have sought to critically examine the multidimensionality of self, colonialism, and white supremacy (Anzaldúa, 1987; Collins 1998; Davis, 1971; James, 1999; hooks 1984). The current interdisciplinary contributions to the topic of intersectionality advance additionally inclusive perspectives to understand the experiences of historically marginalized populations (Brah & Phoenix, 2013; Kings, 2017; Viruell-Feuntes, Miranda, & Abdulrahim, 2012).

intersectionality. Per Crenshaw (1991), marginalized populations experience patterns of subordination, and different intersectionalities (i.e., structural, political, and representational) reconceptualize challenges experienced. The reconceptualization of challenges experienced inform the ways in which identities are limited within non-intersectional contexts. For example, structural intersectionality demonstrates the ways in which the status quo enacts institutional expectations that limits access to resources for at risk populations. Similarly, political intersectionality exposes political discourse that does not acknowledge the multi-subordination experienced by marginalized populations. As such, institutional and political parameters established by the dominant narrative fundamentally denies inherent experiences that form identities. This is also perpetuated when marginalized populations are represented within the status quo, as representational intersectionality exemplifies the implications of cultural misappropriations. Though the framework originally delved into the oppressed experiences of African American women, particularly violence against women of color, the intersectional framework has created an additionally supportive space to explore the breadth and depth of experiences, regardless of race, gender, or ethnicity. In addition, my ability to recognize dimensions of intersectionality will challenge the reproduction of subordination within my study, as I seek to understand the complexity of experiences as well as within group differences.

The concept and language of intersectionality has been extended by various scholars and applied to diverse populations. Intersectionality parallels the development of other concepts such as multiplicity and strengthened the utility of such ideas for examining multiple forms of marginality (i.e., Trinh, 1989). For example, terms such *multiple consciousness* (King, 1988), and *synthesis* (Ehrenreich, 2002) also explore inherently compounded experiences. Given the various interpretations of the intersectional framework, and in an effort to delineate the

applicability of intersectionality to my study, I utilize the process-centered intersectional approach. More specifically, as further developed by McCall (2005) and Davis (2008), the intersectional process-centered method does not limit the intersections of experiences to individuals, but suggests that group intersectional analysis also reveals the ways in which power exists within structural processes (Choo & Ferree, 2010; Glenn, 1999). The ability to consider personal and collective intersectional experiences facilitates the differentiation between macro and meso categories. Arguably, this makes for an additional inclusive process that further contextualizes diverse types of experiences (i.e., individual and collective). Most importantly, the intersectional process-centered analysis examines the ways in which categories are forced upon individuals and the types of agency participants and groups have within the intersectional categories (Adams & Pardamsee, 2001). The process-centered approach is especially helpful to understanding how identities, social location and power, and relationships between meso and micro categories relate to one another.

The intersectional differentiation between individuals, groups, and systemic power structures aligns with the objective of my study. As I explore which factors facilitate a supportive working environment and which intersections perpetuate vulnerability within the workplace, locating the distinctions will illustrate the changing configurations of power, privilege, and marginalization. The comparisons between individuals and groups will also encourage the exploration of unmarked categories, and consequently require an additional level of reflexivity during the analysis of data. Moreover, the intersectional process-centered approach, supports Waters' assertion that identity is indeed a complex phenomenon. Thus, the utilization of both frameworks speaks to different aspects of migrant identity, and challenges boundaries that influence experiences.

Intersectionality and Mixed Methods

The topic of intersectionality also lends itself to my chosen methodology, mixed methods. In the next chapter I outline how I used mixed methods methodology and the discussed theoretical frameworks to advance my study. Here it is important to note that scholars have advocated for the use of mixed methods when employing an intersectional framework (i.e., Choo & Ferre, 2010; Heesse-Biber, 2010; Griffin & Museus, 2011). Since mixed methods integrates qualitative and quantitative data, the use of multiple data types advances understandings of multidimensional perspectives, experiences, inequalities and power dynamics. As described by Kimberly Griffin and Samuel Museus (2011), mixed methods methodology supports additional levels of complexity that are not so easily accomplished within a mono-methodological approach. The use of two data types explores a phenomenon and incorporates various methods of analysis, such as: comparing and deconstructing categories, generalizing assessment (including process-centered), excavating unique perspectives, and explaining diverse forms of oppression. Though scholars also believe that intersectionality and mixed methods methodology are underused, it is evident that combined they have much to contribute.

Positionality and Concluding Thoughts

In conversation with the aforementioned critical theories and objectives, it is important that as the researcher I recognize and disclose my relationship to this study. As a former undocumented, first generation Latina college student, I am a member of an underrepresented and marginalized population within the academy. As the daughter of migrant workers, I have personally experienced how labor conditions transcend the workplace and impact home life. In order to access a postsecondary education, I had to overcome socioeconomic barriers and relied

extensively on various support programs and services. Parallel to these experiences is my knowledge that academic excellence necessitates diversity. Diversity is not an abstract concept and I do not approach this work theoretically—in order to actualize academic excellence, educators and policymakers have an obligation to compel material change within higher education.

This point of reference has informed my personal engagement and purpose in advancing support and equitable policies for marginalized communities. Throughout my undergraduate and graduate education, I have collaborated with diverse student and community organizations to establish new structures and support in service of marginalized populations. I am aware that my race, ethnic, and class background emphasize a critical examination of the status quo. Subsequently, my research is grounded in examining counter-narrative perspectives to identify institutional limitations and generate solutions. In doing this work, I seek to transform educational institutions that were not conceptualized or established for diverse populations. My objectives as a researcher, activist, and scholar are not only to compel change but to do so in a manner that emphasizes the human dignity of every person that has been ‘othered.’

Similar to other critical scholars, I assume that white supremacy persists within and beyond the academy. I believe it is my moral obligation to utilize my position within academic spaces to eradicate institutional inequities. In the same way that the academic literature recognized the importance of a thriving postdoctoral workforce, higher education institutions have the responsibility to support the workforce. Beyond the academic merits of this study, I hope that the findings of this study are in service to academic migrants. I have sought to connect the value and significance of academic migrants with institutional commitments to diversity. In framing the study in this manner, I may have not included all aspects of the workforce

experience and did not include the perspectives of other members of the campus community (i.e., Principal Investigators, staff, etc.) as it relates to the topic of academic migrants. I understand that this study is a component of a much larger education system and that the research questions only speak to a moment in time and a part of a work ecology within the larger university structure.

I also recognize that my world view and experiences may be radically different—and even in opposition—from the studied population. I have sought to be inclusive and mediate my biases and experiences by employing mixed methodologies and working extensively with the postdoctoral labor union. For that reason, in developing this study, I also sought to: include positive workplace experiences, account for different types of workplace experiences, and account for understand personal migration histories and experiences of U.S. racial and social hierarchies.

In the following section, I explain how I arrived at the methodological decisions for this study, keeping in mind my research objectives and critical perspective.

CHAPTER THREE: RESEARCH DESIGN AND METHODS

Transformative, Explanatory-Sequential Mixed Methods Design

Mixed Methods

I utilized the transformative, explanatory-sequential *mixed methods* design to execute the data collection process, analysis, and interpretation of the findings. Mixed methods is a research approach that utilizes both quantitative and qualitative data to understand the breadth and depth of a phenomenon (Creswell, 2009; Creswell & Plano Clark, 2011). Since both quantitative and qualitative data are utilized, mixed methods assumes multiple perspectives in interpreting information and deciding what data will be further developed within the study. As such, qualitative and quantitative data are perceived as complementary of one another (Jick, 1979, Webb et al., 1966). Significant to the mixed methods data analysis process and important to my study, quantitative and qualitative data collection and analysis was guided by a specific theoretical lens. The transformative, explanatory-sequential design supports the methodological decisions, within the context of the theoretical framework, and is the mixed method approach employed for this study.

Transformative Mixed Methods

The transformative perspective, within mixed methods, was developed by Mertens (2003, 2012) and specifies how the theoretical framework should be utilized to determine the interaction, priority, timing, and mixing of the study. Mertens (2003, 2010, 2011) provides guidelines that help the researcher unpack and apply a critical approach when employing a mixed

methods process. The guidelines further support the utilization of the theoretical frameworks—Waters (1999) migrant identity framework and Intersectional theory (Crenshaw, 1989)—that are utilized for this study and are outlined below: (1) the multiple construction of realities within the political, cultural, historical, and economic value systems; (2) the varying perspectives of research participants and the interactive relationship between researcher and participant; and (3) the ways in which marginalized communities are socioeconomically limited. Waters’ (1999) theoretical framework speaks to how migrants’ identity negotiation process constructs multiple realities for immigrants. Similarly, multiple realities or the multidimensionality of experiences is at the crux of the Intersectional framework (Crenshaw, 1989). Both Waters migrant identity framework and the Intersectional theory recognize the oppression of marginalized communities vis-à-vis U.S. race relations, social hierarchies, and structural oppressive policies and systems. Therefore, the application of the transformative perspective within mixed methods was utilized to develop the conceptualization of the study, methodology process, data collection tools, and my approach in collaborating with the postdoctoral labor union and working with the study participants. True to the purpose of the transformative design, the objective of this study affirms the perspectives of a historically marginalized population and as such, findings from this study necessitate equitable university policies and practices. Each step of the methodology process and implementation of the transformative perspective is outlined in below in the following sections.

Explanatory-Sequential Design: Quantitative and Qualitative Synthesis

The explanatory-sequential approach defined the order of the data collection and how the quantitative, qualitative data types informed one another. According to the explanatory sequential design, the first phase is the collection and analysis of quantitative data. The

quantitative findings inform the qualitative data collection process and thereafter, the qualitative data is collected and analyzed. The combined analysis of quantitative and qualitative data are used to interpret the results of the study. As such, data was collected in two distinct phases. First, the survey data was collected and a preliminary analysis of the survey data was conducted. The preliminary survey data findings were utilized to develop the in-depth interview guide. The second data collection phase consisted of conducting in-depth interviews from the survey participant pool. The research objectives of this study were to understand the ways in which postdoctoral work experiences influence migrant identity, and to subsequently understand how the university can better support the workforce. To further demonstrate how I implemented both Waters migrant identity framework and intersectionality, the infographic below illustrates the application and extension of frameworks:

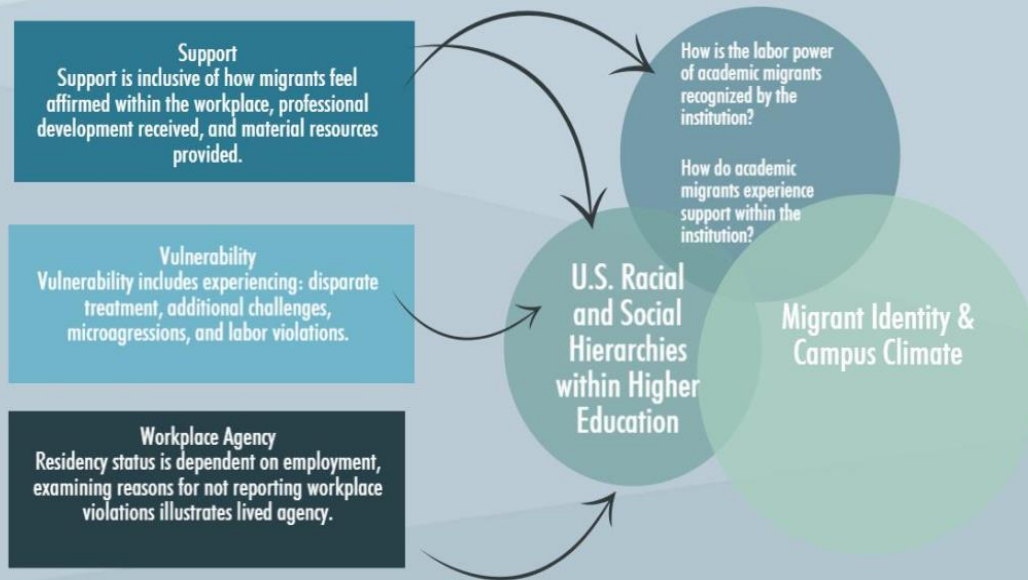
Academic Migrant Identity (AMI)

A proposed framework to examine how academic migrants experience campus climate as international employees.

Building upon Waters Migrant Identity

The concepts—historical legacies, racial and ethnic choices, work experiences, and encountering race relations—serve as the context. To recognize oppressive systems, structures, and the multi-subordination of identity, discrimination is operationalized within higher education.

Interrogating Work Experiences



Intersectional Experiences

Personal characteristics speak to the identity-negotiation process within the host country, including: residency status, preferred residency status, familial separation, and/or pan-ethnic identity, and/or language fluency. The examination of these experiences allow an understanding of how power operates within the academy for academic migrants.

QUESTIONS THAT EXAMINE INTERSECTIONAL EXPERIENCES:

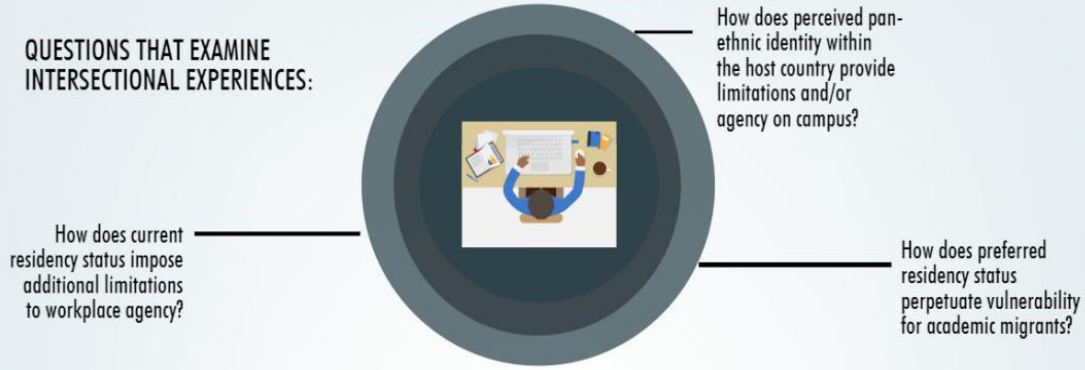


Figure 2. Academic Migrant Identity. This infographic outlines how I build upon migrant identity and include an intersectional workplace experiences.

Given the aforementioned objectives of the study, the general and subsidiary research questions were purposefully broad in nature. The first research question corresponded to the first phase of the study, the quantitative data collection, and the second research question was employed during the second, qualitative phase of the study:

1. What workplace experiences and factors personal influence migrant identity formation for international postdoctoral scholars at the University of California?
 - a. What factors and experiences impact agency within the workplace?
 - b. What factors and experiences contribute to vulnerability within the workplace?
 - c. Which demographic groups and types of nonresidents experience varying levels of vulnerability within the workplace?
2. How do international postdoctoral scholars at the University of California think about and interpret their experiences working within the U.S. relative to various identity influences and their immigration status?
 - a. How does their overall IPD work experience influence their academic migrant identity?
 - b. What are the characteristics of vulnerability within the workplace and how do those experiences respectively influence their migrant identity?
 - c. What is the relationship between their respective resident status and preferred residency status to their academic migrant identity?
 - d. What postsecondary policies and systems should be implemented to support academic migrants?

Explanatory-Sequential Design

Data for the first phase of the study was gathered via a bilingual, closed and open-ended questionnaire titled the *International Postdoctoral Work Experience Survey*. The purpose of the first phase was to understand what experiences influence migrant identity and the characteristics of the postdoctoral work experience—subsequently also uncovering the ways in which work experiences may differ by demographics and other individual level characteristics (e.g., preferred residency status, financial obligations, length of postdoctoral appointment, etc.).

Following the survey data collection and analysis, the second phase of the study was employed to gather qualitative data through in-depth interviews. The second phase sought to understand the *why* and *how* of the migrant identity formation process by additionally seeking to understand: (1) the process of migrant identity formation of IPDs at the University of California; (2) the characteristics and experiences of vulnerability within the workplace; and (3) the ways in which higher education institutions could be more supportive of academic migrants.

Site

The University of California (UC) ten campuses is the site for the study. The UC is a distinguished research university that employs approximately 8,413 postdocs during a fiscal year (RFI, 2015).²⁴ The domestic (U.S. citizens) to international (permanent residents and temporary visas) employees ratio is 36 to 64. However, when permanent residents are grouped with domestic postdocs, the percentage of international employees working with temporary visas

²⁴ This is the average employment figure according to employment rates from fiscal years 2010-2014, the most recent data available and per the University of California Labor Relations. Note that due to the nature of the end date and start dates of postdoctoral contracts, there are typically 6,000 postdocs working during the academic year.

ranges can range from 54 percent to 57 percent (De Jarlais, 2012; RFI, 2015). The postdoctoral workforce at the UC makes up approximately 10 percent of the U.S. postdoctoral population, and the UC is the largest academic employer of postdocs (Tuna, 2010). Further, the UC is an appropriate site for the study due to not only the size of the workforce, but also in consideration of the international prestige of the university. Five of the University of California campuses (UC Berkeley, UC Los Angeles, UC San Diego, UC Davis and UC Santa Barbara) are nationally recognized, premier research institutions.²⁵ Three of the premier UC campuses—UC San Francisco, UC Berkeley, and UC Los Angeles—employ 50 percent of the UC postdoctoral workforce. In addition, the UC has distinguished itself in procuring significant research and development funding from various governmental agencies. The net gain for UC research grants and contracts for the 2013 fiscal year was \$5.1 billion, which is an amount that exceeds student tuition and fees (\$3.4 billion) and is indicative of its research status (University of California, 2014). As well, the UC has nationally ranked within the top four, for over a decade, in obtaining funding from the National Institute for Health (Genetic Engineering & Biotechnology News, 2014).

Phase I of Study: International Postdoctoral Work Experience Survey

Questionnaire

The survey questionnaire (see Appendix A) was developed in collaboration with the University of California Postdoc International Working Group, a UC postdoc group established through the UC Postdoctoral labor union. The Postdoc International Working Group seeks to improve the rights of nonresident employees within the UC and is a collective of fifty eight

²⁵ As determined by the Center for Measuring University Performance (Phillips, Lombardi, Abbey, & Craig, 2010).

individuals, most of which are UC postdocs from various campuses and from different STEM disciplines.²⁶ During the time in which the questionnaire was being developed, the postdoctoral labor union was preparing to bargain their second collective bargaining agreement and the International Working group was tasked with understanding which additional rights and protections were most pressing for nonresident postdocs. Therefore, the *International Postdoctoral Work Experience Survey* was utilized to also assist the International Working Group and gather data for bargaining.

With their objectives in mind, myself and the leaders of the postdoctoral labor union decided that the questionnaire would be developed into two parts. The first part of the questionnaire would gathered data relating to: residency status, preferred rights and benefits, the ways in which international status impacts their relationships with their supervisor (PI) and work colleagues, and their willingness to participate in their labor union. The second part of the questionnaire included an incentivized raffle²⁷ to encourage survey completion and sought to further understand work experiences and gather additional demographic information. In addition, it was also collectively decided that the questionnaire would be translated to Chinese Mandarin²⁸ for these reasons: (1) the super majority of international postdocs at the UC are Chinese (60 percent) and Mandarin is the more utilized dialect; (2) the union organizers communicated to the postdoctoral union that English language barriers were more common among Chinese postdocs; and (3) recommendations from the previous residency study suggested

²⁶ Other members of the Immigration Working group include postdoctoral union organizers. The role of union organizers, that are members of the group, is to further facilitate the work between the union and the working group.

²⁷ Participants were encouraged to continue to take the survey so that they could be entered to win a raffle of \$100. A total of five \$100 were awarded.

²⁸ The final survey instrument was translated by a native Chinese speaker, hired to translate the survey, and the translation was reviewed by a native Chinese speaker from the International Working Group as well as a native Chinese speaking union organizer.

that translating to Mandarin would allow participants to express themselves in their native language. To further support language inclusivity, it was also decided that the invitation for the survey would invite participants to request the survey in their native language should English or Mandarin not suffice. The collaboration between myself and the International Working Group not only ensured that all survey questions were vetted by the population of the study but also advanced the transformative design of the study.

The questionnaire corresponded to six overarching workplace topics: (1) Preferred rights and protections; (2) Experienced Support (material and support); (3) Union involvement; (4) Experienced Vulnerability; (5) Workplace agency; and (6) Workplace Rights. Every question regarding work experiences (experienced support, experienced vulnerability, and reasons for non-advocacy) utilized hybrid questions, both closed and open-ended questions, so that participants could additionally speak to their experiences (Dillman, Smythe, & Christian, 2009). Per Dillman, Smythe, and Christian (2009), the utilization of hybrid questions alleviate survey fatigue among participants, and participants could select a response, further explain their selection, and/or offer a different response than what is offered.

The questionnaire also included a demographic section to account for the following information: residency status, preferred residency status, experienced familial separation due to visa status, financial obligations, gender, sexual orientation, country of origin, perceived pan-ethnic identity in the U.S., native language, religion, length of postdoctoral appointment, number of postdoctoral appointments, and residency aspirations. The postdoctoral labor union matched survey participant data to the union's internal database and the following demographic data was also gathered for survey participants: campus, discipline, union membership status, and wages. Instrument items relating to preferred rights and protections, experienced vulnerability, and

reasons for non-advocacy were in checklist format. Questionnaire gathered information regarding experienced support utilized a Likert response scale to understand the degree of their positive or negative experiences.

The Development of Questionnaire Items

The theoretical underpinnings of questionnaire items were guided by Waters migrant identity framework, the identified limitations of the framework, and literature pertaining to the contributions of academic migrants. Per the previous theoretical discussion (see section titled *Migrant Identity* in chapter two), Waters developed eight different aspects of migrant identity; four of which pertained to my study. Note that Waters does not quantitatively operationalize aspects within the framework, but rather outlines different facets of migrant identity formation and those aspects may or may not intersect with one another. As a means to operationalize migrant identity and build upon the *work experiences* aspect, I utilized the four aspects of Waters migrant identity framework—historical legacies, racial and ethnic choices, work experiences, and encountering race relations—as context for developing overarching topics and specific questionnaire items.

Initially there were four overarching workplace topics: (1) experienced vulnerability within the workplace; (2) workplace agency, (3) Experienced Material Support; and (4) Experienced Professional Development Support. Two overarching topics, preferred workplace rights and union involvement, emerged after consulting with the International Postdoc Working Group and the Postdoctoral labor union. Among all of these overarching workplace topics, I

considered the concept of experienced support²⁹ as especially significant to migrant identity.

Similar to the way in which Waters utilized U.S. race relations and social hierarchies to discuss the migrant identity negotiation process, the way in which participants experience support as academic migrants within their respective institutions is reflective of U.S. race relations and social hierarchies. However, within the higher education this is often described as *campus climate*. To clarify, campus climate is the reflection of attitudes, behaviors and standards the academic community demonstrates towards individuals (Rankin & Reason, 2008), and campus climate is inextricably tied to the migrant identity process. Therefore understanding campus climate provides additional insight as to how U.S. race relations and social hierarchies are compounded and/or challenged within higher education.

It is important to recognize the relationship between campus climate and academic labor/work experience, as it not only informs how international workers experience campus climate but also indicates the degree to which higher education institutions recognize the labor power of IPDs. For example, if IPDs experience a positive campus climate that is supportive of their international status, whereby IPDs feel that their international status is an asset within the workplace, then the institution has effectively affirmed their contributions to academia.³⁰ The way in which IPDs experience campus climate is an inherent aspect of the workplace and, again, central to their migrant identity formation process.

The extent to which campus climate reflects U.S. race relations varies by institution. However, most important and central to this study is that higher education administrators and

²⁹ In an effort to more accurately measure experienced support, material support variables (i.e., physical resources provided) were separated from experienced professional development support so as to measure different aspects of support provided

³⁰ According to the literature, IPDs participation within higher education increases academic capital and diversity, promotes goodwill between nations, and supports the prestige of U.S. premier research institutions.

policymakers have an obligation to secure a safe and supportive working environment. Therefore, I maintain the belief that campus climate must also be taken into account when discussing identity formation of academic migrants. Subsequently, in order to understand the *academic* migrant identity formation process, campus climate needs to be examined and accounted for. Whereas Water's theoretical approach sought to understand migrant identity formation as a longitudinal process, I believe that measuring campus climate will provide key insight as to how academic migrants are experiencing their environment regardless of the length of their residency or how they are forming their migrant identity.

For all these reasons, I operationalized migrant identity to also measure how academic migrants experience campus climate as international employees. To simplify the relationship between campus climate and migrant identity, I simply referred to this as the *Campus Climate for Migrant Postdocs* variable. *Campus Climate for Migrant Postdocs* is a key dependent variable in this study. In the section below, I further contextualize the development of key variables and the decision making process that I undertook as a researcher.

Key Independent Variables

Campus Climate for Migrant Postdocs. A total of five questionnaire items were developed to understand participants experienced support and affirmation as international employees (See Table 1). These five items were worded affirmatively so that participants could select how true (i.e., disagree strongly, disagree somewhat, agree somewhat, agree strongly) each statement was according to their UC postdoctoral experience; for example, "I feel empowered to discuss any type of work concern with my Principal Investigator without any repercussions." Each item included a text box so that participants' could additionally describe their experience in

relation to each statement. These five items constituted the *Campus Climate for Migrant Postdocs* factor and was utilized as a dependent variable during the analysis of the quantitative data.

Table 1
Campus Climate for Migrant Postdocs
International Postdoctoral Work Experience Survey

Items

I feel empowered to discuss any type of work concern with my Principal Investigator, without any repercussions.

My colleagues perceive my international status as an asset within the workplace.

My UC work colleagues are supportive of international postdocs sponsored by temporary work visas.

All international postdocs that are sponsored by temporary work visas have the same advantages in the workplace, regardless of their race, ethno-type, skin color, and/or their English language proficiency

Principal investigators (PIs, or professors) do not have additional influence over international postdocs in comparison to U.S. citizen or permanent resident postdocs.

Scale: *Disagree Strongly, Disagree Somewhat, Agree Somewhat, Agree Strongly*

Workplace Vulnerability. Workplace vulnerability is arguably a product of campus climate and the migrant identity formation process. As such, I conceptualized workplace vulnerability subsequent to campus climate. I defined workplace vulnerability as the degree to which a migrant postdoc had the ability to self-advocate for oneself at work when confronted with a difficult workplace situation. Nine questionnaire items regarding workplace vulnerability were conceptualized as reasons for not reporting workplace violations. Each item was developed per findings from the pilot study and in collaboration with the UC postdoctoral labor union and the International Working Group. In particular the Executive Board members of the labor union and members of the International Working Group confirmed the initial list of reasons for not reporting labor violations as “common” reasons. A total of nine items were developed and also included a text box so that participants could add a reason not identified in the questionnaire (See

Table 2). Seven of the nine items constituted the *Workplace Vulnerability* factor and served as the subsidiary dependent variable within the analysis.

Table 2
Workplace Vulnerability (common reasons for not reporting violations)
International Postdoctoral Work Experience Survey

<i>Items</i>
It would impact my professional recommendation from the Principal Investigator.
It would cause strain between myself and the PI.
It would create an uncomfortable environment.
It would impact the way in which I am perceived by my Principal Investigator, colleagues, lab mates, future employers or University of California Administrators.
It would impact future employment.
It would jeopardize my ability to work in the United States.
I have no knowledge of the legal procedure.

Scale: *Not Important, Somewhat Important, Important, Very Important, Most Important*

Workplace Supports. A total of four questionnaire items were developed to understand workplace support³¹ during the postdoctorate (see Table 3). These four items were worded affirmatively so that participants could select how true (i.e., disagree strongly, disagree somewhat, agree somewhat, agree strongly) each statement was according to their UC postdoctoral experience; for example, “My workplace has safe working conditions.” Each item included a text box so that participants’ could additionally describe their experience in relation to each statement. Workplace support is key because it is an observable and concrete measure of institutions commitment towards ensuring that IPDs have an equitable postdoc experience. The four items constituted the *Workplace Supports* factor and this factor was also utilized as a dependent variable in the quantitative analysis.

Table 3
Workplace Supports
International Postdoctoral Work Experience Survey

<i>Items</i>

³¹ For the purposes of this study, material support is defined as access to resources needed to perform all functions of the postdoctorate appointment.

My workplace has safe working conditions.

My workplace provides me with the necessary equipment to carry out my job duties.

My principal investigator is informed about my skills, expertise and abilities.

My principal investigator is providing me with the professional development I need to further develop my postdoctoral skills and abilities and actively supporting my future professional goals.

Scale: *Disagree Strongly, Disagree Somewhat, Agree Somewhat, Agree Strongly*

Labor Violations and Experienced Vulnerability. Questionnaire items regarding experienced labor violations (see Table 4) were developed in consideration of the UC postdoctoral labor union bargaining agreement and literature pertaining to the experienced labor violations of postdoctoral scholars. The bargaining agreement establishes standardized working conditions for all UC postdoctoral scholars, regardless of residency status. As such all survey items relating to labor violations constitute a violation of the collective bargaining agreement. The types of labor violations that were selected were either identified in the literature and/or confirmed by the postdoctoral labor union and the International Working Group as “common” experiences based on previously filed reports. A total of 17 labor violations items were developed and included a text box so that participants’ could include additional experiences that were not included in the list. A composite score was composed utilizing 15 of the 17 dichotomous items. The 15 items selected for the composite score corresponded to actual³² experienced labor violations was computed so as to establish three levels of *experienced vulnerability*—low vulnerability, medium vulnerability, and high vulnerability. The sum of the experienced labor violations within the workplace served as an additional independent variable

³² There were two vulnerability items that were not selected as part of the composite score, experiencing sexual harassment and experiencing no vulnerability. Sexual harassment was removed from the composite score because none of the participants indicated that they had been sexually harassed. This does not imply that sexual harassment is nonexistent for the workforce but that perhaps participants did not feel comfortable disclosing this information. Participants had the opportunity to select that that they had not experienced any of the above and this item was also not considered since it did not indicate experienced vulnerability.

and served to categorize potential interview candidates in Phase II of the project. The composite score was computed by adding the number of labor violations each participant reported (see Table 4). Those with low vulnerability reported zero labor violations across the 15 items. Those who were categorized as medium vulnerability had reported as having experienced one labor violation across the 15 items. High vulnerability participants reported experiencing two or more labor violations across the 15 items. The composite score was utilized to answer the second and third subsidiary research questions.

Table 4
 Labor Violations
International Postdoctoral Work Experience Survey

Items

- I did not receive an appointment letter when I was hired.
 - My PI did not sponsor my preferred visa type when I was hired.
 - I was not informed about my healthcare benefits.
 - My dependents and I were denied healthcare coverage.
 - My salary was less than what I had originally negotiated with my PI
 - I felt that my job security was threatened.
 - I experienced unsafe working conditions.
 - I was not supported when I incurred a work related injury.
 - I was obligated to work on a holiday and/or time off.
 - I was denied personal time off.
 - I did not receive the right training.
 - My appointment was less than a year long.
 - I was sexually harassed at work.
 - I was discriminated at work.
 - My PI has unrealistic workload expectations.
 - I experienced bias, prejudice, and/or stereotypes in the workplace.
 - I have not experienced any of the above.
-

Key Dependent Variables. To summarize, there were three dependent variables that were created and utilized to analyze different aspects of migrant identity and corresponded to the first research question and the first two subsidiary questions.

Campus Climate for Migrant Postdocs. The *Campus Climate for Migrant Postdocs* variable was conceptualized as a primary dependent factor composed of ordinal (Likert scale), independent variables. These variables related to different aspects of migrant identity, and more specifically, the ways in which the campus climate affirmed participants' international status. The migrant identity factor was coded to measure the degree to which work experiences influence migrant identity and to understand the relationship between migrant identity and other variables. I selected all questionnaire items relating to how International Postdoctoral Scholars (IPDs) experience campus climates, respective to their international status, to understand the sum of their work experiences. Waters (1999) migrant identity framework recognizes that U.S. race relations and social hierarchies influence the ways in which immigrants perceive themselves within their host countries. Similarly, the five items selected examine how their work experiences operate within U.S. race relations and social hierarchies. The *Campus Climate for Migrant Postdocs* factor consisted of these five items, as shown in the table below:

Table 5
 Campus Climate for Migrant Postdocs Factor Items
International Postdoctoral Work Experience Survey

<i>Items</i>
I feel empowered to discuss any type of work concern with my Principal Investigator, without any repercussions.
My colleagues perceive my international status as an asset within the workplace.
My UC work colleagues are supportive of international postdocs sponsored by temporary work visas
All international postdocs that are sponsored by temporary work visas have the same advantages in the workplace, regardless of their race, ethno-type, skin color, and/or their English language proficiency
Principal Investigators (PIs or professors) do not have additional influence over international postdocs in comparison to U.S. citizen or permanent resident postdocs

Scale: *Disagree Strongly, Disagree Somewhat, Agree Somewhat, Agree Strongly*

The first item examines the degree to which IPDs feel empowered within the workplace considerate of their position within academia that may or may not be influenced by the

immigrant status. The second item examines the degree to which IPDs' work colleagues affirm and recognize the value of their international status within the workplace. The third item examines the degree to which IPDs feel that they have equal opportunities within the workplace considerate of the identified challenges that IPDs may experience. The fifth item also examines the degree to which IPDs believe their international status may compromise their respective relationship with their supervisors. All items are a reflection of attitudes, behaviors and standards that the academic community demonstrates towards IPDs, and for that reason this does not only measure an aspect of migrant identity negotiation process but their experienced campus climate as well.

Workplace Vulnerability. *Workplace Vulnerability* was conceptualized as a subsequent dependent variable and was created to help respond to the third subsidiary research question. This factor was composed of dichotomous and ordinal variables to also measure which variables (i.e., demographics, knowledge of workplace rights, etc.) influence reasons for not reporting workplace violations. I selected all questionnaire items that examined degrees of difficulty in reporting a workplace violation. The literature posits that the postdoctoral workforce is subject to an inequitable power structure; one in which the Principal Investigator determines all aspects of their work experience and can be a formidable opponent should postdocs need to advocate for themselves. As such, participants were able to select how important ('Not Important' to 'Most Important' Likert Scale) each reason was in determining whether or not they would report a workplace violation. The list of reasons that constituted the factor were also confirmed as "common" reasons for not reporting workplace violations by the postdoctoral labor union and the International Working Group. The seven items were as follows:

Table 6
Workplace Vulnerability Factor Items
International Postdoctoral Work Experience Survey

Items

It would impact my professional recommendation from the Principal Investigator.
It would cause strain between myself and the PI.
It would create an uncomfortable work environment.
It would impact the way in which I am perceived by my Principal Investigator, colleagues, lab mates, future employers or University of California administrators
It would impact future professional opportunities
It would impact future employment
It would jeopardize my ability to work in the United States.

Scale: *Not Important, Somewhat Important, Important, Very Important, Most Important*

All the reasons to not report summarize the multiple challenges that IPDs must consider prior to advocating for themselves within the workplace.

Workplace Supports was the third dependent variable and was created to support the examination of the second subsidiary research question as it pertained to support provided by the employer. This factor is composed of dichotomous and ordinal variables. The reason for creating the *Workplace Supports* factor in addition to the *Campus Climate for Migrant Postdocs* factor was to separate support received from workplace affirmation. Exploratory Factor Analysis and Factor Scores were computed (detailed below in *Analysis*) to identify possible constructs that align and/or extend Waters (1999) migrant identity theoretical framework, including: experienced agency within the workplace, experienced rights and protections within the workplace (in consideration of participants' race, ethno-type, skin color, and/or English language proficiency), equitable treatment in comparison to resident/U.S. citizen postdocs, working conditions, and level of experienced support and recognition provided by their respective colleagues and supervisors. I sought to distinguish different aspects of migrant identity and created a separate factor with items that related to conditions in the workplace.

Workplace conditions, as previously explored by Waters (1999) influence migrant identity. However, as a means to measure the extent to which they influence migrant identity formation, *Workplace Supports* was operationalized to include physical resources and professional support provided to employees per their Principal Investigator. The four items are outlined in the table below:

Table 7
Workplace Supports Factor Items
International Postdoctoral Work Experience Survey

<i>Items</i>
My workplace has safe working conditions.
My workplace provides me with the necessary equipment to carry out my job duties.
My Principal Investigator is informed about my skills, expertise and abilities.
My Principal Investigator is providing me with the professional development I need to further develop my postdoctoral skills and abilities and actively supporting my future professional goals.

Scale: *Disagree Strongly, Disagree Somewhat, Agree Somewhat, Agree Strongly*

Demographics. Guided by the research questions in the first phase of the study, I developed additional individual-level variables. The individual-level variables were single indicators of measure to capture the following information: country of origin (Appendix D), perceived pan-ethnicity (considerate of U.S. race relations), income, residency status, religion, preferred residency status, familial separation (due to visa status), length of appointment, years of postdoc experience, familiarity with the collective bargaining contract, experienced annual evaluation, financial responsibility, overall experienced treatment at work, and residency plans post the completion of the UC postdoctoral appointment. The tables below are sample individual-level variables that were developed for this study:

Table 8
Residency Status
International Postdoctoral Work Experience Survey

<i>Items</i>
I'm a citizen/ U.S. permanent resident.

I became a permanent resident during my postdoc.
 I'm a non-resident on a J1 visa.
 I'm a non-resident on a H1B visa
 I'm a non-resident on OPT (I did my graduate work in the U.S.)
 I'm a non-resident on a TN-visa
 Other

Table 9
 Resident Plans Post Appointment
International Postdoctoral Work Experience Survey

Items

I plan to return to my home country
 I would like to stay in the U.S. but I am concerned about getting the right documentation
 I would like to stay in the U.S. but my visa will not allow me to stay
 I plan to Stay in the U.S.

Table 10
 Preferred Residency Status
International Postdoctoral Work Experience Survey

Items

I'm on a UC-sponsored J1 visa, but would rather have a H1B visa.
 I'm on a UC-sponsored H1 B visa, but would rather have had a J1 visa.
 I'm on a non-immigrant visa (i.e., J1, H1B, F1) but would like to petition for permanent residency if UC would sponsor that.
 I'm perfectly fine with my immigration status

Survey Administration

Once the questionnaire was finalized and approved by the International Working Group, the survey instrument was pilot tested among the postdoctoral labor union Executive Board and select postdoctoral labor union organizers. The Executive Board is made up of nine UC postdoctoral officers, some of which are also members of the International Working Group. The pilot test provided myself and the International Working Group with additional, minor comments regarding word choices. Feedback from the pilot test was implemented per the approval of the International Working Group. Thereafter, all postdocs presently working at the UC were invited

to participate by the postdoctoral labor union.³³ The survey was administered utilizing Qualtrics Survey Software, and the program was supportive of the bilingual format.³⁴

The labor union individually contacted³⁵ all presently employed UC postdocs (N=6,081) via email, inviting nonresident postdocs to participate in the survey. All postdocs were emailed to ensure that all nonresident postdocs were included. The survey was administered on May 27, 2015 and closed on June 8, 2015. The email invitation informed postdocs that the purpose of the survey was to better understand the disparate work experiences of nonresident postdocs so as to help establish supportive policies and systems. In addition, the e-mail invitation stated in Chinese Mandarin characters that the survey could be taken in Chinese, and that the labor union could provide the survey in another language should English or Mandarin not suffice. The invitation to participate in the survey was administered three times, with a follow-up invitations sent to postdocs who did not fill out the survey.

Survey Participants

A total of 655 postdocs completed the survey. Among the 655 survey participants, 550 survey participants were identified as international postdocs. Given that approximately 56 percent (N=3405) of the UC postdoctoral workforce is composed of international employees,

³³ The postdoctoral labor union has an invested interest in maximizing survey participation, as the survey will assist in future contract bargaining negotiations and will provide the union organizers additional understanding of the international workforce.

³⁴ Qualtrics software allowed the survey participants to take the survey in their preferred language choice and automatically referred participants to Chinese Mandarin version of the survey if their IP address was in Chinese Mandarin.

³⁵ Postdoc contact information, including e-mail addresses, are provided to the postdoctoral labor union by the UC Labor Relations department and in agreement with their collective bargaining contract. However, note that this information is not disaggregated by resident status. Therefore to invite all nonresidents to participate in a survey, all postdocs employees need to be contacted.

there was an estimated 16 percent response rate among the UC international postdoc population.³⁶ The average response rates for an external audience is 10 to 15 percent, a 16 percent response is above an acceptable survey response rate (Johnson & Turner, 2003).

The majority of survey participants were male (59.5 percent) compared to female (40.5 percent). Survey participants were also given the opportunity to select how they believed others perceived their pan-ethnicity in the United States. Correspondingly, the majority of participants believed to be perceived as White (47.5 percent), and approximately one third (29.9 percent) of the participants believed to be perceived as Asian.³⁷ The Asian pan-ethnic group constituted the largest ethnic minority group among survey participants. The remainder³⁸ of the participant pan-ethnic self-identification was as follows: 1.8 percent of the participants believed to be perceived as Arab, .6 percent of the participants believed to be perceived as Black, 10.4 percent believed to be perceived as Hispanic/Latinx, and 9.8 percent of participants believed to be perceived as Indian.³⁹

Specific to residency status, the super-majority of survey participants were J1 visa holders (72.8 percent). The remaining survey participants were sponsored by the H1B visa (8.2 percent), the non-resident OPT visa (9.9 percent), and the non-resident TN visa (1.1 percent). A small percentage (4.1 percent) of postdocs had become permanent residents (transitioned from a

³⁶ 16 international participation rate translates to 10.8 percent of the total UC population that includes U.S. citizen postdocs.

³⁷ 18 percent of participants marked China as their country of origin, this was the highest percentage within the country of origins.

³⁸ 8.9 percent of participants did not select an ethnicity.

³⁹ Note that typically the Asian pan-ethnic category includes those of Indian decent. However, given that this study examines racial and social hierarchies, the Indian ethnicity was added as an option separate from Asian to account for ethno-type differences that may or may not impact workplace experiences.

temporary visa to permanent U.S. residency status) during their postdoctoral appointment, and an additional 3.9 percent of survey participants identified as having U.S. permanent residency.⁴⁰

General demographic data about the UC postdoctoral population was provided by the UC Office of the President.⁴¹ This data, from 2014, constituted the most recent data available and demographics could not be disaggregated by residency status and as such, direct demographic comparisons between the general international population and survey participants could not be assessed. Still, it is worthwhile to understand how survey participants compare to the general population in 2014. In the following sections data from the general UC population is compared and contrasted to the international survey participants to further contextualize survey participation for this study.

In regards to gender, the survey participation is approximate to the general population, as 58.9 percent of the population identified as male and 41.1 percent identified as female (compared to 59.5 percent male and 40.5 percent female). The 2014 UC international postdoc ethnic population was as follows: 34.6 percent of the population identified as Asian, .01 percent of participants identified as Black, .07 percent of participants identified as Latinx, less than .0 percent of participants identified as American Indian and Native Hawaiian, and 56.2 percent of the population identified as White or Other.⁴² Similar to the general population, Asian was the largest ethnic minority population among the survey participants. However, participants who White survey participants were underrepresented (47.5 percent) when compared to the general population (65.2 percent). The 2014 general postdoc data that was provided also indicated that

⁴⁰ A U.S. Permanent Resident is an immigrant not from the United States.

⁴¹ The data was provided to the UC Postdoctoral Labor Union during the 2015-2016 collective bargaining contract negotiations. The labor union permitted me to use this data for the purposes of this study as outlined in this section.

⁴² White and Other is aggregated in the UC Office of the President Report

61.8 percent of the population were international postdocs and their respective residency status was as follows: the majority (71 percent) of the population had a J1 visa, 13 percent of the population had permanent residency status (note that it was not indicated if postdocs had acquired permanent residency status though their employment or had permanent residency status prior to applying), 12.9 percent of the population had H1 B visa status, .01 percent had a J2 visa, and .01 percent had a TN visa, and less than .00 percent of the population had a F1, E3, and RF visa status. As such, residency status among the survey participants was approximate to the international population, as J1 constituted the largest visa status. However, there was an overrepresentation of OPT visa status and a slightly underrepresentation of H1B visa status. The table below further illustrates the comparison between 2014 UC postdoctoral data and the survey participants for this study. In addition, the demographic information pertaining to the 550 survey participants was developed extensively and can be found in the *Descriptive Analysis* section in Chapter Four.

Table 11
Comparison Between Survey Participants and 2014 UC Population

Survey Participants	Percent	UC Postdoc Population	Percent
Male	59.5	Male	58.9
Female	40.5	Female	41.1
Female		Female	
Arab	0	Asian	13.5
Asian	22	Black	0.9
Black	0	Hispanic	3.3
Latinx	14.1	American Indian	0.1
Indian	9.3	Native Hawaiian	0.1
White	54.6	White or Other	23.2
Male		Male	
Arab	3.1	Asian	21.2
Asian	35.6	Black	0.9
Black	1	Hispanic	3.8
Latinx	7.8	American Indian	0.1
Indian	10.2	Native Hawaiian	0.3

White	Residency Status	42.4	White or Other	Residency Status	33
J1 Visa		72.8	J1 Visa		71.1
Permanent Resident		3.9	Permanent Resident		13.1
Transitioned to Permanent Residency		4.1	H1 Visa		13
H1B Visa		8.2	TN Visa		1.1
OPT Visa		9.9	J2 Visa		1.1
TN Visa		1.1	F1 Visa		0.4
			E3 Visa		0.1
			RF Visa		0.004
			Other Visa		0.002

Analysis

General Analytic Approach. During the first phase, all survey responses were translated to the English language and cross-checked by native speaking Chinese Mandarin postdocs.⁴³ Thereafter, all quantitative data was managed and analyzed via the Statistical Product and Service Solutions (SPSS) software. Specifically, all dichotomous variables and categorical responses were quantified to produce descriptive statistics. To account for the various work permits, distinct groups were created per their visa type and desired residency status. In an effort to disaggregate race, two distinct groups were created that speak to different aspects of race: (1) the item ‘country of origin’ allowed participants to select or write their country of origin and (2) the ‘pan-ethnic’ category was specific to the way in which participants believed to be categorized according to their UC experience and how participants perceive U.S. race relations. Responses were compared across demographics and personal characteristics by way of cross-tabulations with chi-squared tests. Crosstabulations between variables that were the strongest predictors of

⁴³ Only one participant filled out the survey in Chinese Mandarin.

migrant identity, reasons for not reporting workplace violations, and experienced vulnerability were employed to understand the relationship between those variables.

A composite variable was created to better assess experienced labor violations, and participants were grouped according to their experienced vulnerability. Per the description of the labor violations variable, all vulnerability items were dichotomous variables and that necessitated establishing a dichotomous score. Items relating to experienced vulnerability (workplace violations) were combined to form a composite variable. The composite score established the average number of experienced workplace violations and the composite score was used a dependent variable to appropriately categorize participants into experienced vulnerability groups based on their score. Three groups were established—low vulnerability, medium vulnerability, and high vulnerability—where no experienced labor violations consisted of low vulnerability, one experienced labor violation consisted of medium vulnerability, and two or more experienced labor violations consisted of high vulnerability. A score of 0 is considered low; however, a score of 0 does not imply nonexistent levels of vulnerability. Specifically, an IPD has inherently lesser rights due to their residency status when compared to U.S. citizen postdocs. I wanted to recognize this form of vulnerability from the onset regardless if participants had experienced vulnerability within the workplace, and for that reason I determined 0 as low vulnerability and not nonexistent vulnerability. The composite variable was only utilized as a dependent variable, as the composite score removes the variability and details individual items. Once the participants were grouped according to their levels of experienced vulnerability, the corresponding data was gathered via split file to further examine the intersection of experienced vulnerability and personal characteristics.

In an effort to operationalize key concepts per *The Development of Key Variables*, I employed Exploratory Factor Analysis (EFA) to gather information about specific workplace issues. EFA is an analytical tool that is utilized to examine relationships among a cluster of variables that have a shared variance, and this data-reduction approach examined underlying latent traits. In other words, this analysis provided the interrelated measures of items and helped identify which items (variables) had the strongest association within a given factor (Child, 2006; Sharkness, DeAngelo, & Pryor, 2010). Ultimately, EFA was utilized to: 1) help isolate constructs and concepts that were developed in the questionnaire; 2) simplify the data by reducing dimensionality; 3) determine the relationship between variables, and 4) build factor scores (Yong & Pearce, 2013).

Principle axis factoring with promax rotation was used to understand the shared variance within the set of variables and to maximize the strength of each factor (Russell, 2002). Only within-factor variables that loaded at 4.0 or higher were considered for factor analysis. Factors and the composite variable had an eigenvalue higher than 1.0 and a minimum Cronbach's *alpha* of .65 in order to ensure internal reliability (DeVellis, 2003). Based on these requirements, three factors were computed—*Campus Climate for Migrant Postdocs*, *Workplace Vulnerability*, and *Workplace Supports*.

Following EFA, additional analysis of the factors were completed by computing Factor Scores and creating scales for each of the three factors (*Campus Climate for Migrant Postdocs*, *Workplace Vulnerability*, and *Workplace Supports*). Factor scores are composite variables that utilize the continuous scores of factors to determine the distribution (means and standard deviation) and specify individual placement within the factor (DiStefano, Zhu, & Mîndrilă, 2009). In this study, the Factors-Scores were three-category dependent variables (low, medium,

and high), whereby 0 was the mean and .25 below the standard deviation constituted the ‘low’ category and .25 above the standard deviation constituted the ‘high’ category. The scales were utilized to compare and contrast the distribution of demographic data (pan-ethnicity, gender, residency status, and country of origin) to further interrogate workplace experiences. Thereafter, the Analysis of Variance (ANOVA) with Post-Hoc test was also conducted to test the differences and variations (variance) between the dependent variables (*Campus Climate for Migrant Postdocs*, *Workplace Vulnerability*, and *Workplace Supports*) and independent variables (pan-ethnicity, gender, residency status, and country of origin). In addition, independent sample t-test were conducted to compare the dependent variables (*Campus Climate for Migrant Postdocs*, *Workplace Vulnerability*, and *Workplace Supports*) in men and women, the gender independent variable.

Open Response Survey Data. The qualitative data served to further contextualize the quantitative findings, and the analysis of the data helped construct the interview protocol. To interpret the qualitative data, I employed Boyatzis’ (1998) categorical analysis. A priori themes were derived from the initial survey categories—(1) Preferred rights and protections; (2) Experienced Support (material and support); (3) Union involvement; (4) Experienced Vulnerability; (5) Workplace agency; and (6) Workplace Rights—and these themes were utilized to frame the analysis. Thereafter deductive codes emerged respective to each category. The thematic analysis produced additional codes that expanded across the survey categories, and these were as follows: (1) Workplace violation; (2) International prejudice; (3) International affirmation; (4) Workplace power dynamics; and (5) Participant recommendations.

The qualitative survey data revealed that only less than 15 percent of participants utilized the open-ended response portion of the survey. The salient themes that emerged from the

qualitative survey data were as follows: experienced workplace violations, international prejudice, workplace power dynamics, and recommendations for institutional policies and practices. The participants that did utilize the open-ended responses did so to elaborate on their specific workplace experience relating to the question. The overwhelming amount of qualitative survey data described a specific type of workplace violation and/or workplace power dynamics that perpetuated the participants' vulnerability. This information indicated that the interview protocol needed to allow participants to describe the way they experience workplace power dynamics and repercussions regarding potential or experienced workplace labor violations.

Phase II of Study: In-depth Interviews

Interview Protocol

After the preliminary analysis of the quantitative data was conducted, the interview protocol was developed (see Appendix C) for this study. The interview protocol was guided by the second overarching research question and salient themes that emerged from the preliminary quantitative data analysis. Specifically, the overarching research question—how do international postdoctoral scholars at the University of California think about and interpret their experiences working within the U.S. relative to various identity influences and their immigration status?—served as the underlying question that helped develop additional subsidiary interview questions. The objective of the interview process was to ensure that salient themes that emerged in the preliminary quantitative analysis, were examined at length during the interview process to understand multidimensional experiences, including the academic migrant identity formation process.

Given the aforementioned key variables in the quantitative phase of the study and the context established by academic research, the interview protocol was organized so that the following topics were discussed in detail: 1) the process of becoming a postdoctoral researcher at a premier research institutions; 2) challenges postdocs encountered during the application and immigration process; 3) challenges postdocs encountered that were perpetuated by their immigration status; 4) power dynamics between themselves and their Principal Investigator and particularly, how their immigration status influenced the power dynamics; 5) the intersection of their identities and U.S. racial/social/gender hierarchies, the way in which they interpreted their migrant identity formation and how it pertained to U.S. university work culture; and 6) recommended policies that would affirm their sense of belonging and facilitate academic migrant life.

Interview Administration and Participants

I utilized purposeful sampling to select participants for the second, qualitative phase of the study. Purposeful sampling ensured information-rich cases that yielded in-depth understanding and insight (Patton, 2002). At the conclusion of the survey, participants were asked if they could be contacted to participate in an in-depth interview. Of the 550 survey participants, 118 agreed to be contacted. Individual emails were sent to all 118 participants as a means to provide additional information about the study, the purpose of the interview, and to confirm an interview time. During this phase of the study, all survey participants had been categorized according to their experienced labor violations in low, medium, and high vulnerability groups.

Although the objective was to have an equal number of participants from each vulnerability group participate in the interview process the distribution among the 118 participants varied. Specifically, 83 participants were part of the low vulnerability group, 19 participants were in the medium vulnerability group, and 16 participants were in the high vulnerability group. A total of 26 participants responded to the interview request and participated in the interview process. The distribution among the interview participants was as follows: five participants from the high vulnerability group, nine participants from the medium vulnerability group, and 12 participants from the low vulnerability group. In an effort to protect their anonymity and given the sensitive nature of the information provided, no additional information about the interview participants is provided.

The process of securing an interview time and date was fairly easy. From the onset, participants were given the agency to determine whether they wanted to be contacted in follow-up communication. Once participants responded to the email invitation, a date and time to interview was generally established within a two week time period. In various ways, participants communicated that they understood the importance of this study and their disposition facilitated the interview process.

The majority of the interviews (13) were conducted utilizing the skype video conferencing software, ten interviews were conducted over the phone, and three interviews were conducted in person. The in-depth interviews were generally two hours in length and the interviews corresponded with the participants' workplace experience. For example, participants that had a very favorable experience were enthusiastic in explaining how they secured their positions and the different types of support that was made available to them within and beyond the workplace. In contrast, participants who had experienced challenges as academic migrants

and/or within the workplace, conveyed feelings of frustration and sadness at different points during the conversation. During a retelling of a significant migrant and/or workplace challenge, my objective was to communicate understanding and convey empathy. Though I tried to establish a supportive interview environment, I was limited by the inability to conduct these interviews in person. Research indicates that in person interviews establish a more supportive rapport that enables the participant to have more confidence in the interview process (Ritchie, Lewis, McNaughton Nicholls, & Ormston, 2013). Regretfully, this was not possible and although I tried to communicate empathy and support, I was limited by the nature of the interview.

During the conclusion of the interview, participants were also informed of the various vulnerability workplace groups that were established in the quantitative analysis. This form of member checking in the interview protocol allowed participants to provide their perspective about their vulnerability status and whether their vulnerability was correctly captured. Specifically, at the end of the in-depth interview, participants were informed about the different workplace vulnerability groups (low, medium, and high) and why they had been placed in their respective groups. Participants were then asked if they agreed with their established workplace vulnerability group. Of the 26 in-depth interview participants, only three participants disagreed and were categorized to an additionally vulnerable group, moving up one level (from low to medium, from medium to high). Qualitative inquiry is a strength of mixed methods research, as a critical perspective necessitates that researchers actively involve participants to understand whether representation of their experiences is correct (Creswell & Clark, 2007; Creswell & Miller, 2000). Note that Participant member checking is integral to the transformative mixed

methods design, and was also illustrative of the paradigm assumptions on behalf of me as the researcher (Creswell & Miller, 2000).

Qualitative Analysis

The qualitative data was transcribed verbatim and the data was utilized to further understand the participants' experiences. Guided by the transformative design and theoretical framework, the workplace topics served as a preliminary set of themes. The subsequent codes and definitions emerged thereafter from the interview data. Postdoc participation was included throughout the analysis of the data. In the first phase, the International Working group provided feedback as to the building of themes, code hierarchies, data reduction, and simplification. The themes and codes were used to help differentiate varying forms of experienced vulnerabilities, challenges, and workplace experiences.

Thereafter, the transcribed data was organized per the participants experienced workplace vulnerability (low, moderate, and high). In addition to drawing deductive codes from the emerging themes, principles from the two theoretical frameworks (migrant identity and intersectionality) were used to identify additional themes and inductive codes. Codes were cross-checked to ensure an intercoder agreement of 90 percent or better (Creswell, 2009). The code book was first developed by me, after analyzing 20 percent of the responses. Thereafter, two colleagues coded a sample of responses, utilizing the code book. Codes were modified until there was a 90 percent agreement among the working group, when coding a sample of responses. At this stage of analysis, the codes were used to illustrate the ways in which postdocs experience vulnerability. Thus, the analysis included discovering patterns and themes according to the vulnerability groups. The qualitative data was utilized to understand the characteristics of each

group and how institutions could better serve academic migrants. True to the design of the study, diverse and conflicting data was regarded as indicative of the complexity of the phenomenon. This approach also assumed that findings are not contradictory, but rather were multifaceted descriptions of work experiences.

Trustworthiness and Authenticity

Intentional decisions were made throughout this study to increase the study's trustworthiness and authenticity.⁴⁴ First, the mixing of qualitative and quantitative methods was not independent of one another, as each phase of the data collection process informed the subsequent phase. This approach enabled me to establish richer integration from the onset (Yoshikawa et al., 2008). Second, ongoing participant engagement, from the conceptualization of the survey to the interpretation of the findings, had several important merits: (1) affirmed the purpose of the transformative design, (2) increased the trust and reliability of the findings by reducing my biases and assumptions, and (3) decreased the sense of burden from participants, as participation is spread across work experiences and campuses. Finally, the ability to triangulate data, or "combine methodologies in the study of the phenomenon" (Denzin, 1978, pg. 291), offset the shortcomings of a single methodology.

The ability to use different data types to merge, sequence, and build upon one another, facilitated the triangulation of information and data (Sweetman, Badiee, & Creswell, 2010;

⁴⁴ Trustworthiness or credibility establishes that the narrative is authentic to the participants' experience (Lincoln & Guba, 1985).

Tashakkori & Teddlie, 2003). Data triangulation, increased validity, enhanced the trustworthiness of the analysis and reduced biases and limitations of a particular methodology (Jick, 1979; Ryan & Bernard, 2003). For example, linking the survey findings to the qualitative narratives allowed for generalizable findings *and* personal counter narratives. As such, triangulation extended beyond reliability and validation, as it provided additional context and texture to the experiences of the participants (Jick, 1979).

Conclusion

Given the breadth of methodological approaches incorporated into this study, the data analysis generated substantive quantitative and qualitative findings—informing the migrant identity phenomenon and elucidating how university administrators and policymakers can be supportive of academic migrants. The findings are presented in the following chapters in the order of the data collection process. The fourth chapter presents findings from the quantitative data and the fifth chapter presents findings from the qualitative data. Within each findings chapter, I also specify how the findings informed the guiding research questions. The discussion about the implications of the findings is, however, reserved for chapter six.

CHAPTER FOUR: QUANTITATIVE FINDINGS

Introduction

The quantitative findings demonstrate how both experiences and personal characteristics influence migrant identity formation for international postdoctoral scholars at the University of California. In an effort to comprehensively respond to the guiding research questions, I first present the demographic data of the survey participants and then proceed to present the findings of the descriptive analysis. The descriptive analysis findings section provides an overview of workplace experiences and identifies workplace topics that necessitated additional quantitative analysis. In the quantitative sections below, I only report valid percent and exclude missing responses unless otherwise stated.

In the section following the descriptive analysis, I provide the results for the Exploratory Factor Analysis and factor scores for the dependent variables (*campus climate for migrant postdocs*, *workplace vulnerability*, and *Workplace Supports*). I compare and contrast the distribution and scores for different groups (pan-ethnicity, gender, residency status, and country of origin) by each dependent variable. Thereafter, the results for the Analysis of Variance (ANOVA) are organized by pan-ethnicity, gender, residency status, and country of origin to understand how the three dependent variables functioned across all these groups.

The final quantitative section reviews which participants were grouped into distinct vulnerability groups per their experienced vulnerability. Understanding the characteristics of the distinct vulnerability groups not only provides additional insight to workplace dynamics, but also permits the transition to the qualitative data findings section, as the in-depth interview participants were selected from distinct vulnerability groups. Note that the qualitative data

derived from open-ended responses within the survey further contextualized the quantitative findings and informed the subsequent qualitative data collection phase.⁴⁵ Therefore, the main themes of these findings are discussed in the descriptive analysis section and in chapter three (see *Qualitative Survey Data*).

Descriptive Analysis

Demographic Data

Postdocs from all ten of the UC campuses participated in the survey. The larger UC campuses (UC San Francisco, UC Los Angeles, and UC Berkeley) contain approximately 50 percent of the postdoc population. Correspondingly, the majority of participants were from UC Berkeley (17.3 percent), UC Davis (16.2 percent), UC Los Angeles (17.1 percent), UC San Diego (14.2 percent), and UC San Francisco (14.4 percent). Survey participation was significantly less in the remaining UC Campuses and was as follows: UC Irvine (6.5 percent), UC Merced (1.8 percent), UC Riverside (3.3 percent), UC Santa Barbara (6.4 percent), and UC Santa Cruz (2.9 percent). In regards to academic discipline, the majority of the survey participants identified within the Biological Sciences (21.3 percent) and the Health Sciences Field (34.7 percent). The academic discipline distribution among the other survey participants is as follows: Engineering (12.5 percent), Environmental Sciences (6.4 percent), Mathematics (.9 percent), Humanities (.5 percent), Physical Sciences (18.4 percent), Social Sciences (3.8 percent), and 1.5 percent of participants did not select a discipline. The super-majority of survey

⁴⁵ Note that the majority of the qualitative data from the survey was utilized by participants to further explain negative workplace experiences and/or provide additional details about their experienced vulnerability. As such, the qualitative data selected is utilized to demonstrate the characteristics of the workplace according to the participants that included additional information about their experiences.

participants (70.4 percent) identified as members of the postdoctoral union and 29.6 percent of the population indicated that they were not part of the postdoctoral union.

There were more participants that identified as male (56.4 percent) compared to female (38.2 percent). Half a percent of survey participants identified as transgender, and 4.9 percent of participants chose not to select a gender category. In regards to sexual orientation, the supermajority of participants (79.9 percent) identified as heterosexual. A total of 10.9 percent of participants preferred not to disclose their sexual orientation, 3.6 percent of participants identified as LGBTQ, and 5.6 percent of participants did not select a response. Participants were also given the opportunity to select their country of origin as well as how they believed others perceived their pan-ethnicity in the United States. The majority of participants believed to be perceived as White (47.5 percent). Approximately one third (29.9 percent) of the participants believed to be perceived as Asian,⁴⁶ and Asian pan-ethnicity constituted the largest ethnic minority group among survey participants. The remainder of the participant pan-ethnic self-identification is as follows: 1.8 percent of the participants believed to be perceived as Arab, .6 percent of the participants believed to be perceived as Black, 10.4 percent believed to be perceived as Hispanic/Latinx, 9.8 percent of participants believed to be perceived as Indian, and 8.9 of participants did not select an ethnicity.

The participants' country of origin (see Appendix D) was grouped by region, according to the United Nations composition of macro geographical regions (United Nations, 2014). The survey participants country of origin by region is as follows: 8.2 percent of participants were

⁴⁶ Eighteen percent of participants marked China as their country of origin, this was the highest percentage within the country of origins.

from Latin America, 5.2 percent of participants were from Canada,⁴⁷ 6.6 percent of participants were from the Middle East, 25.7 percent of participants were from East Asia, 2 percent of participants were from Eastern Europe, 7.8 percent were from Northern Europe, 20.3 percent of participants were from Western Europe, 11 percent of participants were from Southern Europe, 1.6 percent of participants were from Oceania, .6 percent of participants were from Africa, 11.2 percent of participants were from West Asia, and 8.7 percent of participants did not select a country of origin and were subsequently not categorized by the region of their country. Note that the majority of participants are from European countries (41.1 percent) and Asian countries (36.9 percent of participants). Specific to religious beliefs and practices, the majority of survey participants (47.7 percent) selected other. The largest religious group among survey participants was Christianity (25.2 percent), followed by Hinduism (10.9 percent) and Buddhism (6 percent). The remainder of the religious groups were as follows: 4.6 percent of survey participants selected Islam, 4.3 percent of participants selected Judaism, .7 percent of the participants selected Shinto, and .7 percent of the survey participants selected Sikhism.

The majority of participants had one year postdoctoral appointments (56.9 percent), whereas approximately a quarter of participants (22.7 percent) had two year appointments.

Among the participants that had three-year or longer postdoctoral appointment, the data was as follows: 8.9 percent of participants were appointed for three years, 3.8 percent of participants were appointed for four years, and 1.6 percent of participants were appointed for more than four years. Although it is a UC labor violation to employ a postdoc for less than a year-long contract, the option to select less than a year was available to participants, and 1.8 percent of participants were employed for less than one year. In addition, 4.2 percent of participants did not disclose the

⁴⁷ North America only constituted participants from Canada, since respondents who were from the United States were not considered in this study and participants from Mexico were grouped with Latin America.

length of their appointment. Correspondingly, the majority of participants were first-time postdocs (53.3 percent). A total of 27.3 percent of the participants were in their second postdoc appointment, and the remainder of their postdoctoral experience is as follows: 10.7 percent of participants were in their third postdoc appointment, 3.3 percent of participants were in their fourth postdoc appointment, and 1.8 of participants were in their fifth or higher postdoctoral appointment. The remaining 3.6 percent of participants did not disclose their postdoc experience.

Specific to residency status, the super-majority of survey participants were J1 visa holders (72.8 percent). The remaining survey participants were sponsored by the H1B visa (8.2 percent), the non-resident OPT visa (9.9 percent), and the non-resident TN visa (1.1 percent). A small percentage (4.1 percent) of postdocs had become permanent residents (transitioned from a temporary visa to permanent U.S. residency status) during their postdoctoral appointment, and 3.9 percent of survey participants identified as having U.S. permanent residency.⁴⁸ In addition to selecting their visa status, participants were also able to also select their preferred residency status and their immigration plans post the end of their postdoctoral appointment. In regards to preferred residency status, the majority of participants (48.6 percent) indicated that they were on a non-immigration visa but would like to remain in the U.S. if the UC would sponsor their petition for permanent residency. In contrast, 35.9 percent of participants were perfectly fine with their residency status. The remaining participants who were on a J1 visa (15.1 percent) indicated that they would prefer the H1 B visa and .4 percent of participants who were on a H1 B visa preferred a J1 visa.

⁴⁸ A U.S. Permanent Resident is an immigrant and was not born in the United States. U.S. Permanent Residents can apply for U.S. citizenship and are expected to renew their residency every ten years.

In regards to the survey participants immigration plans post their postdoctoral appointment, the majority of participants (41.2 percent) wanted to remain in the U.S., but either they were concerned about obtaining the right documentation that would allow them to stay (20.8 percent) or were not allowed to remain in the U.S. according the stipulations of their visa (20.4 percent). Approximately one third (32.3 percent) of survey participants planned to return to their home country, while 26.4 percent planned to remain in the U.S.

The majority of survey participants (65.1 percent) did not have dependents (spouse and/or children) that were dependent on their respective visa status. The majority of survey participants (62.7 percent) were also solely financially responsible for themselves. However, 34.7 percent of participants did have a spouse and/or children that were dependent on their respective visa status, and an additional 17.9 percent of survey participants indicated that they were currently separated from their partner and children due to their postdoctoral appointment. In addition, 22.7 percent of participants indicated that they were financially responsible for themselves and one dependent, 13.1 percent of participants indicated they were financially responsible for themselves and two dependents, and 1.5 percent of participants indicated that they were financially responsible for themselves and three or more dependents.

This section concludes the demographic data of the survey participants. In the following sections, I discuss the descriptive quantitative findings pertaining to the participants' workplace experiences.

Workplace Experiences

An analysis of the quantitative data suggests a positive workplace environment for the UC international postdoctoral workforce. A super-majority (81.3 percent) of participants felt

empowered to discuss any type of work concern with their respective Principal Investigator (supervisor) without fearing repercussions. The super-majority of participants (76.3 percent) also indicated that they have never experienced unfair treatment within the workplace. Perhaps most telling, the super-majority of participants indicated a favorable relationship with their Principal Investigator (PI)—93.4 percent of participants believed that their PI was informed about their respective skills and abilities, and 82.7 percent of participants felt that their PI was actively supportive of their current and future professional development.

The most positively experienced aspects of the workplace were related to the workplace supports that participants received as employees. The majority of participants (94.9) believed that their workplace environment had safe working conditions, and 92 percent of participants indicated that their workplace environment was providing them with the necessary equipment to carry out their job duties. Other indicators of a positive and supportive workplace environment was that the majority of participants (73.6 percent) were knowledgeable about their collective bargaining contract, and 83.9 percent of participants believed that their colleagues were supportive of the UC international postdoc community.

However, when the survey participants were asked which workplace rights and protections they would like to see implemented in their labor contract, all survey participants (98.5 percent)⁴⁹ identified the need for increased immigration related rights and protections within the workplace. Specifically, survey participants indicated the need for the following: 1) employer-covered international relocation costs (24.4 percent); 2) longer postdoctoral appointments to support visa related timelines (23.1 percent); 3) new contract rights and protections that would include the employee's ability to choose the type of visa they needed

⁴⁹ 1.3 percent of the participants did not select a response specific to this question.

based on their personal circumstances (18 percent); 4) longer visa appointments (i.e., DS2019 Certificate of Eligibility for Exchange Visitor Status) regardless of the length of the postdoctoral appointment (15.1 percent); 5) employer coverage of all visa related costs, including university and department service fees (9.5 percent); and 6) equitable due process for all employees regardless of immigration status (8.7 percent). Given the fact that the majority of survey participants did not have their preferred residency status (64.1 percent) and were on one year postdoctoral appointments (56.9 percent), it is evident that the topic of immigration support remained a salient need within the population despite positive perceptions about the workplace.

The topic of immigration was further compounded when responses pertaining to workplace support were compared to questions that examined different aspects of the participants' migrant identity. For example, although the majority of participants believed their colleagues (83.9 percent) to be supportive of the international community, only 58.4 percent experienced their international status to be an asset within the workplace. Similarly, only 64.7 percent of participants believed that all international postdocs, regardless of race, ethno-type, skin color, and/or English language proficiency, had the same advantages in the workplace.

When participants were asked if PIs had additional influence over international postdocs in comparison to U.S. citizen postdocs, only 61.8 percent of participants believed that PIs did not have additional influence over the international postdoctoral workforce.

A similar pattern was uncovered in regards to workplace violations. For example, although the majority of participants indicated that they felt empowered to *discuss* work related concerns (81.3 percent), only 64.6 percent of participants felt comfortable *reporting* workplace violations. On the topic of labor violations, the super-majority of participants reported that they had never experienced a labor violation. In fact, although less than seven percent of participants

had experienced a labor violation (see labor violations below), only 64.5 reported that they had never experienced a labor violation. Further indicative of a reporting phenomenon among the population was the following: The super-majority of participants (82.7 percent) indicated a supportive relationship between themselves and their PI, one in which the PI was actively supporting their professional development. However, a significant number of participants (25.6 percent) had either never received a workplace evaluation (15 percent) and/or had irregular evaluations (10.6 percent).⁵⁰ Yet, the super-majority of participants (93.4 percent) believed that their PI was informed about their respective skills and abilities. This was a particularly troubling paradox for a few reasons. First, when the PI does not provide the postdoc an annual evaluation, the PI is in violation of the collective bargaining contract—meaning that 25.6 percent of participants experienced a labor violation. Second, annual evaluations are part of the labor contract because the workforce needs ongoing feedback to maximize their generally short appointments and utilizes the evaluation process as a means to support their future employment opportunities. It is difficult to contend that the super-majority of participants (82.7 percent to 93.4 percent) were receiving sufficient support from the PIs, when 25.6 percent of PIs were not fulfilling the minimum professional development that is outlined in the contract.

Illustrative as to why participants felt comfortable speaking about workplace concerns but not reporting workplace violations, the super-majority of participants identified factors that would influence their ability to report workplace violations. Specifically, the participants indicated the following: 1) 90.8 percent of participants stated that reporting workplace violations would cause strain between themselves and their PI; 2) 90.8 percent of participants stated it would create an uncomfortable work environment; 3) 88.8 percent of participants stated that it

⁵⁰ 10.6 percent of participants had less than one evaluation per year of employment

would impact their ability to receive a letter of recommendation from their PI; 4) 89 percent of participants stated it would impact the way in which they are perceived by their PI, colleagues, lab mates, future employers and/or UC administrators; 5) 88.3 percent of participants indicated it would impact their future professional opportunities; 6) 87.9 percent of participants indicated that it would impact future employment; 7) 77.8 percent of participants indicated that it would affect their ability to work in the United States; and 8) 82.7 percent of participants indicated that they had knowledge of the legal procedure to reporting a workplace labor violation. Note that though 82.7 percent of participants indicated that they had no knowledge of reporting a labor violation, 73.6 percent of participants had previously indicated that they were knowledgeable about their collective bargaining contract. This calls into question the self-reported knowledge about the collective bargaining contract, as the contract outlines the rules and procedures for reporting workplace labor violations.

Although less than 7 percent of participants reported experiencing specific labor violations, labor violations pertaining to workload were the most reported—6.9 percent of participants were obligated to work on a holiday and/or time off and 6.9 percent reported that their PI had unrealistic workload expectations. In addition, the following labor violations were reported among the survey participants: 1) 1.6 percent of participants reported to not receiving an appointment letter when they were hired; 2) 5.5 percent of participants reported not being sponsored by their preferred visa when hired; 3) 3.6 percent of participants reported not being informed about their healthcare benefits; 4) 1.1 percent of participants reported being denied healthcare; 5) 1.6 percent of participants reported that their salary was less than they had previously negotiated with their PI; 6) 6.5 percent of participants reported that their job security was threatened; 7) 1.8 percent of participants reported unsafe working conditions; 8) 1.6 percent

of participants reported that they were denied personal time off; 9) 3.6 percent of participants reported they did not receive the right training; 10) 3.8 percent of participants reported that their appointment was less than a year; 11) 1.3 percent of participants were discriminated at work; and 12) 4.9 percent of participants reported that they had experienced bias, prejudice, and/or stereotypes in the workplace.

The initial quantitative data was helpful in providing context about the workforce and identifying workplace experiences that needed to be further interrogated. Evidently, responses pertaining to workplace agency, called into question the favorable perception that participants had of their work environment. These responses also illustrated the tremendous power and influence that the PI maintains within the workplace. Moreover, the data regarding the need for additional immigration rights and support suggests that the population is not currently receiving adequate financial support and/or workplace stability. An important aspect of understanding the quantitative findings was analyzing the demographic data of the participants with the various workplace experiences. To support this effort, additional quantitative findings and their implications are discussed at length in the following sections.

Exploratory Factor Analysis

Factor analysis is a statistical method used to reduce the number of observed variables into latent variables. These latent dependent variables makeup factors and infer information about the studied phenomenon through mathematical modeling. The data pertaining to campus climate for migrant postdocs, workplace vulnerability, and workplace supports was subject to an Exploratory Factor Analysis using Principal Axis Factoring and orthogonal Varimax rotation. All KMO values for the individual items (>.90) were well above .5 and the Kaiser-Meyer-Okin

measure (KMO) indicating that there was sufficient data for EFA. The Barlett's test of sphericity showed that there were patterned relationships between the items. Using an eigenvalue cut-off 1.0. The results and tables below demonstrate the factor loadings after rotation using a significant factor criterion of .4.

Campus Climate for Migrant Postdocs

The minimum amount of data for factor analysis was satisfied with the final sample size of 504, and 46 cases were excluded using listwise deletion for all variables in the procedure. The factorability of the five *Campus Climate for Migrant Postdocs* items was examined. The Kaiser-Meyer-Olkin measure of sampling adequacy was .71, above the recommended value of .6 and the Barlett's test of sphericity was significant ($\chi^2(153) = 488.11, p < .001$). The diagonals of the anti-image correlation matrix were all over .5, supporting the inclusion of each item in the factor analysis. Finally the communalities were all above .3, further confirming that each item shared some common variance with the other items. Given these overall indicators, a factor analysis was conducted with all five items.

To arrive at the identification of the basic structuring of variables, orthogonal (varimax) rotation was employed and one factor was extracted. Using an eigenvalue cut-off of 1.0, the one factor explained 34.2 percent of the variance. The table below shows the factor loadings after rotation using a significant factor criterion of .4. Internal consistency for each of the scales was examined using Cronbach's alpha. The measure of internal consistency (Cronbach's alpha) was .716 indicated that the five items were closely related and the measure for scale reliability met the reliability statistical guideline.

Table 12

Summary of Campus Climate for Migrant Postdocs Factor

International Postdoctoral Work Experience Survey (N=504), Cronbach Alpha = .716

<i>Items</i>	Factor Loading
My UC work colleagues are supportive of international postdocs sponsored by temporary work visas	0.617
My colleagues perceive my international status as an asset within the workplace.	0.606
All international postdocs that are sponsored by temporary work visas have the same advantages in the workplace, regardless of their race, ethno-type, skin color, and/or their English language proficiency	0.590
I feel empowered to discuss any type of work concern, with my Principal Investigator, without any repercussions	0.560
Principal investigators (PIs, or professors) do not have additional influence over international postdocs in comparison to U.S. citizen or permanent resident postdocs	0.547

*Scale: Strong Disagree, Disagree Somewhat, Agree Somewhat, Agree Strongly***Workplace Vulnerability**

The minimum amount of data for factor analysis was satisfied with the final sample size of 511, and 39 cases were excluded using listwise deletion for all variables in the procedure. The factorability of the seven *Workplace Vulnerability* items were examined. The Kaiser-Meyer-Olkin measure of sampling adequacy was .86, above the recommended value of .6 and the Bartlett's test of sphericity was significant ($\chi^2(21) = 2693.4, p < .001$). The diagonals of the anti-image correlation matrix were all over .5, supporting the inclusion of each item in the factor analysis. Finally the communalities were all above .3, further confirming that each item shared some common variance with the other items. Given these overall indicators, factor analysis was conducted with all seven items.

To arrive at the identification of the basic structuring of variables, orthogonal (varimax) rotation was employed and one factor was extracted. Using an eigenvalue cut-off of 1.0, the one factor explained 60.1 percent of the variance. The table below shows the factor loadings after rotation using a significant factor criterion of .4. Internal consistency for each of the scales was

examined using Cronbach's alpha. The measure of internal consistency (Cronbach's alpha) was .909 indicated that the seven items were closely related and the measure for scale reliability met the reliability statistical guideline.

Table 13
 Summary of Workplace Vulnerability Factor
International Postdoctoral Work Experience Survey (N=511), Cronbach Alpha = .909

<i>Items</i>	Factor Loading
It would impact future professional opportunities	0.868
It would impact future employment	0.831
It would cause strain between myself and the PI	0.806
It would impact my professional recommendation from the Principal Investigator	0.804
It would impact the way in which I am perceived by my Principal Investigator, colleagues, lab mates, future employers or University of California administrators	0.788
It would create an uncomfortable work environment	0.682
It would jeopardize my ability to work in the United States	0.625

Scale: Not Important, Somewhat Important, Important, Most Important

Workplace Supports

The minimum amount of data for factor analysis was satisfied with the final sample size of 527, and 23 cases were excluded using listwise deletion for all variables in the procedure. The factorability of the four *Workplace Supports* items was examined. The Kaiser-Meyer-Olkin measure of sampling adequacy was .77, above the recommended value of .6, and the Barlett's test of sphericity was significant ($c^2(6) = 630.62, p < .001$). The diagonals of the anti-image correlation matrix were all over .5, supporting the inclusion of each item in the factor analysis. Finally the communalities were all above .3, further confirming that each item shared some common variance with the other items. Given these overall indicators, factor analysis was conducted with all four items.

To arrive at the identification of the basic structuring of variables, orthogonal (varimax) rotation was employed and one factor was extracted. Using an eigenvalue cut-off of 1.0, the one

factor explained 49.6 percent of the variance. The table below shows the factor loadings after rotation using a significant factor criterion of .4. Internal consistency for each of the scales was examined using Cronbach’s alpha. The measure of internal consistency (Cronbach’s alpha) was .789, indicating that the four items were closely related and the measure for scale reliability met the reliability statistical guideline.

Table 14
 Summary of Workplace Supports Factor
International Postdoctoral Work Experience Survey (N=527), Cronbach’s Alpha = .789

<i>Items</i>	Factor Loading
My principal investigator is informed about my skills, expertise and abilities.	0.775
My principal investigator is providing me with the professional development I need to further develop my postdoctoral skills and abilities and actively supporting my future professional goals.	0.716
My workplace provides me with the necessary equipment carry out my job duties.	0.679
My workplace has safe working conditions.	0.640

Scale: Strong Disagree, Disagree Somewhat, Agree Somewhat, Agree Strongly

Factor Scores

Upon computing the latent variables (factors) for *Campus Climate for Migrant Postdocs*, *Workplace Vulnerability*, and *Workplace Supports* factor scores were computed for each factor. Factors-Scores were three-category variables (low, medium, and high), whereby 0 was the mean and .25 below the standard deviation constituted the ‘low’ category and .25 above the standard deviation constituted the ‘high’ category. The scales were utilized to compare and contrast the distribution of demographic data (pan-ethnicity, gender, residency status, and country of origin) to further interrogate workplace experiences—understanding how different groups (i.e., ethnic minority women) fared within the three latent variables. The Factor Scores were as follows:

Campus Climate for Migrant Postdocs Factor Score

The standard deviation of the *Campus Climate for Migrant Postdocs* factor score was .85045998, and .25 of the standard deviation was .212615. Respectively, 36.3 percent of survey participants constituted the low *Campus Climate for Migrant Postdocs* score, 22.8 percent constituted the medium *Campus Climate for Migrant Postdocs* score, and 40.9 percent constituted the high *Campus Climate for Migrant Postdocs* score (see Table 15). Given the scale of this factor (*Strong Disagree, Disagree Somewhat, Agree Somewhat, Agree Strongly*), a participant who placed within a high score category meant that participant experienced their workplace environment to be supportive and inclusive of their international status.

Table 15
Summary of Campus Climate For Migrant Postdocs Factor Score:
(*N=504*), *Standard Deviation = .85045998*

<i>Score</i>	<i>Frequency (n)</i>	<i>Valid Percent</i>
Low	183	36.3
Medium	115	22.8
High	206	40.9

Utilizing the above *Campus Climate for Migrant Postdocs* factor score as a means of comparison, and in regards to pan-ethnicity, the White group had the highest *Campus Climate for Migrant Postdocs* scores and the Black ethnic group had the lowest scores. Specifically, the distribution for Whites was as follows: 1) Whites had the least number of participants in the low group (30 percent); 2) 22.5 percent were within the medium group; and the highest percentage of Whites were within the high scoring group (31.9 percent). In contrast, all (100 percent) of the Black participants placed within the low score. Following the Black ethnic group, the majority of Asian participants (42.6 percent) also placed within the low category, 24.1 percent of

participants placed within the medium category, and 33.3 percent of participants placed within the high category. The majority of participants (55.6 percent) within the Arab group, however, placed within the high category and 44.4 percent placed within the low category.⁵¹ Similarly, the majority Latinx/Hispanic participants (44.7 percent) also placed within the high score, and 42.6 percent placed within the low score. In addition, 25.5 percent of Latinx/Hispanic participants placed within the medium group. The Indian ethnic group had 42.6 percent with the low group, 25.5 percent within the medium group, and 31.9 percent within the high group. To illustrate comparisons across ethnic groups, the table below demonstrates the percentage of participants in low and high groups in relation to the average *Campus Climate for Migrant Postdocs* scores:

Table 16
Factor Scores by Pan-Ethnicity (valid percent)

Ethnic Group	Low Score	High Score
Average	36.3	40.9
Asian	42.6	33.3
Arab	44.4	55.6
Black	100	0
Latinx/Hispanic	34	44.7
Indian	42.6	31.9
White	30	47.4

Further interrogating *Campus Climate for Migrant Postdocs* factor scores by pan-ethnicity, scores were calculated by pan-ethnicity *and* gender. To that end, men had higher scores compared to women. The majority (45.7 percent) of men placed within the high category, 22.7 percent placed within the medium group, and 31.6 percent placed within the lowest category. In comparison, the majority of women (43.1 percent) placed in the low category, 22.3

⁵¹ There were no Arab participants that placed within the medium category.

percent placed in the medium category, and 34.6 percent placed in the high category. However, the placement and distribution among men and women varied across ethnic groups.

For example, the majority of Asian men had low *Campus Climate for Migrant Postdocs* scores (39.6 percent), approximately a fourth (23.8 percent) of Asian men had medium scores, and 36.6 percent had high scores. The minority (44.4 percent) of Arab men had low scores, whereas the majority of Arab men (55.6 percent) had high scores. In contrast, 100 percent of Black men had low *Campus Climate for Migrant Postdocs* scores. The majority (45.5 percent) of Hispanic/Latinx men had high scores, approximately a quarter (22.7 percent) of Hispanic/Latinx men had medium scores, and 31.8 percent of Hispanic/Latinx men had low scores. Similarly, the majority (39.3 percent) of Indian men had high scores, 32.1 percent of Indian men had medium scores, and 28.6 percent of Indian men had low scores. White men had the least number (22.8 percent) of low scores and the majority (55.3 percent) of White men had high scores. In addition, 21.9 percent of White Men had medium scores. To illustrate, the table below demonstrates the high and low scores for men, by pan-ethnicity, and in comparison to the average scores:

Table 17
Factor Scores by Pan-Ethnicity and Gender (valid percent)

<i>Men</i>	Low Score	High Score
Average	31.6	45.7
Asian	39.6	36.6
Arab	44.4	55.6
Black	100	0
Hispanic/Latinx	31.8	45.5
Indian	28.6	39.3
White	22.8	55.3

In comparison to men, women scored lower and there were significant differences across pan-ethnic groups.⁵² The majority of Asian women (50 percent) placed within the lowest Migrant Identity/Campus Climate category, and an equal percent of Asian women (25 percent) scored in the medium and high category. In contrast, the majority of Hispanic/Latinx women (44 percent) placed in the high category, 20 percent placed within the medium category, and 36 percent placed within the lowest category. The super-majority (63.2 percent) of Indian women placed in the low category, 15.8 percent placed within the medium category, and 21.1 percent placed within the high category. White women had an equal number within the low category and the high category (38.8 percent) and the highest number within the medium category (22.4 percent). To illustrate, the table below demonstrates the high and low scores for women, by pan-ethnicity, and in comparison to the average women scores:

Table 18

Factor Scores by Pan-Ethnicity and Gender (valid percent)

<i>Women</i>	Low Score	High Score
Average	43.1	34.6
Asian	50	25
Hispanic/Latinx	36	44
Indian	63.2	21.1
White	38.8	38.8

Campus Climate for Migrant Postdocs factor scores were computed by specific residency status and scores also varied across the different types of residency statuses. Permanent Residents had the lowest number (33.3 percent) of participants within the low group, and the majority (44.4 percent) of participants were in the high group. In addition, 22.2 percent placed within the medium category group. Among participants that became Permanent Residents during their postdoctorate (separate from permanent residents), the majority (55.6 percent) of

⁵² There were no Arab women and Black women participants.

participants were within the low group, and 22.2 percent were within the medium and high categories. In comparison, the majority (45.1 percent) of J1 visa holders were in the high category, 24.9 percent within the medium category, and 30 percent within the low category. The majority (51.2 percent) of H1 B holders were in the lowest category, 14.6 percent were in the medium category, and approximately one third (34.1 percent) of H1 B visa holders were in the high category. Specific to non-resident OPT visa holders, 54.7 percent were in the low category, 15.1 percent were in the medium category and 30.2 percent were in the high category. All (100 percent) of the non-resident TN visa participants placed within the low category. To illustrate, the table below compares and contrasts the high and low scores, by residency status, and in comparison to the average *Campus Climate for Migrant Postdocs*:

Table 19
Factor Scores by Residency Status (valid percent)

<i>Residency</i>	Low Score	High Score
Average	36.3	40.9
Permanent Resident	33.3	44.4
Became Permanent Resident	55.6	22.2
J1 Visa	30	45.1
H1 B Visa	51.2	34.1
Non Resident OPT Visa	54.7	30.2
Non Resident TN Visa	100	0

Finally, *Campus Climate for Migrant Postdocs* scores were computed by country of origin. The scores varied by country of region as well, with the majority of participants from the Oceania region placing within the highest group. Following, Oceania, participants from Latin America, North America, and the Middle East, and participants from all regions of Europe placed within the highest scoring group. However, the divide between highest and lowest group was stark for participants in North America and Latin America. In contrast, participants from

Eastern and Western Asian countries had the highest number of participants in the low scoring groups.

Specifically, among participants whose country of origin was in the Oceania region, 33.3 percent were in the low group and the super-majority (66.7 percent) were in the high group. Similarly, the majority of participants from the Eastern Europe region placed within the high category (50 percent) and 40 percent of Eastern European participants placed within the low category. In addition, the minority (10 percent) of Eastern European participants placed in the medium category. There was similar low-category placement among Northern, Southern and Western European regions. For example, though a majority (38.9 percent) of Northern Europeans scored within the high category and there was equal distribution (30.6 percent) of participants within the medium and low category. The majority (51.6 percent) of Western Europeans also placed within the highest category, and this region had the lowest number of participants (22.6 percent) within the lowest category (25.8 percent were within the medium category). The majority of Southern European participants were also within the high scoring group (46 percent), with 22 percent placing in the medium category, and 32 percent of participants were within the low scoring group.

Contrasting the relatively low number of participants within the low-category, the majority of participants from Eastern and Western Asia were in the low-category. There were only slight differences among East and West Asian participants. Specifically, the majority (40.8 percent) of participants from Eastern Asian were in the low category, 22.5 percent were in the medium category, and 36.7 percent were in the high category. The majority of West Asian participants were also in the low category (42.6 percent), 33.3 percent were in the high category and 33.3 percent of West Asian participants were in the medium category. The placement for

North American participants was as follows: 1) 42.9 percent were within the low scoring group; 2) 10.7 percent were within the medium category, and 3) 46.4 were within the high scoring group. For participants whose country of origin was in the Latin American region, the majority (50 percent) placed within the high scoring group, only 13.2 percent placed within the medium category group, and 36.8 percent of Latin American participants placed in the low category. Similarly, participants that were from the Middle East group were divided, as the slight majority (46.4 percent) were within the high group and 42.9 percent were within the low group; the remaining Middle East participants (10.7 percent) were within the medium group. Participants who designated the African region as their country of origin, were evenly divided (50 percent) between the medium and high groups. To illustrate, the table below compares and contrasts the high and low scores, by country of origin, and in comparison to the average *Campus Climate for Migrant Postdocs* scores:

Table 20
Factor Scores by Country of Origin (valid percent)

<i>Residency</i>	Low Score	High Score
Average	36.3	40.9
Latin America	36.8	50
North America	42.9	46.4
Middle East	42.9	46.6
East Asia	40.8	34.1
West Asia	42.6	33.3
Eastern Europe	40	50
Northern Europe	30.6	38.9
Western Europe	22.6	51.6
Southern Europe	32	46
Oceania	33.3	66.7
Africa	0	50

Workplace Vulnerability Factor Score

The standard deviation of the *Workplace Vulnerability* factor score was .96117199, and .25 of the standard deviation was .240293. Respectively, 34.4 percent of survey participants constituted the low *Workplace Vulnerability* factor score, 18.6 percent constituted the medium *Workplace Vulnerability* factor score, and 47.0 percent constituted the high *Workplace Vulnerability* factor score (see Table 21). Given the scale of this factor (*Not Important, Somewhat Important, Important, Most Important*), a participant who placed within a low-category group meant that the identified reasons for not reporting a workplace violation had the least impact on their current and future professional livelihood—and seemingly more workplace agency.

Table 21
Summary of Workplace Vulnerability Factor Scores
(*N=504*), *Standard Deviation = .85045998*

<i>Score</i>	Frequency (n)	Valid Percent
Low	176	34.4
Medium	95	18.6
High	240	47.0

Utilizing the above *Workplace Vulnerability* score as a means of comparison, and in regards to pan-ethnicity, the Black ethnic group had the highest percentage (66.7 percent) within the low category and the Arab ethnic group had the highest percentage (77.8 percent) within the highest category. Specifically, the majority (66.7 percent) of Black participants placed in the low category group and 33.3 percent were within the high category group. In contrast, the super majority of participants (77.8 percent) within the Arab ethnic group were in the high group, and 22.2 percent placed within the low category.⁵³

⁵³ There were no Arab participants that placed within the medium category.

The distribution for the other ethnic groups was as follows: Following the Arab ethnic group, Whites had the least number of participants in the low group (31.7 percent); 2) 18.9 percent were within the medium group; and the highest percentage of Whites were within the high scoring group (49.3 percent). In comparison, the majority of Asian participants (48.3 percent) placed within the high category, 20.7 percent of participants placed within the medium category, and 31 percent of participants placed within the low category. The majority (48 percent) of Latinx/Hispanic men participants placed within the low score group, 20 percent placed within the medium group, and 32 percent placed within high group. The Indian ethnic group had 34.1 percent with the low group, 18.2 percent within the medium group, and 47.7 percent within the high group. To illustrate comparisons across ethnic groups, the table below demonstrates the percentage of participants in low and high groups in relation to the average *Workplace Vulnerability* factor score:

Table 22
Factor Scores by Pan-Ethnicity (valid percent)

<i>Ethnic Groups</i>	Low Score	High Score
Average	34.4	47
Asian	31	48.3
Arab	22.2	77.8
Black	66.7	33.3
Latinx/Hispanic	48	32
Indian	34.1	47.7
White	31.7	49.3

Further interrogating *Workplace Vulnerability* by pan-ethnicity, scores were calculated by pan-ethnicity *and* gender. To that end, women had higher scores (more workplace vulnerability and less agency) compared to men. Specifically, the majority of women (53.5 percent) placed in the high score category, 20.8 percent placed in the medium category, and 25.7 percent placed in the low score category. Though the majority (42.6 percent) of men also placed within the high

category, 17.6 percent placed within the medium group, and 39.9 percent placed within the low score category. The placement and distribution among men and women also varied more distinctly across ethnic groups.

For example, Arab and Black men had significantly higher scores (more workplace vulnerability and less workplace agency) when compared to the other pan-ethnic groups. The super-majority (77.8 percent) of Arab men placed within the high score group and 22.2 percent of Arab men placed in the low group. Similarly, the super-majority of Black men (66.7 percent) placed in the higher group and 33.3 percent were placed in the low score group. Thereafter, Asian men also had a majority of participants (41 percent) in the high score group, 21.9 percent in the medium group category and 33.3 percent in the low category. The White men group had a similar distribution to Asian men, whereby the majority (40.8 percent) were in the high score group, 17.6 percent were in the medium group, and 38.4 percent were in the low score group. Though the Indian male pan-ethnic group had a similar percentage of participants in the high score category (40 percent), there were considerably less participants in the medium category (6.7 percent) and subsequently, 36.7 percent of Indian men were in the low score group.

The Hispanic/Latinx men group was the only group to have a higher percentage of participants (52.2 percent) in the low-score group compared to the high scoring group (30.4 percent), only 13 percent of Hispanic/Latinx men placed in the medium group. To illustrate, the table below demonstrates the high and low scores for men, by pan-ethnicity, and in comparison to the average men scores:

Table 23
Factor Scores by Pan-Ethnicity and Gender (valid percent)

<i>Men</i>	Low Score	High Score
Average	39.9	42.6
Asian	33.3	41
Arab	22.2	77.8
Black	33.3	66.7
Hispanic/Latinx	52.2	30
Indian	36.7	40
White	38.4	40.8

In comparison to men, the scores of women across ethnic groups also differed across pan-ethnic groups⁵⁴ and with the exception of Hispanic/Latinx women, the majority of pan-ethnic groups placed in the high score category (more workplace vulnerability and less workplace agency). For example, the super-majority of Asian women were in the high group (60 percent), 15.6 percent in the medium group, and 22.2 percent in the low group. Similarly, the majority of Indian women (47.4 percent) placed in the high score group, 31.6 in the medium group, and 21.1 percent in the low score group. In regards to White women, the majority (53.6 percent) also placed in the high score group, 18.8 percent were in the medium score group, and 21.4 percent were in the low group.

In contrast to Hispanic/Latinx men, the majority (41.4 percent) placed within the low group and 31 percent were in the high group, while 24.1 percent of Hispanic/Latinx women placed in the medium group. The table below illustrates the high and low scores for women, by pan-ethnicity, and in comparison to the average women scores:

⁵⁴ There were no Arab women and Black women participants.

Table 24
Factor Scores by Pan-Ethnicity and Gender (valid percent)

<i>Women</i>	Low Score	High Score
Average	25.7	53.5
Asian	22.2	60
Hispanic/Latinx	41.4	31
Indian	21.1	47.4
White	21.4	53.6

Workplace Vulnerability factor scores were computed by residency status and scores also varied across the different types of residency statuses. All residency statuses had the majority of participants in the highest score group (most vulnerable), with some variations across residency statuses. H1 B visa recipients had the highest number of participants (61 percent) in the high score category, with 14.6 percent in the medium category and 24.1 percent in the low score category. Thereafter, non-resident TN and OPT visa recipients had a similar distribution. Non-resident TN visa participants had the majority of participants (60 percent) in the high score group, 20 percent were in the medium group, and 20 percent were in the low score group. OPT non-resident visa recipients had 57.1 percent in the high score category, 24.5 percent were in the low category, and 18.4 percent were in the medium category. Surprisingly, Permanent Residents also had the highest number of participants in the high score category (55 percent), 20 percent in the medium score group, and 25 percent with the low score group. Among participants that became Permanent Residents during their postdoctorate (separate from other Permanent Residents), the majority (52.4 percent) of participants were within the high score group, 33.3 percent were in low group, and 14.3 percent in medium group. There was the most variability in the J1 visa recipient group, though the majority (43 percent) of J1 visa holders were in the high category, 18.9 percent within the medium category, and 38.1 percent were within the low

category. The J1 visa group had the most participants within the low-score group (least vulnerability) in comparison to the other residency groups. To illustrate, the table below compares and contrasts the high and low scores, by residency status, and in comparison to the average *Workplace Vulnerability* scores:

Table 25
Factor Scores by Residency Status (valid percent)

<i>Residency</i>	Low Score	High Score
Average	34.4	47
Permanent Resident	25	55
Became Permanent Resident	33.3	52.4
J1 Visa	38.1	43
H1 B Visa	24.4	61
Non Resident OPT Visa	24.5	57.1
Non Resident TN Visa	20	60

Finally, the *Workplace Vulnerability* factor scores were computed by the regions of the participants' country of origin. Of all the regions, Latin America, Oceania and Southern Europe were the regions whose majority of participants (42.5 percent, 50 percent, and 48.1 percent) was in the low score group (least vulnerability). The remaining regions had the majority of participants in the high score groups (highest vulnerability).

Specific to highest vulnerability, participants from the African region had the highest (most vulnerable) percentage within the high score group (66.7 percent) and 33.3 percent in the low group. Followed by a similar distribution between North America and Western Europe. North America had a distribution of 33.3 percent of participants in the low score group, 16.7 percent in the medium score group, and 50 percent in the high score group. Similarly, Western Europe had a distribution in which 33.3 percent of participants were in the low score group, 17.2 percent were in the medium group, and 49.5 percent within the high score group. The East and West Asian regions also had similar distribution, and both regions had the majority in the high

score group (45.6 percent and 52 percent). The remainder of the participants from the East Asia region were primarily in the low group (32.8 percent) and 21.6 percent were in the medium group. Similarly, 30 percent of West Asian participants were in the low score group and 18 percent were in the medium group. There was also a similar distribution between the Middle East and Eastern Europe. In which both regions had the majority of participants in the high score group (54.5 percent and 50 percent) and the similar percent of participants in the low score group (30.3 and 30 percent), with slight variation in the middle score group (15.2 percent and 20 percent). To illustrate, the table below compares and contrasts the high and low scores, by country of origin, and in comparison to the average *Workplace Vulnerability* factor scores:

Table 26
Factor Scores by Country of Origin (valid percent)

<i>Residency</i>	Low Score	High Score
Average	34.4	47
Latin America	42.5	30
North America	33.3	50
Middle East	30.3	54.5
East Asia	32.8	45.6
West Asia	30	52
Eastern Europe	30	50
Northern Europe	25	61.1
Western Europe	33.3	49.5
Southern Europe	48.1	40.4
Oceania	50	12.5
Africa	33	66.7

Workplace Supports Factor Score

The standard deviation of the *Workplace Supports* factor score was .8964737, and .25 of the standard deviation was 0.22411909. Respectively, 33.4 percent of survey participants constituted the low *Workplace Supports* factor score, 18 percent constituted the medium *Workplace Supports* factor score, and 48.6 percent constituted the high *Workplace Supports*

factor score (see Table 27). Given the scale of this factor (*Strong Disagree, Disagree Somewhat, Agree Somewhat, Agree Strongly*), a participant who placed within the high score group experienced better working conditions and had the necessary material resources to conduct their work tasks.

Table 27
Summary of Workplace Supports Factor Scores
(*N=527*), *Standard Deviation = .8964737*

<i>Score</i>	<i>Frequency (n)</i>	<i>Valid Percent</i>
Low	176	33.4
Medium	95	18
High	240	48.6

Utilizing the above *Workplace Supports* factor score as a means of comparison, and in regards to pan-ethnicity: the Black ethnic group had the highest percentage (66.7 percent) within the low category and the Arab ethnic group had the highest percentage (66.7 percent) within the highest category. Specifically, the majority (66.7 percent) of Black participants placed in the low category group and 33.3 percent were within the medium score group. In contrast, the majority of participants (66.7 percent) within the Arab ethnic group were in the high group, and 33.3 percent placed within the low category.⁵⁵ The Black pan-ethnic group was the only group to have the majority participants in the low score category, all other pan-ethnicities had the majority of participants in the high score group.

Following the Arab ethnic group, the Indian ethnic group had the least number of participants in the low group (29.2 percent), 14.6 percent within the medium group, and the highest percentage were within the high scoring group (56.3 percent). There was a similar low score distribution for Whites, in which 29.2 percent were in the low score group, 21.7 were in the

⁵⁵ There were no Arab participants that placed within the medium category.

medium group, and 47.2 percent were in the high score group. Though the Asian and Hispanic/Latinx pan-ethnic groups also had majorities within the high score group (44.7 percent and 52.9 percent), in comparison to the other groups they were the only two groups whose low scores were above the average (36.7 percent and 35.3 percent). In addition, the Asian pan-ethnic group had 18.7 percent in the medium category and the Hispanic/Latinx group had 11.8 percent in the medium score category. To illustrate comparisons across ethnic groups, the table below demonstrates the percentage of participants in low and high groups in relation to the average *Workplace Supports* factor score:

Table 28
Factor Scores by Pan-Ethnicity (valid percent)

<i>Ethnic Groups</i>	Low Score	High Score
Average	33.4	48.6
Asian	36.7	44.7
Arab	33.3	66.7
Black	66.7	0
Latinx/Hispanic	35.3	52.9
Indian	29.2	56.3
White	31.1	47.2

Further interrogating *Workplace Supports* by pan-ethnicity, scores were calculated by pan-ethnicity *and* gender. To that end, men (49.7 percent) had higher scores compared to women (46.2 percent), but the difference was not translated to the low group (see table 22), but instead women had more participants in the medium group compared to men (21.4 percent compared to 16.3 percent). The placement and distribution among men and women also varied more distinctly across ethnic groups.

In this category, Arab and Indian men had the highest percentage (66.7 percent and 60 percent) in the high score group. The remainder of Arab men were in the low category (33.3 percent) and Indian men had the lowest percentage in the low score group (23.3 percent); the

medium score group contained 13.3 percent of Indian men. Thereafter, White men had the highest majority of participants (47.2 percent) in the high score group, 32 percent were in the low score group, and 19.2 percent were in the medium score group. Though Asian and Hispanic/Latinx men also had the majority of participants in the high score group (45.7 percent and 56.6 percent), there were more participants in the low score group (38.1 percent and 30.4 percent) compared to the other ethnicities. In addition, Asian and Hispanic/Latinx men had the least number of participants in the medium group (16.2 percent and 8.7 percent, respectively). To illustrate, the table below demonstrates the high and low scores for men, by pan-ethnicity, and in comparison to the average men scores:

Table 29
Factor Scores by Pan-Ethnicity and Gender (valid percent)

<i>Men</i>	Low Score	High Score
Average	34	49.7
Asian	38.1	45.7
Arab	33.3	66.7
Black	66.8	0
Hispanic/Latinx	30.4	56.6
Indian	23.3	60
White	32	47.2

In comparison to men, the scores of women across ethnic groups also differed across pan-ethnic groups⁵⁶ and the differences between the men and women are more visible when comparing gender and pan-ethnic groups. Though all the women pan-ethnic groups had the majority within the high score groups, all high scores were below the average women’s high score. In addition, the women’s highest scoring group, Indian women (47.4 percent) was noticeably lower compared to the men’s high scores. To this point, Indian women also had one

⁵⁶ There were no Arab women and Black women participants.

of the larger percentages of women in the low score group (36.8 percent), and a small percentage in the medium group (15.8 percent). White women had a similar percentage in the high score (46.4 percent) group, with 24.1 percent in the medium group, and 28.6 percent in the low group. However, Hispanic/Latinx women had the highest percentage of women in the low score group (37.9 percent) and the least in the medium group (13.8 percent). Finally, 33.3 percent of Asian women were in the low score group, 24.4 percent in the medium group, and 42.2 percent in the high score group. To illustrate, the table below demonstrates the high and low scores for women, by pan-ethnicity, and in comparison to the average women scores.

Table 30
Factor Scores by Pan-Ethnicity and Gender (valid percent)

<i>Women</i>	Low Score	High Score
Average	32.4	46.2
Asian	33.3	42.2
Hispanic/Latinx	37.9	48.3
Indian	36.8	47.4
White	28.6	46.4

Workplace Supports factor scores were computed by residency status and scores also varied across the different types of residency statuses. The most stark contrast was the score distribution among nonresident TN visa holders, where 83.3 percent of participants were in the low-scoring group and only 16.7 percent were in the high score group. The TN visa holder group was the only resident group that had a majority of participants in the low-score group. Following the TN visa holder group, permanent residents had the second largest percentage in the low score category (44.4 percent) and 55.6 percent in the medium score category; there were no permanent residents that were in the high category. J1 visa holders and nonresident OPT visa holders had similar distribution. Among the J1 visa holders, 33.2 percent were in the low score

group, 18 percent were in the medium group, and 48.8 percent were in the high score group. OPT visa holders had 32.7 percent in the low group, 19.2 percent in the medium group, and 48.1 percent in the high group. Similarly, the H1 B visa group had 33.3 percent in the low group, 21.4 percent in the medium score group, and 45.8 percent in the high score group. However, it was participants that became permanent residents during their postdoctorate that had the highest percentage in the high score category (50 percent), 22.7 percent in the low category, and 27.3 percent in the medium category. To illustrate, the table below compares and contrasts the high and low scores, by residency status, and in comparison to the average *Workplace Supports* scores:

Table 31
Factor Scores by Residency Status (valid percent)

<i>Residency</i>	Low Score	High Score
Average	33.4	48.6
Permanent Resident	44.4	0
Became Permanent Resident	22.7	50
J1 Visa	33.3	48.8
H1 B Visa	24.4	45.2
Non Resident OPT Visa	32.7	48.1
Non Resident TN Visa	83.3	16.7

Finally, the *Workplace Supports* factor scores were computed by the regions of the participants' country of origin. With the exception of the African and Oceania regions, the majority of participants within the other global regions were in the high score category. The African region had 100 percent of participants in the medium score group. The Oceania region had an equal number of participants in the low and high score group (37.5 percent).

Although there were variations among the regions and most of the global regions had the majority within the high score groups, it should be noted that these global regions were below the average within the high score group: East Asia, Northern Europe, Western Europe and

Oceania. Specifically, 35.4 percent of East Asian participants were in the low group, 17.3 percent were in the medium score group, and 47.2 percent were in the high score group. Northern Europe had 33.3 percent in the low score group, 25.6 percent in the medium score group, and 41 percent in the high score group. In comparison, West Asia had 56.4 percent in the high score group, 14.4 percent in the medium group, and 27.3 percent in the low group. The other European regions were as follows: 1) Eastern Europe had 30 percent in the low group and 70 percent in the high group; 2) Southern Europe had 31.5 percent in the low group, 16.7 percent in the medium group, and 51.9 percent in the high group. In addition to regions of Europe having high scores, Latin America and the Middle East also had the majority of participants well above the average high score. The Latin American participants had 63.4 percent in the high score category, 9.8 percent in the medium score category, and 26.8 percent in the low score category. North America had 53.8 percent in the high score category, 7.7 percent in the medium category, and 29 percent in the low score category. The Middle East had 29 percent in the low score category, 9.7 in the medium category, and 61.3 percent in the high category. To illustrate, the table below compares and contrasts the high and low scores, by regions, and in comparison to the average *Workplace Supports* scores:

Table 32
Factor Scores by Country of Origin (valid percent)

<i>Residency</i>	Low Score	High Score
Average	33.4	48.6
Latin America	26.8	63.4
North America	38.5	53.8
Middle East	29	61.3
East Asia	35.4	47.2
West Asia	27.3	56.4
Eastern Europe	30	70
Northern Europe	33.3	41
Western Europe	36.6	38.6
Southern Europe	31.5	51.9

Oceania	37.5	37.6
Africa	0	0

Analysis of Variance with Post Hoc Test and Independent Sample T-Test

Campus Climate for Migrant Postdocs

To further understand the effect of *Campus Climate for Migrant Postdocs* on the aforementioned independent variables, the Analysis of Variance (ANOVA) with Post Hoc Tests were conducted. The ANOVA analysis was conducted to analyze the differences among and between groups, determining whether there were any statistically significant differences between the independent variable (pan-ethnicity, residency status, and country of origin). To understand the significance difference between variables and compare each condition with all conditions, Post Hoc Tests were computed for all statistically significant differences. Typically, a one-way ANOVA is used for three or more categorical independent groups and independent sample t-test are commonly used for two groups. Therefore, independent sample T-tests were conducted to compare Migrant Identity/Campus Climate for men and women, the gender independent variable.

A one-way between subjects ANOVA was conducted to compare the effect of pan-ethnicity on *Campus Climate for Migrant Postdocs*. There were no statistically significant differences between pan-ethnic groups (Asian, Arab, Black, Hispanic/Latinx, Indian, and White) on Migrant Identity/Campus Climate. These results suggest that pan-ethnicity does not have an effect on *Campus Climate for Migrant Postdocs*.

An independent-sample T-test was conducted to compare *Campus Climate for Migrant Postdocs* in men and women. There was a significant difference in the score for men (M=

.0902514 SD = .82865740) and women (M= -.1261463 SD= .88292615); $t(477)=2.7$, $p=.007$.

The results suggest that men have higher (more positive) *Campus Climate for Migrant Postdocs* scores compared to women.

A one-way between subjects ANOVA was conducted to compare the effect of residency status on *Campus Climate for Migrant Postdocs*. The means difference (MD) was statistically significant differences between residency statuses at the $p < .05$ level. Post hoc comparison using the Tukey HSD test indicated that the means difference in comparison to J1 visa holders was statistically significant ($p = .02$) in comparison to H1 B visa (MD= .43142599 $p < .02$), OPT visa (MD= .12115971 $p = .02$) (MD=.38491664 $p < .02$), and TN (MD= 1.29607195 $p = .007$) visa holders. Specifically, the findings suggest that H1 B, OPT, and TN visa holders had a lower (more negative) *Campus Climate for Migrant Postdocs* than the J1 visa holders.

A one-way between subjects ANOVA was conducted to compare the effect of country or origin on *Campus Climate for Migrant Postdocs*. There were no statistically significant differences between countries of origin (Latin America, North America, Middle East, East Asia, West Asia, Eastern Europe, Northern Europe, Western Europe, Southern Europe, Oceania, and Africa) on *Campus Climate for Migrant Postdocs*. These results suggest that country of origin does not have an effect on *Campus Climate for Migrant Postdocs*.

Workplace Supports

To further understand the effect of *Workplace Supports* on the aforementioned independent variables, the Analysis of Variance (ANOVA) with Post Hoc Tests were conducted. The ANOVA analysis was conducted to analyze the differences among and between groups, determining whether there were any statistically significant differences between the independent

variable (pan-ethnicity, residency status, and country of origin). To understand the significance difference between variables and compare each condition with all conditions, Post Hoc Tests were computed for all statistically significant differences. Typically, a one-way ANOVA is used for three or more categorical independent groups and independent sample t-test are commonly used for two groups. Therefore, independent sample T-tests were conducted to compare *Workplace Supports* for men and women, the gender independent variable.

A one-way between subjects ANOVA was conducted to compare the effect of pan-ethnicity on *Workplace Supports*. There were no statistically significant differences between pan-ethnic groups (Asian, Arab, Black, Hispanic/Latinx, Indian, and White) on *Workplace Supports*. These results suggest that pan-ethnicity does not have an effect on *Workplace Supports*.

An independent-sample T-test was conducted to compare *Workplace Supports* in men and women. There were no significant differences in the scores for men and women. The results suggest that gender does not have an effect on *Workplace Supports*.

A one-way between subjects ANOVA was conducted to compare the effect of residency status on *Workplace Supports*. The means difference (MD) was statistically significant between residency statuses at the $p < .05$ level. Post hoc comparison using the Tukey HSD test indicated that the means difference in comparison to TN visa holders was statistically significant (MD = 1.39322545 $p=.004$) when compared to participants that became permanent residents (MD= -1.37834748 $p = .011$), J1 visa holders (MD= -1.36797903 $p= .003$), H1 B visa (MD= -1.28957310 $p=.013$), and OPT visa holders (MD= -1.39322545 $p=.38441027$). Specifically, the findings suggest that TN visa holders had better workplace supports to conduct their job duties, when compared to J1, H1 B, and OPT visa holders.

A one-way between subjects ANOVA was conducted to compare the effect of country or origin on *Workplace Supports*. There were no statistically significant differences between countries of origin (Latin America, North America, Middle East, East Asia, West Asia, Eastern Europe, Northern Europe, Western Europe, Southern Europe, Oceania, and Africa) on *Workplace Supports*. These results suggest that country of origin does not have an effect on *Workplace Supports*.

Workplace Vulnerability

To further understand the effect of *Workplace Vulnerability* on the aforementioned independent variables, the Analysis of Variance (ANOVA) with Post Hoc Tests were conducted. The ANOVA analysis was conducted to analyze the differences among and between groups, determining whether there were any statistically significant differences between the independent variable (pan-ethnicity, residency status, and country of origin). To understand the significance difference between variables and compare each condition with all conditions, Post Hoc Tests were computed for all statistically significant differences. Typically, a one-way ANOVA is used for three or more categorical independent groups and independent sample T-test are commonly used for two groups. Therefore, independent sample T-tests were conducted to compare *Workplace Vulnerability* for men and women, the gender independent variable.

A one-way between subjects ANOVA was conducted to compare the effect of pan-ethnicity on *Workplace Vulnerability*. There were no statistically significant differences between pan-ethnic groups (Asian, Arab, Black, Hispanic/Latinx, Indian, and White) on *Workplace Vulnerability*. These results suggest that pan-ethnicity does not have an effect on *Workplace Vulnerability*.

An independent-sample T-test was conducted to compare *Workplace Vulnerability* in men and women. There was a significant difference in the score for men ($M = -.1097753$ $SD = .98982982$) and women ($M = -.1547755$ $SD = .88284011$); $t(496) = -3.058$, $p = .002$. The results suggest that women have more workplace vulnerability (less workplace agency) compared to men.

A one-way between subjects ANOVA was conducted to compare the effect of residency status on *Workplace Vulnerability*. The means difference (MD) was statistically significant between residency statuses at the $p < .05$ level ($p = .012$). However, in the Post hoc comparison using the Tukey HSD test did not indicate any statistically significant means differences. This was likely to be a result of the small, uneven sample sizes. The smallest group is too small to compare and so the overall ratio of between and within group variation is significant. However, when partitioning these variance components into six groups, the power to detect the difference was low even if the assumption of homogeneity of variance is met.

A one-way between subjects ANOVA was conducted to compare the effect of country or origin on *Workplace Vulnerability*. There were no statistically significant differences between countries of origin (Latin America, North America, Middle East, East Asia, West Asia, Eastern Europe, Northern Europe, Western Europe, Southern Europe, Oceania, and Africa) on *Workplace Vulnerability*. These results suggest that country of origin does not have an effect on *Workplace Vulnerability*.

Experienced Labor Violations

Upon establishing the composite score (see *Key Variables*) the sum total of actual experienced workplace violations was operationalized and participants were placed into three

workplace vulnerability groups. The status of having experienced no workplace violation placed the participant in the low workplace vulnerability group, the status of having experienced one workplace violation placed participants in the medium vulnerability group. The status having experienced one or more workplace violation placed participants in the high vulnerability group. As such, the majority (74.4 percent) of participants were in the low workplace vulnerability group, 13.3 percent of participants (n=73) were in the medium workplace vulnerability group, and 12.3 percent of participants (n=68) were in the high vulnerability group. Note that the workplace violations among the high vulnerability group was as follows: 4.9 percent of participants (n=27) had experienced two workplace violations, 3.8 percent of participants (n=21) had experienced three workplace violations, 2.5 percent of participants (n=14) had experienced four workplace violations, .7 percent of participants (n=4) had experienced five workplace violations, .2 percent of participants (n=1) had experienced six workplace violations, and .2 percent of participants (n=1) had experienced eight workplace violations. The table below outlines the demographics for each workplace vulnerability group.

Table 33
Experienced Labor Violations (N=550)

<i>Number of Labor Violations</i>	N	Valid Percent	Vulnerability Group
0	409	74.4	Low
1	73	13.3	Medium
2	27	4.9	High
3	21	3.8	High
4	14	2.5	High
5	4	0.7	High
6	1	0.2	High
8	1	0.2	High

Among the survey participants, 21 percent of participants (n=118) volunteered to be contacted for in-depth interviews. The majority of participants (70 percent) who volunteered

were in the low vulnerability group (n=83), 16 percent in the medium vulnerability group (n=19), and 14 percent in the high vulnerability group (n=16). Of the participations contacted for in-depth interviews, 26 participants agreed to be interviewed and a total of 12 low vulnerability, 9 medium vulnerability, and 5 high vulnerability in-depth interviews were conducted.

Open Ended Survey Findings

In contrast to the positive workplace assessment in the quantitative findings, the majority of open-ended responses illustrated the extent to which working conditions were unfavorable. The majority of qualitative data either described an actual workplace violation experienced or explained how the workplace dynamics were inherently disempowering to (international) postdocs—perpetuating their vulnerability within the workplace. It is particularly significant to note that when participants stated something positive of their own working environment, the participants also acknowledged that they were fortunate to have those working conditions and/or supportive relationship with their PI because they understood the inherent vulnerability of their international status or the power/influence of the Principal Investigator. As an example one participant stated, “Although I am happy with my PI, and he treats everyone equally, in theory with a J-visa, if you fail you should also leave the country, which puts additional pressure on internationals. We do not have the option to change labs since we would need to go back home [country of origin] for years due to the [visa] regulations.”

Experienced workplace violations were egregious in nature. As examples, “My PI is emotionally abusive” and “none of my paperwork to start payroll and acknowledge my postdoc position was completed prior to my start-date. In fact, I am receiving back-pay for the 3.5

months that I worked without pay and benefits.” Among the workplace violations, the unexpected and early termination of their contract was the most cited. The workplace violations not only spoke to the challenges that participants had to endure, but also indicated that that workplace violations have repercussions beyond their immediate surroundings. For example, being without pay or having a contract terminated unexpectedly immediately compromises home life and residency.

Phrases such as, “I have seen before that J1s [visa] are totally at the mercy of the PI and the repercussions are horrible with no hope for redress,” and “Come on, it’s obvious that they [PIs] are have more leverage since they keep is so insecure about our present status,” are examples of experienced workplace dynamics that perpetuate vulnerability. These statements also illustrated the ways in which participants understood their limited workplace agency and/or the implications of their residency status.

The findings from qualitative survey data were utilized to construct the interview protocol (see Appendix C, *Interview Protocol*) so as to support the examination of workplace challenges that were not explicitly considered in the survey. The qualitative survey findings were certainly in contrast to the descriptive analysis, suggesting that further examination of key concepts was necessary to understand the complexity of workplace experiences.

Conclusion

From the onset, the quantitative findings indicated that though the majority of participants had favorable perceptions about their workplace, the topic of immigration support was identified as a salient need. In addition, favorable workplace experiences were interrogated when workplace labor violations were identified and the super-majority of participants indicated

though they felt comfortable reporting labor violations, in actuality their workplace agency was compromised should they actually need to report labor violations. These findings spoke to the power dynamics that remain within the workplace and would prevent self-advocacy, regardless of favorable workplace experiences.

The Exploratory Factor Analysis and Factor Scores further confirmed that migrant identity formation, and subsequently their experienced campus climate, was a disparate and variable experience for: men, women, pan-ethnic groups, residency status groups, and global regions. Statistically significant differences and effects were identified within and across demographic groups. Specific to migrant identity, men had better migrant identity and campus climate experiences when compared to women and there were disparate migrant identity experiences according to the participants' residency status. Similarly, there were also statistically significant differences according to the participants' residency status in regards to workplace supports received. Unfortunately, in addition to having a less positive migrant identity and campus climate experience, women also had less ability to self-advocate when compared to men. And though the statistically significant differences within residency status could not be determined for workplace vulnerability, residency status was statistically significant. These findings reveal how residency statuses can also permeate across workplace experiences and the added challenges that women experience in the workplace when compared to men.

Though the main purpose of the qualitative survey findings were utilized to inform the construction of the interview protocol, the theoretical frameworks and particularly the transformative research design, necessitates that these findings be regarded as equally significant when assessing general findings. This form of reflexivity during the data analysis helps ensure

that marginalization of experiences are not perpetuated within this research study, and as a means to recognize marginal perspectives throughout the research process. Themes that emerged in the qualitative survey findings section were developed at length in the following qualitative findings chapter.

CHAPTER FIVE: QUALITATIVE FINDINGS

Introduction

The qualitative findings from the in-depth interviews were extensive and intersectional in nature. As such, this section is organized to demonstrate how the qualitative findings related to one another and expand upon topics introduced through the quantitative findings. I first present the *Spectrum of Vulnerability* to identify salient workplace vulnerabilities embedded within the postdoctorate and throughout the employment cycle. In this section, I utilize the word *spectrum* to confirm a broad range of varied but related experiences. The phrase *spectrum of vulnerability* indicates that vulnerability is not an isolated event, but rather vulnerability can be a continuous experience that has cumulative consequences. The following section titled, *From Vulnerability-to-Oppression-Abuse*, demonstrates how these vulnerabilities can lead to the IPDs oppression and/or abuse. Recognizing the multidimensionality of worker experiences, this section explores the characteristics of each vulnerability group (low, medium, and high), and identifies both discouraging and affirmational workplace experiences. The ensuing section titled *Respective Residency and Preferred Residency* provides in-depth information about the participants' residency status and the ways in which their experiences as migrants are contextualized within workplace challenges. The section titled, *Migrant Identity*, synthesizes the totality of the participants' experiences as relating to the process of migrant identity formation. The *Conclusion* section serves to illustrate the range of qualitative findings that are discussed in preceding sections and summarizes the key points established in this chapter.

The Spectrum of Vulnerability

Participants began their academic migrant narrative by describing the circumstances that led them to apply to their UC postdoctoral position. They explained what was required of them to successfully transition into their UC work life. Participants also had the opportunity to describe any work-related challenges they encountered prior and during their postdoctoral appointment, including how they would manage a fictional egregious workplace violation as a UC postdoctoral scholar and/or how they managed actual workplace violation(s) that occurred during the time of their employment. As such, the findings demonstrated that participants generally found themselves in vulnerable workplace-related situations at some point during their postdoctoral appointment.

Typically, instances of vulnerability occurred: during the job application process, when finalizing their hiring paperwork, when engaging in an international relocation, when contemplating having to advocate for oneself in the workplace, and the possible consequences of having to assert their rights within the workplace post a workplace violation (actual or not). Note that 12 (low vulnerability group) of the 26 interview participants did not experience a workplace violation per se, but among the low vulnerability group, 10 participants experienced some form of vulnerability during their UC postdoctoral appointment (i.e., microaggressions, gender bias, visa-related challenges, and covert forms of anti-immigration sentiments on behalf of university administrators). The two participants that did not experience any instances of workplace vulnerability during their UC appointment acknowledged that they were fortunate to have had such a positive workplace experience. However, both participants had either witnessed or heard of instances in which PIs and/or university administrators had treated postdocs unfairly and/or created a work culture that was not supportive of the workforce.

The Initial Process of Employment and International Challenges

Vulnerabilities experienced during the job application process and when finalizing their hiring paperwork generally pertained to the majority of postdoctoral scholars either not feeling empowered to discuss/negotiate the terms of their employment and visa status and/or not being sufficiently informed about the terms of employment and implications of their visa status prior to their postdoctoral appointments. Generally, participants who did not feel empowered to negotiate or discuss at length the terms of their employment echoed sentiments such as, “I was just sent a document to fill out and I didn’t feel it was my place to ask more questions than the information I was given.” Relatedly, participants spoke about how not having access to information and/or not being able to negotiate the terms of their employment seemed to be the standard procedure. The quote below illustrates how circumstance, a lack of agency, and limited understanding of the process can influence various aspects of workplace vulnerability from the onset:

When I received my appointment, I did see that the salary was a bit lower than what I had [in my home country]. I had no idea about visas in the U.S...they [the PI and university administrators] just gave me the option for a J1 visa. I didn’t think about that and I didn’t pay attention. Negotiating [a salary and visa] is not that easy for me. I did not do much research before I received my postdoc. This was my only offer and I just accepted. My coworker is also from my home country and he also accepted the situation as it was. You have the chance to choose how long you want your visa for when you apply, and if I could go back, I would choose to have the visa for five years [as opposed to one year].

Similar sentiments were also expressed regardless of how smoothly all other aspects of the employment process had gone and/or the type of rapport established with their prospective PI during the interview process. To illustrate, a participant described the positive impression of his supervisor during the hiring process stating, “Ultimately, I was very impressed with my current boss. What favorably stood out about the situation, is that two days after the interview he sent me an email saying, “Everybody really liked you at the lab. If you want, we can continue to

discuss potential projects by email. I really want to make you an offer and it would be the standard UCSF package.” Though the supervisor, “laid out the cards on the table” and this IPD had a “very clear offer,” the supervisor did not provide space for negotiations. As the participant also described the following:

However, the UC application process did not mention the J1 visa. So for me, there was never a question of what type of visa I would prefer. No one asked me, are you thinking of staying in the U.S.? Nobody ever asked me what my intentions were. It was like, you are going to get a J1 visa. I guess I didn’t have the guts to really ask for it because if I ask for too much, that option would be off the table. I know that other postdocs that work at different institutions had been sponsored before by an H1 visa, but I didn’t know anyone that was on a H1 at UCSF and I didn’t know their policies. Honestly at the time, I wasn’t quite clear what the difference between the visas really was. Just like, oh whatever, I’ll have a visa.

The majority of participants that did not have previous experience living in the U.S. and engaged in an international relocation experienced additional vulnerabilities. This was in part due to the increased costs of relocation, accompanying challenges in establishing residency, experiencing various forms of culture shock, and being more likely to experience isolation (especially if relocating without a family and/or a partner). To illustrate, another participant did not feel empowered to negotiate her terms of employment because the PI communicated that she was receiving the standard amount set by “internal departmental policies.” In telling her employment experience, the participant outlined the significance an international relocation had on all aspects of life, stating, “There’s quite a few steps in regards to an international relocation. First, you have to do research on how things work here in the U.S. because insurance, retirement, and taxation are all different.” During the international relocation process, this participant also experienced identity theft and heightened feelings of isolation when experiencing challenges related to an international relocation:

As an international, you’re not aware of the different opportunities that exist and don’t necessarily know the details of how your visa is going to work. It is also a very lonely

process. When you come to another country, you don't have that many academic contacts either. In my home university, I know several professors and I can talk to them, but here not so much. Isolation happens a lot during the first year. You don't know that many people. It takes a lot of time to meet people and make friends...you don't tell other people that you are overwhelmed and you may be the only person from your culture. Generally, there's very few people you can share good or bad things with.

Moreover, vulnerabilities were compounded when the IPD's familial status, personal finances, and previous work experiences limited their agency. A participant recalled how desperate her situation was prior to accepting her UC postdoctoral appointment and the ways in which her personal circumstances perpetuated her vulnerability:

I took the job without knowing how much salary I was going to make. I only realized how much I was going to make when I was in the Bay Area...The problem is that when you are in despair, this is your one chance and negotiating a visa or salary does not matter. There were no jobs in my home country. No jobs period. When I finished my doctoral degree, it was the peak of the financial crisis. I was applying for anything I could find. Even though I was highly educated, everything I was applying to was a rejection...So when I got an email from the UC PI asking me if I was still interested, I was like, sign me up! I'll do it for free. I just want to go.

Another participant, though seemingly in a less vulnerable situation than the previous example, demonstrated how much more costly and subsequently vulnerable the relocation is when an IPD has to factor in familial costs:

When we arrived to the U.S., I had my oldest son and he was two and a half years old at that time. My husband also didn't have a job because we relocated for my postdoc. He was going to look for something and so it was just going to be my salary until we could find something for him. We were looking for daycares and it was very expensive...and on top of that, you're arriving from a new country. You have to figure out where you are going to live and rent is very expensive...In the beginning I was earning about \$2,800.00 a month and the daycare was bit more than \$1,000.00. This was less than 50 percent of my salary, but it was still a significant amount of money.

Related to this phase of the work process, the majority of the participants' previous employer (or in the case of recent graduates, their doctoral advisor) oftentimes facilitated the professional connection between them and their prospective PI. Although this topic was not central to the

interview protocol, the data suggests that these circumstances could complicate matters if the IPD were to voice dissatisfaction during the hiring process.

Conversely, participants who experienced these vulnerabilities to lesser degrees recognized how their personal and/or migrant agency facilitated the process despite their vulnerabilities and challenges encountered. For example, participants who were in the U.S. prior to beginning their UC postdoctoral experience spoke about the cost of relocation and the difficulties of adjusting to a new university setting, while acknowledging that it was much more manageable compared to colleagues who had to relocate from a foreign country. Illustrative of the different migratory experiences, participants noted how challenges and vulnerabilities varied according to where an IPD was from. For example, a participant shared:

The funding aspect is probably the biggest issue for internationals. If you are an international academic, you are not going to be eligible for a lot of these funding packages...I'm lucky in that I am from [a country in Asia] where there is no visa retrogression. I applied for an H1 visa after I got my PhD and it came very quickly, it got approved in about a month. However, for candidates who are from China, India, or Mexico obviously the same situation does not apply to them. They have to wait a much longer period and then they are not going to be able to start when professor wants them to start. Subsequently, they are all of a sudden not as desirable for that position. I think those are things that you have to consider if you are international that you wouldn't have to worry about if you are a U.S. citizen. Generally, things run smoother for me because of the relationship the U.S. has with my home country. The three countries that I mentioned—China, India, and Mexico—have a different waiting period and I'm not sure what each individual step entails but those international postdocs have to jump through more hoops in general.

In addition, participants recognized how socioeconomic status, English fluency, supportive immigration policies between their home country and the U.S., and/or access to a network within their host campus made the difference between their situation(s) being difficult or manageable. For example, a participant who did not receive institutional support in her international relocation explains why the transition was manageable:

I would say there was no [institutional] support about living or finding an apartment. They [university administrators] directed me to the website for international students. In the beginning I was moving a lot, I am not from the U.S. but I have no problem communicating and interacting. Yes, I knew my way around and had the money, but I would say there was no support.

Similarly, another participant who relocated within the U.S. to begin his appointment highlights how his personal agency made for a much more positive experience, stating, “I didn’t necessarily expect anything from my transition from one city or the other. I don’t have kids, so I don’t have those type of needs that are very important for other people. My wife had a job in the Midwest...I basically came here independently without any responsibilities.” In recalling his personal circumstances, the participant acknowledged his privileged position in having to only provide for himself. These two examples demonstrate how similar vulnerabilities were still present during the initial phase of their job appointment, and how participants were able to negotiate vulnerabilities with greater ease due to their personal and migratory agency.

This section highlights the common circumstances that IDPs find themselves prior to securing employment and power structures that exist during the employment negotiating process. In this phase of the employment process, the PI is the source of information and directly or indirectly communicates with the postdoc what aspects of employment are subject to negotiation. In the early stages of negotiation, the super majority of postdocs did not have access to information about an international relocation and its implications on their livelihood, as the postdocs were first and foremost concerned with securing employment. Note that at the UC there is no “standard package” in regards to salary or visa, rather there are salary minimums established by the labor union and the Principal Investigator is of course able to employ postdocs above the minimum salary scale. With that in mind, it is important to consider that at this phase of the employment process a postdoc is establishing a relationship with their PI, to engage in

negotiation and/or question the accuracy of information provided could risk their employment opportunity. Therefore, the power structure between postdoc and PI is evident from the beginning of the employment process and this is of consequence to the IPD and their livelihoods.

Employment and Self-Advocacy

Another common vulnerability were participants' anxieties around their ability to self-advocate in the event of a workplace labor violation. All participants spoke about what was at stake: namely, how the incident could compromise their letter of recommendation from the PI and/or possibly poison the small professional network that they shared with their PI. The majority of the participants believed that the university would be unsupportive of them advocating for themselves due to either personal experience, witnessed accounts, and/or incidents that they had heard about from colleagues. In addition, postdocs who were on temporary work visas discussed how a conflict with their employer could possibly terminate their U.S. residency and place additional financial costs and stresses. Exemplifying the difficulties of having to potentially advocate for oneself at work, a participant explained:

The labor violation would probably have to be pretty big for me to do something. My PI is very well known and he is quite famous. If you damage your relationship with him, you can't depend on references and stuff like that. Also all my work is more or less a collaboration with my PI, so if our relationship totally disintegrated then that would become an extremely complicated work situation. My PI is a good PI, but if I was in that scenario, it would be a lose-lose scenario. You can say nothing and sacrifice your well-being or you can take a stand against it and risk considerable damage to your career prospects. Academia is still so personal. References carry a lot of weight.

This participant also went on to explain how these dynamics in the workplace made her feel like she was not part of the "university's larger structure" and that she "wouldn't feel the university had my back in any way." Further perpetuating this belief was the recent and very public case of Dr. Geoff Marcy, a world-renowned astronomy professor who had repeatedly violated the

institution's sexual harassment policies at the University of California (Macy, 2015). The participant explained how the lack of institutional response confirmed that workplace violations are not taken seriously on behalf of the administration, stating, "There's the whole thing with the astronomy professor who was a serious sexual harasser and when it came to light the university tried to bury it and gloss over it, as opposed to really address the issue." Similarly, another participant echoed the sentiment of how advocating for oneself would impede professional development and implicate the future career of the IDP, stating, "Unfortunately, if it comes to filing a report, it essentially means that your career in science is over the minute you have to get your boss in trouble. Getting your boss in trouble with the department board, or worse the international scientific society, will not help your scientific career." This participant also references Dr. Marcy's sexual misconduct as an example:

It just happened at UC Berkeley [regarding the infamous sexual harassment case against the internationally recognized astronomer and Professor Emeritus Geoff Marcy], even though people were so brave to speak out and they were congratulated for speaking up, it will not help their scientific career. Even if they get jobs, they will be on the ticket as, "oh, that poor person who got sexually harassed." If you file a report, it's going to be really hard to be judged for scientific work that you do...attention during the early career path that is out of the ordinary is harmful for your scientific career and it will be perceived to have been brought on by you. It will be a downfall and it will give you the wrong kind of attention. People will know about you and it will stick with you.

The findings indicate that the most referenced "cost" of having to advocate for oneself was the possibility of having to "start over." To varying degrees, the participants explained under which circumstances it would be a worthwhile process to engage with, including why the cost would outweigh the benefits and/or how their temporary residency status would limit their ability to engage in self-advocacy. For example:

If an egregious labor violation happened to me, I think I'll just stop working there and just leave. I wouldn't file complaint because you are linked to the visa and with J1 visa there's no room for moving around. Again, if you want to stay in your research field, you

need the connections. So in this imagined situation, I would probably just leave and I wouldn't file the complaint. It's just a lot of bureaucracy and I wouldn't like to do that. In my case, I would have a place to come back or something to come back to. Maybe I would try to file in my home country, but I have family friends in different countries so for me it would just be easier to start somewhere else with the support of family and friends.

Perhaps most concerning was that some participants, regardless of their current relationship with their PI, self-examined the different *degrees* of violations they would endure. For consistency sake, when I spoke about a potential workplace violation, I always gave the example of their PI sexually harassing them “to the point that they had to advocate for themselves.” This would oftentimes start a discussion of, “what do you mean by sexual harassment...like inappropriate touching or just a few comments?” which would oftentimes lead to, “well, if it's just comments, I would put up with that” or “I could assert myself without involving anyone.” This logic indicated that IPDs were willing to endure degrees of violations to a certain extent because the stakes were too high. For example, a participant stated:

If I was in a problematic situation between me and the PI, and even though the university claimed that it will protect me in filling this complaint, I would still be very hesitant to file a complaint. I know of others who were very hesitant because it would have affected their job situation. They might not even be able to finish their postdoc appointment even if it is found that the PI was sexually harassing the postdocs. You have to be on good terms with the PI while you work in the lab, otherwise it becomes hell if such animosity has occurred between the PI and postdoc...I know of some of us who have been, reluctant to report because they think it would be detrimental to their job. We have to remember the job is temporary and they might be out of the job in let's say no more than two years. So it's like, okay I'll just buy my time and not report it because it is not worth the risk. It would have to be something extreme, and I would rather work with a boss who was slightly obnoxious or slightly sexually harassing me then doing something about it. At the end of the day, it would cost me too much. I wouldn't get a letter of recommendation which is something that is really, *really* important.

The following example, further highlights the concessions IPDs have to make to retain their job and remain in the U.S. This particular quote is from a participant whose son is also on her J1 visa. Prior in the interview she had also acknowledged how being without a job would

subsequently imply that her son would also have to leave the country immediately. The disruption of their life was not just limited to her, but her son's life as well (i.e., school, friends, being with the father, etc.):

If something like sexual harassment happened to me, and if I had to report, it would change everything. It would probably mean that you would leave the lab and you'd pretty much lose your job. I don't know if you report something that means your PI is going to get punished or not or what the punishments are. Regardless, I think if something like that happens, then it would be very uncomfortable for me if I were to report it and stay working for the PI. I guess in my case, if I experience something like that and I decided to report it would probably mean that I would lose my job. Then I guess in that case, I would decide to not report it. I would think, you would just have to put up with it and continue with your job.

These and other examples are illustrative of the complex terrain IPDs have to navigate in just thinking about the possibility of self-advocacy post an egregious labor violation. Evidently, the possibility of having to advocate for themselves was additionally burdensome for an international population that is dependent on the goodwill of the PI as a personal and professional lifeline.

In the next section, I review how participants experienced oppression and/or abuse during their UC postdoctoral appointment, within their respective vulnerability groups (low, medium, and high). In these cases the participant is no longer a victim of circumstance or inherent vulnerability, but rather, the workplace dynamics permitted the PI and/or university administrator to take advantage of their position to the detriment of the IPD. However, to account for the totality of experiences, I include affirmational work experiences respective to each vulnerability group.

Low, Medium, and High Vulnerability Groups: From Vulnerability-to-Oppression and Abuse

In this section I introduce two concepts, *oppression* and *abuse* as an extension of the *spectrum of vulnerability*. The defining distinction between the terms *vulnerability* and *oppression* pertains to the moment when participants felt that they did not have the agency to advocate for themselves at work. This feeling was oftentimes referenced when a participant had to endure a workplace indignity and/or violation for the sake of protecting their professional and personal interest. As such, I utilize the word *abuse* to reference labor violations that participants had to endure as a result of their experienced workplace vulnerability.

It is important to distinguish workplace vulnerability from the terms abuse and oppression to support the examination of workplace power dynamics and the different characteristics of each workplace-vulnerability group (low, medium, high). The characteristics of workplace-vulnerability groups are described below, including types of oppression and abuse experienced. To this end, the majority of in-depth interviews included both positive and negative experiences of their UC postdoctoral appointment. In an effort to support the multidimensionality of workplace experiences, each vulnerability-group also includes the characteristics of affirmational experiences for participants within each category.

Low Vulnerability Group

12 participants comprised the low-vulnerability group and did not technically⁵⁷ experience any labor violations. Their low-vulnerability status was confirmed during the interview process, and participants agreed that ‘low-vulnerability’ correctly described an aspect

⁵⁷ As outlined in the postdoctoral labor union contract and per the results of their workplace experience survey.

or the totality of their experience. However, despite their acknowledged status and seemingly “good” workplace experiences, the low-vulnerability group also had the most variability in regards to the type of workplace experiences. Variability of experiences ranged from idyllic to experiencing ongoing degrees of work-related stress and/or concerns.

For example, participant who had a supportive relationship with her PI, described how “accepted” gender dynamics within a “good” lab still caused a significant amount of tension and uncomfortability, stating, “So there is a lot of diversity in my lab and there are a lot of women, but the PIs are all men. They want to send a positive message about how they hire so many women, but the reality is...we’re all under you.” The participant went on to describe behaviors and attitudes from the PI that did not promote inclusion, despite the diversity of the lab, stating:

What I feel is this attitude that lets me know I am very lucky to be here...there is this club mentality here. I got into this huge fight with one of my PIs...I just gave up in trying to convince him of anything. This made me think a lot about women who go into science and what makes it difficult. You can be accused of being aggressive and forceful, but then you get this other problem and get accused of being too pushy. I can’t win.

In contrast, another participant explained how she had a supportive relationship with her male PI, stating, “My PI is not demanding and that’s an important difference. I value very much that he was always very grateful if we had to work during the weekends. My relationship with him is great...so we can ask each other for things.” However, despite having this favorable relationship with her PI, the participant was reluctant to seek help from her PI in addressing her coworker’s sexism:

There was a person from another culture [in the lab], and every time I tried to give him my advice or something, he would be like, “no, who the hell do you think you are?” So you have to work with these people, and since they come from different culture they have different ideas. I mean in a sense, when I have encountered inequality I try not to be confront it. I wouldn’t want to go to my PI and tell him that man said this about women. I think there’s a different way to work around it. I have not seen any of that here.

These two examples illustrate the intragroup differences within the same low-vulnerability group. Though the two participants described having a “good” relationship with their PIs, it was evident that the second workplace experience was much more collaborative in nature despite both participants describing different aspects of the politics of respectability for women in STEM.

Although less pronounced than the medium-vulnerability group, 10 of the 12 participants had either experienced and/or observed microaggressions within the workplace. Among the participants who had neither experienced nor observed microaggressions within the workplace, they all commented on their personal “luck” in not having to endure bias and/or discrimination. This “luck” was contextualized with and related to having a “great” PI and/or supportive colleagues. The observation of being “lucky” to not have experienced biases or discrimination was especially prevalent among white men. Participants who identified as white-heterosexual-male had significantly better workplace experiences. To varying degrees, these participants acknowledged and explained the ways in which their whiteness and/or gender afforded them better treatment. These and other examples exemplified additional intragroup differences related to their lived identities. To illustrate, a white male participant made the following observation about his work environment and the privilege about not being an “attractive female:”

My impression is that people in engineering and physics are a lot nicer to each other. I mean, I have friends in sociology and education and there is all this backstabbing like, “Oh she’s this person’s prodigy.” I’ve never heard that crap in engineering or physics for that matter. So definitely just being in engineering probably made a big difference. So yea, I guess also not being an attractive woman makes it easier to not get sexually harassed, especially in engineering. Engineering is kind of weird. I definitely do not recall any attractive women. I guess if there were any, I would hope that nothing like that would happen. On average, there would be less of a problem with that kind of thing than in an environment where there is a more 50/50 men to women ratio. But, the engineering side of campus is just a safer place. I’ve heard of sexual harassment cases at my campus but not in engineering.

In addition, it was common among most participants who had not experienced or observed microaggressions to have “heard about this happening to other postdocs.” This observation would invariably lead to remarks about how treatment among the workforce largely depended on the personality and/or established relationship between the postdoc and the PI. For example, another white participant explained:

I have so many experiences in academia that I wouldn't say that my experience is a typical experience of what a postdoc goes through. Academic environments can really vary a lot until it comes down to a specific field and even in a specific field there can be so many different approaches in managing people. Generally speaking academic environment is such that there is really no control on how people can be as managers. There is no formal training for PIs. The system is such that every PI is independent, they bring their money, and they can also be quite challenging people to work with. I can't really say that my experience is what every postdoc experiences. My PI is the kind of person that lets people follow their own path. He gives feedback and advice, but he lets you develop in the direction that you want to develop during the course of the research. I can't really think about anything in particular in regards to biases and stereotypes...to be fair my experience outside of the U.S. is being at this UC campus is like being in a bubble.

On the other hand, ethnic minority participants, regardless if they had personally experienced microaggressions or not, had a sophisticated understanding of how race and ethnicity in the U.S. could negatively impact the postdoctoral workplace experience. An ethnic-minority from the low-vulnerability groups stated:

I'll give you a quick example. When I'm flying, I'm always careful with what my actions are. Like, there are things that I would do in my home or driving in my car, but I wouldn't really do it in an airport or about to go to the airplane. I'm more aware that I look different than everybody else and specifically my race at the airport...they [work colleagues] are not used to people like me with my name being in physics for example. You don't see Middle East. The high energy physics, you don't have a lot of Middle Eastern people in that field. I have a feeling that people are always going to be questioning, “Am I really good? Am I going to be able to do that right?”

Again, these and other examples highlight the intragroup differences among postdocs who had “good” experience and how personal characteristics intersected with the “luck” who your PI was and the established workplace culture.

Yet, despite how positively the participants characterized their UC postdoctoral experience, the data analysis also revealed vulnerabilities that were common for participants to experience prior and during their appointment. The common vulnerabilities among this group were as follows: the difficulty of securing funding for their postdoctoral appointment, their perceived inability to negotiate their wages and/or visa type, low wages, the difficulty of the visa renewal process, the ways in which the university bureaucracy limited their agency, the limited research opportunities within their respective home countries, their limited ability to protect themselves from (possible) workplace exploitation, and the damaging consequences an IPD would likely experience should they need self-advocate for themselves within the workplace. The latter two vulnerabilities were discussed at length by all of the participants.

Ultimately, regardless of how positive and affirmational their relationship was with their PI, all participants agreed that it was their PI that facilitated this experience and the PI had the power and influence to dramatically change their workplace experiences. In essence, none of the participants felt that they could self-advocate for themselves and file a grievance without remaining professionally unscathed. This is particularly significant since there were several participants that said they had *very good* relationships with their PIs and felt that their PIs were sincerely invested in their professional advancement.

Affirmational Workplace Experiences for Low Vulnerability Groups

Further demonstrative of the intragroup differences, affirmational workplace experiences were also diverse in nature. Generally, IPDs had positive relationships with their PIs and felt supported in their research process. Favorable relationships with their PIs included: 1) a collaborative research approach, in which ideas were exchanged freely; 2) a workplace environment where IPDs were not micromanaged while they engaged in the research process; 3) a work process involving regular check-ins with supervisors; and 4) an established sense of collegiality and/or collaboration between colleagues that was cultivated by the PI. Participants who had a positive relationship with their PI and sensed their campus climate to be supportive of international populations had additionally affirmational experiences during their appointments.

In addition to the most commonly referenced affirmational workplace experiences, there were a number of other positive experiences that significantly impacted participants' quality of life. A participant was "lucky" to have been able to establish residency a month prior to the beginning of her appointment. This time allowed her to submit the necessary paperwork to obtain a social security card, open a bank account, and secure affordable housing on campus. Relatedly, her and other participants who were "lucky" to have obtained housing on campus also had an initially easier transition, since on campus housing was relatively less expensive and was not contingent upon good credit. Another participant was a postdoctoral fellow as part of a program that promoted collaboration between the UC and his home country. As part the program, he received a considerable amount of information about his postdoctoral appointment prior to partaking in an international relocation. This information included which university administrators and offices were responsible for providing him different types of support and which resources were at his disposal should he encounter a work-related problem. Similarly,

related to the concept of obtaining information and subsequently agency at the beginning of their appointment, a participant described how she combated isolation by becoming involved with the professional development opportunities available to international scholars. Specifically, upon her employment she was part of an e-mail list serve that announced these opportunities on a regular basis and her PI supported her participation in these activities. A participant who had a seemingly “good” workplace experience—but also combated gender bias and navigated a confrontation with her PI—spoke at length about how important it was for her sense of belonging to participate in social justice projects with a community outside of the workplace. The opportunity to “volunteer and make a difference” also helped combat feelings of isolation and cultivated a positive relationship with the U.S., referencing it as the “country she truly belongs in.” Ultimately, affirmational workplace experiences were significantly more salient within the low-vulnerability group, which did help to mediate vulnerabilities.

Medium Vulnerability Group

Per the workplace survey findings, participants categorized within the medium-vulnerability group had experienced one labor violation. During the in-depth interview process, all medium-vulnerability participants confirmed that they were correctly categorized and that the term ‘medium-vulnerability’ accurately described the extent of their experienced vulnerability. The labor violations experienced within the medium-vulnerability group were as follows: not being sponsored by their preferred visa type, having their job security threatened, discrimination, obligated to work under unsafe working conditions, obligated to work during time off, and not receiving regular evaluations on behalf of their respective PI. Within this category, participants discussed at length the ways in which their experienced labor violation pertained to the general

postdoctoral workforce challenges that were made worse by low wages, the consequences of being employed by a temporary workplace visa, and/or the power dynamics between the PI and the postdoc.

Correspondingly and as an example, a participant who was obligated to work during her time off states:

The PI has all the power. You could have the greatest PI ever and they could still terminate the contract anytime they wanted to. You would have to leave the country, you would have to go home, and you wouldn't have anything. So you ask yourself, "How much do I want to endanger this relationship?" I know situations when you get pressured into working very long hours and/or there is some kind of harassment going on. And there's nothing a postdoc can do because of the international issues. If you ever make a complaint, you don't know if it will ever get resolved... will anyone ever pay any attention to it? In academia, having to work 60 hours a week is normal... I know someone who was fired from our lab for not making enough progress in the first year and a half, and this person worked like 40 hours a week. That was real, the threat of being fired for not producing. I would describe experiencing medium-vulnerability as something that stresses you out basically every week. You are tired and can't do everything that you want. I feel all of that. I'm afraid to say certain things.

This example demonstrates how being obligated to work during time off was not an isolated event. Rather, these demands influenced her ability to feel secure and have agency within the workplace. Evidently, her vulnerability to oppression had a profound impact. Similarly, another participant who had felt his job security threatened spoke about the lasting impression that moment had on his postdoctoral appointment and how that intersected with his residency status:

Regarding my job security, there are two specific things I need to clarify. First, the funding opportunities, meaning the opportunity of available funds to pay your salary. In my case, my PI got a grant from a Federal Department and it's a three year grant. So my salary is budgeted on this grant. One day he told me was that once this grant ended, if he didn't get another grant, he would not have money to pay my salary. That's his story. It's partially true—if he doesn't have enough funding to support the lab, he would have to let somebody go. As in shrink the lab to scale. On the other hand, I had been in this lab for more than four years. I know this PI quite well. How he handles things, how he speaks. I know my expertise is unique in the lab. I've had some special trainings that he would not be able to find a substitute that easily. So I did not feel much pressure about losing my job. At least, if I don't ask too much about my salary, I could be able to stay here for a

few years. But see, these are my feeling about job security: that one comment let me know that I could be let go at any time. I felt that my job security was threatened.

Though seemingly a one-time remark from his PI, these and other similar experiences echoed the general sentiment from the medium-vulnerability group—highlighting how intersectional factors such as wages, temporary worker status, and power dynamics within the workplace perpetuated their vulnerability, oppression, and abuse.

In addition to the identified labor violation, participants in the medium-vulnerability group experienced and/or observed significantly more microaggressions when compared to the low-vulnerability group. The observed and/or experienced microaggressions made a pronounced impression on the postdoctoral experience and was generally described as the (unfortunate) norm for many. Ethnic minorities who experienced microagresssions at times rationalized aspects of this behavior by stating that “no harm was meant” or that “they were just joking,” particularly in reference to model minority myths. Relatedly, ethnic minorities also commented that they had “thick skin” and clarified that these comments did not affect their overall performance. To illustrate, a participant who experienced overt racist comments on a weekly basis described how his work environment was not supportive of him because of stereotypes related to his field of study. Comments such as, “Are you really the doctor? Here in the U.S. Mexicans work in the fields, they’re not doctors.” He emphasized throughout his interview that his PI was incredibly supportive, but ignorant stereotypes of prevented him from being accepted in the same way others were. The majority of white participants within the medium-vulnerability group also made observations about how postdocs who had difficulty speaking English (or had heavy accents) experienced additional challenges within the workplace. To varying degrees, the white participants explained how stereotypes, biases, and/or cultural differences impacted work dynamics. For example, a participant descried how an administrator within her office went so

far as to announce that she would not work with anyone who did not speak English and how this caused strain between the administrator and a colleague who had a heavy accent. Ultimately, the microaggressions from the medium-vulnerability group ranged from overhearing overtly racist remarks to understanding how model minority myths perpetuated workplace hierarchies. These examples also demonstrate how postdocs experienced hardships during their appointments informed their understandings of U.S. race relations (a topic that is discussed at length in the *Migrant Identity* section).

With the exception of one participant, the data analysis revealed a pattern for the medium-vulnerability participants: 1) particularly negative experiences (i.e., labor violation and/or microaggressions) had both a significant and detrimental ripple effect on the participants' livelihood; or 2) the experience of encountering a negative experience uncovered additional problematic dynamics within the workplace that they were obligated to navigate. For example, a participant who did not receive regular feedback from his PI and was not sponsored by his preferred visa type experienced severe isolation and debilitating culture shock. Although he tried to combat these feelings, the reality was that low-wages coupled with the high cost of limited his ability to partake in activities *and* perpetuated his depression and lack of sense of belonging. He states:

There is always a certain degree of loneliness...suddenly all of your networks are gone, all of your safety is gone. And in the beginning, it's even the little things, like where's the closest grocery shop? There comes a time when working abroad is no longer an adventure. The beginning six or eight weeks, it's all adventure, but then there comes a time, when it's kind of normal but you are still not at home. And I felt that was a really horrible thing to face. When everything seemed like a horrible effort, every day, every little step, trying to figure out public transit and public fare. Where do I get this product? It sounds like little things, but they add up. I had the problem where I had to fill out this form and the form asked me to fill out next of kin. I was like, fuck, there is nobody I can get to here. My mother and father are in Europe, so in an emergency it's probably not the best idea to put them down. I don't even have anyone here to put down as an emergency contact and that felt really horrible. There was another postdoc in my lab, and she had

started six or eight weeks before me so we sort of went through things at a similar pace. We actually used each other as next of kin. But that's actually the thing that pointed out my isolation. I'm aware that my institution can do very little about that.

These examples demonstrate the complexities of having to navigate 'one' labor violation and the ways in which other statuses (i.e., gender, race, migrant agency, etc.) can influence the impact of their experienced labor violation. The data demonstrates that participants were acutely aware of their workplace limitations and how that prevented them from mitigating inherent vulnerabilities within the postdoctorate.

Yet, within the medium-vulnerability groups all participants had "good" relationships with their PIs. To various degrees, they were working productively with their supervisors and engaged in meaningful research. When this was juxtaposed to the challenges they experienced during their postdoctoral appointment, participants rationalized the shortcomings of their supervisors and/or workplace experience. Specifically, participants attributed these negative experiences to: the nature of academia, limitations related to their visa status, limitations related to their international relocation, and/or the need to maintain professional fortitude to advance. Notably, although the medium-vulnerability participants could have engaged their postdoctoral union—as they all experienced workplace violations and indicated awareness about the union—they decided to navigate these challenges without formal⁵⁸ assistance from the union. Some had managed to "make a better working situation for themselves," while others had decided to put those incidents behind them to move forward, and others still had no choice but to accept ongoing workplace hardships.

⁵⁸ Two participants consulted with the union to learn more about their workplace rights and understand their options, should they decide to file a formal complaint. One medium-vulnerability participant was actively involved with the union but due to the anti-union sentiments expressed in her workplace, she decided it was best to not disclose her union involvement in the workplace.

Affirmational Workplace Experiences for Medium Vulnerability Groups

Affirmational workplace experiences were also varied for this particular group. To different degrees, participants felt that their hard work was recognized by their colleagues and/or supervisor. Among participants who had to partake in an international relocation, their ability to eventually establish personal community and support was particularly meaningful. Whether it was beginning a new relationship or finding comradery with their work colleagues, it was evident that these positive experiences combated feelings of isolation and allowed them to establish a life outside of work. Relatedly, participants who made an international relocation and had received support from their PI and/or the campus International Student and Scholar Center, discussed the nature of their transition more positively. Although not all participants benefited from having the support from the PI and/or the international center, it was also evident that among those who had this had made a positive impression about their experienced campus climate as well.

High Vulnerability Group

To be categorized as high-vulnerability, the participant needed to have experienced two or more labor violations according to their survey. Survey participants who were interviewed had the opportunity to discuss the validity of their placement within this group at the conclusion of their interview. Accordingly, four of the five high-vulnerability participants were initially categorized correctly. The fifth participant was first assigned to the low-vulnerability group. However, upon the completion of her interview, she concluded that she was indeed a high-vulnerability participant given the nature of the violation and the number of times she experienced that particular workplace violation.

The types of workplace violations within the high-vulnerability category ranged from personal frustration of having to navigate systemic gendered inequality to the endangerment of their physical and mental well-being. Specifically, the identified and discussed workplace violations were as follows: not receiving professional development and an evaluation of their performance as postdoctoral scholars, experiencing bias and/or prejudice, having their job security threatened by their PI and/or university administrator, not receiving the correct training, experiencing unrealistic workload expectations, experiencing sexual harassment, having their residency status threatened (deportation), forced to work overtime, denied personal time off, experiencing unsafe working conditions, and the experience of becoming an undocumented worker. Despite the fact that all high-vulnerability participants experienced two or more workplace violations, the participants experienced different degrees of oppression and/or abuse. This was in part due to their established relationship with their PI, their ability to transfer to a new lab (post-experiencing egregious workplace violations), and how certain workplace violations were rationalized. To varying degrees, all participants regarded navigating these labor violations and/or the consequences as an unfortunate aspect of being an IPD.

Characteristic of this group, participants discussed their workplace oppression and/or abuse in the context of what else they had experienced. For example, a participant explains how the PIs problematic behavior became worse over a short period of time and perpetuated ongoing feelings of vulnerability throughout her appointment:

When I mentioned the accrued costs [relating to international relocation] to my PI, and in part due to the fact that I didn't get the right information [about the cost to relocate] from them. He offered to pay some portion of my housing and some portion of my rental car, but then when he did...it wasn't a completely legitimate way of paying me that money and it made me uncomfortable. You are in a situation that you don't have a lot of money, but you have all these high costs and then way you're being compensated isn't completely legitimate. You feel vulnerable throughout the process. And the main reason for me feeling vulnerable was because your PI personally is your sponsor to be in a

country. I've never been in a position where I wasn't a resident, or I didn't have legal status. I've lived in different countries but this...this is a conditional status. I've never had that before. It was a strange experience. He was somebody who joked about my status. Jokes like, "Well, we'll have to disagree and then you will get deported." He was inappropriate. He would make weird comments to me as a woman and that made me feel extra vulnerable. It's like you, are creepy *and* you are also my visa sponsor...There is no system put in place to evaluate the PIs or make sure the postdoc does not experience the stuff that I've experienced.

In reflecting upon her experience, the participant acknowledged her limited agency at the time, and despite seeking help from the postdoctoral labor union it was only after she was able to secure another appointment with a different PI that her circumstances changed.

Similarly, another participant who also had an oppressive relationship with his PI, described how the PI perpetuated an uncomfortable work environment that required so much of them, that workplace safety was compromised. Even though he had managed to leave this particular supervisor, the impact of her abusive behavior had lasting effects:

Although she [former PI] gave me a letter of recommendation, on my last day she told me she really regretted recommending me. She also threatened to contact the dean of my new department, to tell them that I am not a good scientist and not a good person to deal with... when she came to the realization that she was going to have one less member in the lab, she got very defensive and aggressive about a lot of things. It was stressful. During the last three or four months in the lab she denied me time off, she pushed me every time when things didn't go as expected, and I ended up with high blood pressure. I was very happy to start the new job. But, on the other hand, I felt I gave up three years of my life for nothing because not much came out of the experience. It felt really low. It took me like a year to feel like I was worthy of something, valuable in the job, like I knew what I was doing in the lab.

These and other examples within the high-vulnerability group demonstrated how oppression and abuse were experienced differently due to the varying aforementioned factors that influenced the outcome of their situation.

It was also apparent that for all participants, these negative experiences had a profound impact on the way in which they perceived their postdoctoral appointment. These workplace violations were either referenced at various different points during their interview and/or the

consequence of their oppression/abuse was discussed at length by the participant. For example, a high-vulnerability participant, who despite having a productive and positive relationship with her PI, also experienced neglect from a university administrator that affected her ability to maintain her residency. This participant described at length how this experience had not only compromised her “legal status” in the U.S., but had the potential to impact her ability to apply for permanent residency in the future. In this example, a participant described a particular immigration related interaction and how that influenced her perception of how IPDs can be treated:

I was under distress because I had certain deadlines that I needed to comply with so that I don't get deported. The [university] administrator acted like the administrative stereotype...she didn't care, she didn't reply to my e-mails. I asked my PI to also follow-up with her so she could respond, the university administrator became very annoyed with me and even less responsive. The responsiveness was a problem...and this is how I became unknowingly undocumented for the first time. When I started my appointment and told her what happened, she said, “See, this is what happens when you try to get me to rush. You get what you deserve.” I was really mad at her. I'm not sure if it was anti-immigrant or anti-me. It was really not nice. I don't know if it was because she was anti-immigrant or very overworked employee in administration who doesn't necessarily like her job. She does not have the empathy to understand what that type of stress is like for internationals. You really don't want to be undocumented, you don't want to be deported, and you want to do everything by the law. But you have no way of knowing the law unless the officers [university administrators] give you the information. If they don't give you the information, then they don't care. Perhaps what is a terrible for *me* is just business as usual for *her*.

Similarly, another high-vulnerability participant who had a positive relationship with her PI and found satisfaction in her job as a research scientist, experienced a high degree of gendered workplace dynamics that were not supportive of her motherhood identity. Like other participants within the high-vulnerability group, these challenges intersected with her low-wages and the limitations of her visa status. Comments such as, “because of the issue with the visa,” and “because I have children,” and “because of the cost” were salient in her interview and she concluded:

I don't think I'm a highly-vulnerable participant. I would say I am probably medium because I didn't experience any racism or things like that. The things that I've experienced is because I'm a woman and have kids and it is no different to other women that have kids who are in my situation.

I proceeded to ask if this is the case, then perhaps it was possible that all women in STEM with children were highly vulnerable as opposed to concluding that she had only experienced a medium amount of vulnerability. She responded:

Probably. Maybe that's the case too. I think that I'm no different than any other women. I have a lot of friends who are in the same situation that I am. And I think they all experience the same things in the same way. So yeah, unfortunately I think it's the same situation for all the women who have kids.

These examples are also illustrative of how such experiences were internalized and to a certain extent rationalized due to the way in which participants perceived the nature of the postdoctorate. In addition to discussing oppression and abuse at length, all of the participants explained how their experience was additionally complicated by their temporary workplace visa status and the ways in which workplace visas perpetuated their high-vulnerability status. For all participants within the high-vulnerability group, their migrant status was not regarded as a positive quality.

All five high vulnerability participants had also experienced various forms of microaggressions within the workplace. Whether the microaggressions were due to their motherhood status, residency, race, and/or gender, these experiences were generally regarded as "another example" of when they were not supported. Though at different points in the conversation, the high vulnerability participants clarified that not everyone they encountered acted upon negative biases and stereotypes, these instances coupled with labor violations perpetuated feelings of vulnerability and reinforced racial and social hierarchies within the workplace.

In contrast to the other groups, the participants' high-vulnerability necessitated that they advocate for themselves within the workplace. Although all of the participants within this group found the labor union helpful, to different degrees they all regarded themselves as responsible for securing a better work environment due to the nature of their research and/or relationship with their PI. Specifically, of the five participants two had to secure new positions to escape oppressive and abusive relationships with their PI and another had to leave the country and begin a new life in her home country (see below, *Mariana*). The other two high-vulnerability participants, both of whom were women, resigned themselves to enduring similar challenges within the workplace. Both female participants hoped that a change in their residency could ultimately help them secure permanent positions, supportive of their significant contributions to the scientific community.

Ultimately, the high vulnerability group revealed that despite experiencing abuse and oppression, the university system does not provide the necessary support to prevent retaliation from the PI and/or university official. In addition, when high-vulnerability participants found themselves experiencing labor violations there was an apparent over-reliance on their personal resources and ability to overcome said challenges, oppression, and/or abuse. Not one participant had the experience of university officials responding to their concerns with urgency and immediacy or facilitating a better work environment for the sake of their emotional and physical well-being.

Affirmational Workplace Experiences for High Vulnerability Groups

For the high-vulnerability group, positive and affirmational workplace experiences were not the focal point of their postdoctoral appointment. To different degrees, the participants were

initially excited about being employed within their respective University of California campus and the opportunity to engage in meaningful research and collaborate with different researchers. However, the challenges of being an international postdoc added with the stress of having to navigate their respective oppression and/or abuse, made it difficult to disregard what had occurred and have the agency to solely focus on their scientific research.

Mariana

I had the privilege and honor of interviewing the participant that had experienced the highest number of labor violations (eight) according to the quantitative survey findings. Her⁵⁹ narrative demonstrates why it is not ethical for an individual, in this case the PI, to have seemingly limitless power and influence. Of equal importance, her narrative also identifies the university structures and processes that failed to protect her. The aforementioned descriptions of gross negligence on behalf of university officials and Mariana experience as an international postdoctoral scholar, validate the way in which inaction and acceptance of the status quo perpetuate abuse and oppression for international workers.

Mariana's story begins like most, she was finishing her doctoral studies at a premier research university outside of the U.S., and was looking for an opportunity to continue her particular line of research. Initially she was very excited about the opportunity to interview with a lab at a prestigious University of California campus. She immediately accepted the job offer, and similar to the majority of participants in this study, she did not have the agency to negotiate her salary or visa type during the job application process.

⁵⁹ In some instances the gender of the subject may be changed as a means of providing greater anonymity.

Early into her appointment, Mariana spotted “red-flags,” but her positive nature and the ongoing assurance from her PI that they would “make meaningful scientific contributions” eased her concerns. First, her PI asked her if she was married and if she was willing to work on weekends. Mariana assured him that she was single and worked very hard, including weekends. In fact, Mariana was used to working on weekends to complete experiments and understood this to be the nature of research during certain periods of time. Her PI seemed relieved to learn that she was not married and stated that she would only work during the weekends “when it was needed.” Upon arrival, Mariana saw that the lab was empty and that she would be the only worker. “I’m building my research team,” the PI explained. Mariana nodded empathetically, everyone starts somewhere she thought. Even though Mariana’s PI knew that she was undertaking an international relocation to begin her postdoctoral position, he provided “zero support” during her relocation and expected her to begin working “as soon as she was scheduled to arrive.” Mariana fought through the jetlag to set up the experiments and wondered how she would find an apartment and process her social security number when the U.S. government had just shut down.⁶⁰ Because fellow postdocs and research scientists “stayed away from his lab,” she had a difficult time establishing a supportive network and finding resources to resolve international relocation issues. She figured that this was the initial difficult phase of the process and all things would become manageable in a matter of time.

Unfortunately, things did not become better with time. She had a strained relationship with her PI. She did not have a social security card and this prevented her from securing a place to live, renting a car (necessary because public transportation was not feasible given her housing location and work schedule), opening a bank account, and receiving her first paycheck. She

⁶⁰ From October 1 to 16, 2013 the United States government suspended routine operations due to a legislative budget impasse. Government operations resumed on October 17, 2014 after an interim budget bill was passed (Weisman & Peters 2013).

quickly went through her savings the first two weeks upon arrival, and had to borrow \$200.00 from a fellow postdoc working in her building that she had recently met. A month into her residency, she finally found a bank that would allow her to open an account without a social security number. However, she had to wait an additional week for the account to be active and before she could have funds transferred into her account.

When Mariana confided to her PI about her difficult relocation experience, her PI replied that she was lucky because at the UC there were postdocs that did not receive salaries—at least she was not working for free. When Mariana explained that she could not enroll in the necessary compliance trainings because she did not have a social security number, her PI told her that university compliance did not matter and to begin the experiments without following the university process. When Mariana protested hazardous working conditions, the PI negated her concerns and stated that what she was instructed to do was perfectly legal in the U.S. When Mariana learned that there were workshops available for her to attend as an international worker, including a necessary course on how to purchase a car, her PI implied that Mariana was lazy. The PI would not allow her to “not work” during work hours. Because Mariana was at work the majority of her time, she began to speak to her parents over the phone while conducting experiments late into the evening. Her PI sent her a stern e-mail stating that fraternizing over the phone while she was in the lab was not allowed. Ultimately, these and other similar interactions with her PI were the beginning of an abusive relationship in which the perpetrator began to systematically keep her isolated and prevented her from having agency within and outside of the workplace. This affected her emotional and physical well-being, self-confidence, and impressions of what were ‘normal’ work conditions.

The relationship took a turn for the worse when months after working nonstop Sunday-Monday, Mariana asked if she could take a week off during the official university Holiday and return the day after the New Year. She asked for this time off a month in advance. The PI denied her request. Mariana begged her PI. She explained that she had already completed the necessary experiments and the progress of their work would not be compromised. Although the PI never explicitly agreed, Mariana was exhausted and took the time off. When she returned to work, the controlling nature of her PI became more severe. It was a daily experience for Mariana to get questioned about every detail of her life outside of work, intrusive questions such as: What did you do this weekend? Who did you see? What did you eat? How much did you spend? Is that a new sweater? How much did it cost? The purpose of these questions were unclear and these questions always made Mariana feel guilty for doing anything outside of work. She became overly concerned with what her supervisor would say or ask, and subsequently, Mariana self-imposed additional isolation to avoid having conversations that were not related to work.

Mariana began to dread going to work. She began to have emotional episodes, and often broke down and cried at work, outside of her lab. A fellow postdoc from another lab saw Mariana crying and sat down to console her. She explained that everyone in the building knew about the problematic nature of her PI and that was the reason why everyone stayed away from the PI's lab. Apparently, other postdocs and PIs had witnessed his abusive behavior and had seen him yell harshly at his staff. The PI had gone so far as to yell at postdocs in the building that were not working for him.

At this point in time, Mariana had been working tirelessly and had never, ever received any words of affirmation or appreciation for her hard work or scientific progress. The behavior

from her PI had evolved from passive aggressive to full-blown, threatening screaming fits directed at her. A year into her postdoc and Mariana was still not allowed to attend any professional development courses. Her PI had told her that she had to eat her lunch inside the lab and had to conduct all work related activities in the lab (within the PI's sight) at all times. However, Mariana's new friend brought a bit of cheer into her life. She would oftentimes come by her lab, ignore the dirty looks and comments from her PI, and get her to eat outside with her on the patio. These lunch outings were the few times she was able to get away from her supervisor.

Due to this toxic work environment, Mariana began to develop stress disorders. Although she was finally making exciting scientific research progress, she suffered from mental and physical exhaustion, high blood pressure, anxiety, and loss of appetite. She had her first panic attack a year and a half after her initial UC postdoctoral appointment. The few friends she had made on campus encouraged her to go to counseling, as it was apparent to them that she was very depressed. Mariana confessed that at the height of her depression, she began to question her existence. She would drive by the California coast on her way to work and watch the ocean waves crash into bluffs. Mariana developed a detailed suicide plan.

Thankfully, Mariana made an appointment to see her counselor before she acted upon her suicide plan. The therapist insisted that they see each other on a bi-weekly basis, despite the loud protests from her PI. During counseling and in her own words, "the therapist began to build my self-confidence so that I could establish firm boundaries with my supervisor." Still, she had a second panic attack soon after and this time her medical doctor intervened. The doctor prevented Mariana from going to work under any circumstances due to the amount of stress that she was experiencing. Mariana's PI retaliated and threatened to have her deported if she did not

show up to work. After all, her residency status was dependent on her working. Shortly after threatening her, the PI acted upon his threat and sent her an e-mail that stated she was dismissed from her employment and Mariana would need to leave the country.

Mariana contacted the postdoctoral union and UC Labor Relations representatives. The union organizers began the process of filing an official grievance per the collective bargaining agreement and were in attendance during her meetings with labor relations. Mysteriously, she stopped receiving her paycheck shortly after making an official complaint with the UC labor relations office. Despite overwhelming documented evidence of the PI's work violations, UC labor relations representatives stated that given the nature of her research, the university was unsure if Mariana could work with another PI and/or if there were any alternate work accommodations that they could provide. Mariana's postdoctoral appointment was going to end in a few months and according to her, it appeared that UC labor relations was not too concerned with the documented abuse. She described this period of her life as very difficult because she did not know if she was suddenly going to be without a job and have to leave the U.S. at a moment's notice.

"Thank God for American credit cards," Mariana said, sighing in relief. She took out as many credit cards as possible during the labor relations investigation to make ends meet. Finally, two months after her therapist and doctor intervened and advocated for her well-being, UC labor relations approached her with an offer—they would pay her the wages that were owed and the remainder of her postdoctoral appointment (at this time she still had a few months left in her contract) if she agreed to sign a university non-disclosure form. If she signed the form, it would prevent her from suing the university and/or seeking additional remedies for all that she had suffered. Mariana left the country. To add insult to injury, even though UC labor relations

stated that Mariana could keep the results of her research, her PI had denied her access to the data and she could not publish her significant findings. “I wasted two years of my life...but I’m lucky. I got out alive. I can’t imagine how much harder this would have been if I had a family to provide for.”

When Mariana described scenes or conversations regarding her PI, she looks off into the distance, her voice becomes a bit shaky, and the depth of trauma is visible in her eyes. She told me that she suffers from Post-Traumatic Stress Disorder, and to this day she has nightmares about her work experience. “I’m lucky that I also have a pharmaceutical degree and was able to rebuild my life,” Mariana said. She recently watched a horror film about psychological torture, and has concluded that the phrase ‘psychological torture’ best described the relationship between her and her former PI. “There are more postdocs like me...and I would have been the second postdoc to commit suicide at the UC,” she says matter-of-factly. Note that in recent history, there has been one postdoctoral death at the University of California, Los Angeles due to unsafe working conditions (Morris, 2012) and an exponential number of suicides at the UC (Paddock, 2007).

It is difficult to find any positive and/or affirmational workplace experiences during Mariana’s UC postdoctoral appointment. Although, she is by nature an upbeat and determined person, she could only advocate for herself to a limited extent. Truly, the only people that acted responsibly were her therapist and medical doctor; both collaborated to protect her from her perpetrator as best they could. However, to this day the PI remains employed and continues to employ postdoctoral scholars—preferably international postdocs for obvious reasons. The university prioritized its prestigious reputation over the life of a postdoc. To this day, UC labor relations has not admitted any fault on behalf of the PI. The labor union, though regarded by

Mariana as “good and helpful” could only do so much because the grievance process extended beyond Mariana’s employment dates. In the following chapter, I discuss the implications of Mariana’s narrative to interrogate the responsibility of the university and the extent to which an international postdoctoral scholars can be abused by the university system and PI.

Respective Residency Status and Preferred Residency

With the exception of two participants, in-depth interviews revealed that most IPDs were not satisfied with their residency status when they participated in the first phase of the study.

Note that at the time of the interview, three postdocs had either received permanent residency and/or were in the process of waiting for their permanent residency status. The interview data revealed that the most salient reason for being dissatisfied with their temporary visa was the renewal process, its implications to their work-life, and costs associated with the visa process. Specifically, the visa protocol required the majority of participants to return to their home country on an annual basis in order to renew their visa and remain compliant with U.S. immigration laws. This process required a significant amount of time and money—international airfare, visa fees, a waiting period of two weeks or more (depending on the home country and its internal policies), disparate levels of support from their workplace to engage in the process, as well as having to confront a certain level of uncertainty. Would the visa be renewed? As described by a participant, IPDs described how even though an IPD could have followed immigration protocols perfectly, at the end of the day the visa approval is something they had no control over and determined their ability to continue work, as well as all aspects of their life in the U.S.:

I organize the visa renewal process so that I will go to Belgium. My husband’s family is in Belgium and it’s faster to renew the visa there. We get something about it since we go

back to our home country, but it is a nightmare. I mean, just imagine for you to keep your visa—you have to go back to *your* home country just to keep working in the U.S. where you are actually working. You have to stay two weeks waiting for the renewal of your visa, which makes no sense because some people have work and get their visa denied. How is this possible? I know of someone who has been working in the U.S. for two years, then he goes to a conference and he cannot come back. It's a stupid, stupid system

Note that when participants described this process, the participants oftentimes acknowledged different migrant agency and/or support received from their PIs to participate in this obligatory process. For example, a participant who was assured by his PI that he had sufficient funding to hire him for three years, still experienced workplace insecurity as a result of his visa status. He stated that despite the funding situation that was communicated by his PI, his annual visa renewal process translates to a year by year contract that causes workplace anxiety and insecurity. He describes in detail the challenges of his visa status:

I know that if my visa is not extended I will have to leave the country within 30 days. That is not enough time to do anything. That is hardly enough to give notice to your landlord. I felt that was a big insecurity for me. When they extend your work contract your visa becomes extended, which makes it legal for you to stay in the U.S. But you cannot travel because the moment you come back to the U.S. you need a new visa stamp. Which means I have to travel to the U.S. consulate whenever I go to my home country, they [immigration] take away your passport and you don't know for how long. When the [visa renewal] process happens it is an immensely stressful situation which forced me to take holidays. I make sure to take enough time off to cover that time and be on the safe side. Once your one year contract is up, you only have a very short range of time to get an extension through your home country.

This participant also notes how the PI plays a significant role in the process that could exacerbate workplace insecurity, stating, "I know PIs who have really played that card, holding the extension as long as possible. For me personally it hasn't happened. My boss has always been in the 7-8 month mark. That's when I go to him, and say it's coming up are you going to extend my contract? But I know for other people this has happened six weeks until their contract was up and then the boss agreed for the of their contract to be extended." These examples reveal the

importance for university administrators and policymakers to not assume there is one standard visa renewal process that academic migrants engage in. Rather, the visa renewal is a necessary component within the present structure that necessitates comprehensive university support, so as to mitigate the uncertainty and cost relating to the visa renewal process.

Challenges encountered during the visa process were further complicated for participants with dependents, as the cost was substantially more expensive and provided additional time preparing and navigating the process. In addition, participants explained how their PI, work culture, and vacation protocols made it an additionally difficult process to engage with.

Participants described how statements expressed by their PI over their visa renewal process was oftentimes internalized and made them feel that their international status was burdensome.

Comments from the PI such as, “Oh, you have to renew your visa again?” or “Your visa is already up?” portrayed negative regards to a process that is of most importance to their job security and obligatory in nature. Relatedly, sometimes a PI did not necessarily make a negative comment, but if participants felt that demonstrating productivity was an important aspect of their work culture, they either expressed past concern in having to engage in the process or pressure to maintain a certain level of productivity abroad. When engaging in the process, the participants generally used their vacation time. However, they were frustrated that it was not an actual vacation because they were either working and/or conducting business that was necessary for work. A participant explains:

Because I come from a faraway country, when I take a vacation I need to go back home. For the Americans, if they need to take a vacation and they need to go home, they would be living close by or they would be traveling a few states away. This doesn't take a lot of travel time, but for us it would take about 30 hours of traveling to go to our country and thousands of dollars which we pay from our own pocket. It takes about 2-3 days to actually leave our country and 2-3 days to come back, and I'm not even considering the jetlag that you get. But professors or PIs think that I'll be coming back within two weeks, it's like when I go to my country that expectation is extremely unrealistic on their

part. It's not a simple thing that you just go for if I pay \$2000 to go to my country. You don't just go for two weeks, it needs to be like 3 weeks to 4 weeks. And most people who have their country that far out there try to do that. And the problem is that they don't even go to their country for many years because their PI won't tolerate that kind of thing. So that's one of the difficult things that most PIs don't understand or don't even try to understand.

The University of California does not provide postdocs with additional funding to subsidize these work related costs. As the participant described, these costs are all out of pocket. In addition, the majority of participants spoke at length about the ways in which the UC system and/or UC administrators are bureaucratic and/or unresponsive, adding additional visa-renewal challenges prior to the renewal process outside of the U.S. Perhaps most troubling, the data demonstrated that regardless of how much funding was secured for the IPDs salary (i.e., two or more years of grant funding), *all* participants on annual temporary work visas regarded their UC appointment on an annual basis. This signals the degree of inherent insecurity that is internalized regardless of the IPDs home country, experienced vulnerability, and/or support received from the PI to renew their visa. When I asked participants why they regarded their UC experience on an annual basis despite referencing multi-year funding, they referred to the stipulations based on the renewal process and how that prevented them from assuming anything was guaranteed beyond that year.

To summarize, PIs have the power to facilitate the visa renewal process by demonstrating their multi-year funding. However, with the exception of one participant, the PIs at the UC communicated to the participants' the following reasons as to why they could not support them in their visa renewal process and/or provide additional paperwork to extend their renewal timeline: 1) The visa type received is the standard visa that postdocs are sponsored with and the PI cannot change this; 2) Changing your visa status is a process you can engage/cover all associated costs once you begin your postdoc appointment; and 3) there are no funds available to

help you cover the cost of renewing the visa. This ultimately perpetuated the belief among participants that their resident status was the status quo and any challenges relating to their residency status was standard to the international postdoctoral experience.

Of the 26 participants, 2 had secured their permanent residency status and 1 participant was waiting for their permanent residency status to become finalized. Although these participants arguably had additional rights and protections by virtue of their new residency status, the participants explained how when they were awaiting for their permanent residency to become finalized they felt more vulnerable compared to when they had a temporary work permit. To clarify, the process of becoming a permanent resident is very difficult. IPDs have to demonstrate outstanding merits and the ways in which the U.S. benefits from having them become permanent residents. This oftentimes requires the support of an immigration attorney, in addition to substantive costs to complete the paperwork and approximately a one year waiting period (sometimes longer) before their status is finalized. This waiting period was described as “torturous” and resulted in “paranoia” that something would compromise future permanent residency. For example, a participant describes:

When you’re waiting for things to be approved that waiting period can’t be over soon enough. You know you absolutely cannot lose your job for whatever reason. And even when there is no reason to lose your job, you absolutely cannot commit a crime. You can’t mistakenly be thought of doing something immoral. I felt like I just had to be on my best behavior all the time. There would be times when I would look back to my visa history to make sure I didn’t have any periods where I was overstaying my visa. I would check up on little things, like “Ahh, maybe I broke the law here?” The worrying really does add up and even though in the end I didn’t have any faults on my record and fortunately I was able to maintain my position, but really it’s a long period wait.

Similarly, another participant elaborated on this level of stress experienced during the process of receiving his preferred status as a permanent resident:

Most of the time I was like, I don’t want get any traffic citations because I don’t know how that’s going affect my process. Even though it’s minor, it still affects me in the end.

I don't want to have this bad record on me, a speeding ticket or not stopping at the sign. The other thing is when you are in this temporary status before getting your green card, you essentially give up your old status. You give up the J1. If you don't get approved, you are almost like illegal in the country. This is what I was told in my old school in Alabama. I was told that now you are moving to this new status, you are giving up the old one, you have to be pretty sure you are going to get approved for the green card. When you are in this temporary status, you are fine. But the moment it does not get approved for the green card, it means that you have to leave the country immediately. It doesn't matter what job you have. You don't have legal status to stay in the country.

All postdocs that experienced this waiting period confirmed that filing a labor grievance or advocating for themselves at work during this time would be nearly impossible, in part due to how much they had already invested in order to receive permanent residency.

Generally, IPDs would have preferred to have permanent residency status if this option was available to them. This preference was only partially related to their enjoyment with life in the U.S. Rather, IPDs descried how permanent residency would provide them with the following: 1) the *option* to stay in the U.S. should they procure future employment; 2) the *ability* to be on equal footing with U.S. residents and citizens and apply for additional funding opportunities; and the 3) *flexibility* to return to the U.S. should they decide to migrate to another location temporarily. As an example, a participant describes how being a permanent resident would benefit her and the scientific community:

I don't think the U.S. is the greatest country on earth [earlier she had observed the Trump presidency and the lack of universal health care indicated the severe limitations of the U.S.]. I do think that the intellectual community that I have here, the resources and the type of research questions that we get to answer, I think it is a unique place in that sense. I think the country is rich in the intergroup dynamics that exist here and that people are talking about it and researching. The people that come together and work on that stuff, makes it a good place to be. But none of the other stuff.

The qualitative findings demonstrate how seemingly simple “residency status” and “preferred residency status” terms, speak to the limitations of the U.S. immigration policies and the ways in which the UC is complicit in perpetuating challenges for the IPD workforce. None

of the participants spoke favorably about their immigration process and support received from the UC—at best, participants were grateful (“lucky”) that their PI submitted additional paperwork to support a change in visa type or their permanent residency application; at worst, participants acknowledge how the PI benefits from having the workforce residency status remain dependent on them. To various degrees, participants acknowledged an institutional responsibility to support IPD’s immigration process, including avenues to mitigate frequent challenges and associated costs. All participants agreed that they were an asset, and in particular their productivity and (diverse) perspectives/experiences were an asset to the workplace. This construct—being an asset to the university—was often tied to why the university should develop additional support during their migration and residency. For example, a participant states:

Because I was made to feel that my employment cost more as an international, I felt like I had to tone down my negotiation and demands. They were already paying for my visa sponsorship [separate from the cost of obtaining and renewing the visa], but now that I know a little bit more about the university budget, it’s like not a lot of money that costs them to book a flight for you to pay your visa. It’s nothing in the larger scheme of things. But for a postdoc, it’s a lot. If the university has a true commitment to diversity and internationalization, then they should make that possible. It’s easy to say “we welcome all people” but who is paying for them?

Migrant Identity

Migrant Identity Formation

The interview process was formatted so that participants first had the opportunity to discuss particulars about their relocation process, their workplace, the relationship with their PI, and the ways in which they felt affirmed within the workplace/campus. Thereafter, I would define the term ‘migrant identity,’⁶¹ and ask how their experiences (previously discussed and not

⁶¹ Identity is the conception of self—physical, psychological, emotional, and social attributes—that makes up how one perceives themselves and how one experiences perceptions from others. Migrant identity formation is a negotiation process, whereby complex multiracial and multiethnic personal histories interact with U.S. race relations

mentioned) had influenced their migrant identity formation. The order of the interview questions allowed for an additionally reflective dialogue about their migrant identity formation, as well as a common understanding among all participants about how the term ‘migrant identity’ was being employed. Generally, participants agreed that there were to varying degrees an internal negotiation process that occurred when they were in their host countries that confirmed their immigrant status. These experiences were unpacked within the context of how the participants described their workplace experience. For example, a participant who had described a very positive working relationship with his PI and had felt supported throughout his appointment, stated the following about how his positive experiences influenced his identity formation:

I feel that this experience [doing his postdoctorate in the U.S.] has changed me considerably. I feel like I returned from the U.S. with a more open mind. Basically, that’s what happened, my world has expanded. Not only because of the laboratory that I worked in, but the opportunity to meet different types of people outside of the academy. It was a global experience, learning about them and what they did for work. This influenced my willingness to stay in the U.S. 100 percent, if I could I would have stayed.

Similarly, another participant who not only characterized his workplace positively but also had culturally-affirming experiences explains how that influenced his migrant identity formation:

Also considering my experience in the UK, I would say that here in the U.S there has been some recognition of my status as a European or as a [home country] citizen. Coming from an environment like in London, where there are more Europeans compared to UCLA, where you find more people from Asia than Europe. This has led me to be seen as more exotic. My experience hasn’t been bad at all, it’s been definitely positive and I see myself in Europe as if I was taken for granted. Then you move here and realize you are actually a bit special. You’re coming from a different country and bringing something different with you something different to the community.

and social hierarchies. Mary Waters (1999) Migrant Identity framework posits migrant identity as a complex phenomenon. Waters’ framework acknowledges that identity formation stems from the migrants personal sociopolitical history and encountering race and social hierarchies within their host country. Waters framework assumes that the migrants’ attitudes, beliefs, and behaviors are influenced by their experience within their host country.

To contrast, the following example taken from a high-vulnerability participant demonstrates how the challenges she encountered with the intersecting experience of being on a temporary workplace visa influenced her migrant identity.

I think that has had the most impact is the fact that you don't have the security of being able to stay here in the U.S. in case you lose your job. For example, in my case with the kids...we have our visas, our paperwork, and everything else, but you never know. If my advisor runs out of money for this grant and the next year he says, "I don't have any more money for your salary. I cannot hire you next year," that's that. I think that's the feeling that shakes me the most about being migrant here... if anything comes up, we might have to immediately pack up and change our lives as we know them. This experience would be a negative thing and keeps us worried a little bit. To be in that situation...we would not know how to deal with the whole thing...my son is under my visa, so it would be the same for him. If anything happens and I don't get my contract renewed, then we would both be in the same situation.

These examples also illustrate how their transition informed newfound workplace expectations, norms, and attitudes. However, according to participants that had previous living and/or working experience in the U.S., the extent to which these experiences influenced their sense of self was reduced. Specifically, participants who had completed their doctoral studies in the U.S. and had to relocate within their host country discussed how the length of time spent in the U.S. allowed for an easier transition and, subsequently, a less conscious negotiation process of self. There were few participants who although acknowledged the migrant identity formation process, made conscious efforts to remain unaffected by the pressures to assimilate, explaining how their cultural perspectives and identities were valuable. For example, a participant states:

Well, I think your job changes you. You start to learn things or you start to realize the bad things that people do and you avoid those habits. The changes that I have made in my life I attribute to my age and not where I am located. Not because I live in the U.S. I am the person that I am, if I was influenced it was because I matured. I don't think that I am molding myself because I have lived in the U.S. Nothing is going to mold me...I am going to take things wherever I am and adapt, but that's it. I am not going to redefine myself according to where I am...it has a lot do with where I am from. I think, if I don't like it, I'll leave. It's a 20 hour drive. There are people who live on the other side of the world and think, I can't go home. In my case, if I lose everything and have to return to

be a farmworker, I'll do it. I'm not going to say in a country where I can't stand up for my rights.

These and other examples demonstrated how the participants' connection with their home countries, migrant agency, and/or their understood limitations about life in the U.S. influenced their migrant identity formation process.

When participants discussed negative workplace experiences (regarding the scope of vulnerability experienced, oppression, and/or abuse), they acknowledged that to varying degrees these experiences negatively influenced their migrant identity. Specifically, IPDs understood that their negative treatment and/or limited agency indicated a lack of concern for their overall well-being. Regardless of who or what university structures perpetuated these experiences, participants viewed their international status as inherently limiting and/or a negative identity formation factor. These observations from the participants oftentimes indicated larger societal issues that pertained to the general treatment of immigrants in the U.S. and the different ways these values were espoused by the people that the IPDs interacted with. In the following section, I present additional findings that pertain to this issue.

Unacknowledged Migrant Identity Information

To further interrogate how issues of migrant identity formation manifested within the workplace, I would share my own personal frustrations with academic culture, the ways in which academia was perpetuated by the status quo, and my negotiation of self as an immigrant. I used several examples to explain how academic culture was jarring to my Mexican cultural values and socioeconomic status. All of the participants sympathized and went on to share their own experiences—either elaborating on similar frustrations or explaining how “American” culture assumed different norms and workplace expectations. The majority of participants felt that there

were some aspects about American culture that weren't necessarily easy or comfortable to adapt. However, participants explained that they understood that they needed to portray similar behavior for their professional advancement. For example:

Yes, in some sense I agree that this American bragging style is something that I need to get more comfortable with. I think the other thing that is probably like a general European thing is that I'm quite keen on my work life balance. That affects my productivity, and I'm more of a productivity person by putting x number of hours. I think this makes things a bit hard because my boss is hands off. I think that as long as you produce things, you're all right. I do feel like my colleagues are kind of against my work-life balance. So for me, that's a tricky thing, especially because so my husband is Brazilian and I'm not. We do want to visit family in two different continents, so it just means we do need extended stays a few weeks going to one country and a few weeks going to another country. I think that doesn't necessarily go down well with certain people although in the union contract we have these five weeks of vacation. But the people don't see it as a norm and that you can take leave.

Observations about disparate cultural attitudes and norms were different among ethnic minorities and oftentimes intersected with their experiences of being minorities on campus and/or their gender. To illustrate, a female participant explained the intersecting aspects of academia she had to navigate to succeed:

A white male protestant is the stereotype of a successful scientist, so I do feel pushed to emulate this. Although it is clearly not me, and so you have this showing off thing that happens at work and the other thing is presenting in a particular way—You have to navigate this stance and act as if these things are easy for you. You have to look confident and relaxed, as though the presentation comes so easily to you. But really, you rehearsed it so many times that you are pretending...Another thing is when you have to adapt the language jargon and the ways of speaking American. It's like you have to learn to say things all over again...Also, you have to, depending on whether or not you have a life, to say you are working more than you are. This is strange because in France you might work very hard, but if you meet your colleagues you will talk about different stuff. Not replying to emails is very different so having worked in another country it's very rude to me that the people just don't reply to emails I mean it's very frequent so you feel like you sort of also have to not always reply to emails or reply as if you are too busy.

This example demonstrates how gendered expectations within the workplace, disparate cultural norms, and newfound understanding of the host country implicated a new negotiation of self. In contrast, the few participants who generally felt more comfortable with the established

workplace culture, commented on how these attitudes and behaviors were similar within their home countries. To various degrees, participants who were comfortable with the established workplace culture acknowledged their migrant agency and understood that this could be additionally difficult for ethnic minorities (particularly among Asians) and IPs who had difficulty speaking English and/or had heavy accents. For example:

There is definitely a hierarchy [in the workplace] and it has to do with how well you can express yourself in English. In my lab, like in many labs, there is a sort of social hierarchy. People who look more American tend to get listened to and get more respect. Presentation skills in English is something that is very difficult for foreigners. Among the foreigners, among everybody, the people who can speak English well and stand like an American and have this great presentation skills are perceived by everyone as being the best postdoc. Even though that's not true, it's a skill and for me I have been in U.S. for a very long time and I have had to change and grow. Although of course my accent is still something I have, it goes in my disfavor. I can still give a good American style presentation, but I see the starting foreigners who have less years in English and have definitely paid less attention to the culture. It also depends on the culture for example a lot of Asians that have recently come from China for example have a much more hierarchical type of culture so they are much more soft spoken and present in a style that is much different they are less flashy than the American postdocs and students and I can sense that they end up at the bottom of the hierarchy because they have the least loud voice.

Ultimately, these findings indicate that although participants did not initially acknowledge these challenges and/or experiences as part of their migrant identity formation, there was indeed a self-negotiation process that took place within the workplace. The topic of race relations and social hierarchies as it pertains to migrant identity formation is further examined in the following section.

U.S. Race Relations and Social Hierarchies

Once participants had explained their migrant identity formation process, they were asked how they experienced U.S. race relations and social hierarchies within the workplace. This would oftentimes lead to a discussion about the realities of racial tensions, usually outside of the

university, as manifested by the current political climate and/or the increasing awareness of police brutality. The data analysis revealed that participants who believed others identified them as whites experienced considerably less microaggressions. In addition, to various degrees, white participants acknowledged how U.S. race relations provided them with additional privilege, within the workplace. These observations were at times contextualized and intersected with their acknowledged and unacknowledged migrant identity formation process. For example,

When I first came here, I was like, wow I'm super white. I never thought about that. And people have certain expectations about how I sound, what I think, what I do. But when I put myself within the context of academia that kind of gives me a slot where I fit in. But it's all good and bad because academia is very white, very educated. I can see myself defining myself more through that than I would in my home country....People expect me to be more conservative than I am. That's number one thing, my political orientation. Also, maybe my behavior or I don't know...I feel like if I'm in my home country I behave more freely. Here I have to be more professional, more subdued, and more proper. It has affected what I do, as hobbies, for example. There are some expectations that when I go to the store. Other ethnicities that are more hostile towards me, expect me not to appreciate them. At first it was weird and hurtful, now I understand that this is a racialized society this is how it works and I can't blame anyone for it. The way you dress seems to be also racialized. For example, there's a certain expectation that I feel as a white person if I wear a very colorful shirt, everyone will be commenting on it. Especially for highly educated white women, jeans are okay. You are a postdoc that needs to be more elegant or you look like you are going to an office. Also, I notice, I use buses and I don't have a car. I like public transportations. And I realized that I'm the only white person in the bus and then you can really compare how you dress to other people.

In addition to acknowledging how whiteness “did” or “conceivably” afforded them different treatment. The majority of white participants discussed how their whiteness limited their ability to critically evaluate racial dynamics within the workplace due to the fact that perhaps they were unaware because they had not personally experienced racism and/or microaggressions. The following statement by a white participant captures these sentiments. He explained that a lack of diversity within his home country affected his ability to “tune-in” to race:

If anything, I think the hierarchy in my lab was informed by how well people spoke English. So yea, often times that leaves out the Chinese. At least that was my

impression, which then puts them a little lower and it's just hard. I'm not sure about you, but if I read something that has tons of typos, it's very hard for me to respect that. If I listen to somebody who can't understand English, it's like okay, I managed so why can't you speak English okay? It's really hard to respect people that have been in the states for a while and their English is so awful. I mean that's a generalization but more often it just seems like that's the Chinese guys. That's another thing we are not very diverse I don't know the exact numbers, but it's like 80 percent white males in engineering...I don't recall ever seeing a Black engineering student there must have been one or two but I don't recall ever seeing one...Again most people are just white so putting any sort of hierarchy to race when there are pretty much no races [lack of diversity]...I don't think there is a hierarchy based on race, it's more of like where are you from and how horrible is your English...that's something I noticed about Americans they are so attuned with these things and I am not...

However, regardless of how much their whiteness protected them from internal workplace racial dynamics, the majority of white participants noted that the university was a “bubble” or a “cleaned up effort” that minimized actual U.S. racial tensions. Furthermore, the majority of white participants also discussed how the term ‘white’ did not speak or affirm the richness of their experiences as Europeans from particular regions. They indicated the ways in which U.S. race relations limited the actual diversity that exists among (white) Europeans and the cultural differences that exist within the European regions.

During the interview process, and after participants described how they perceived U.S. race relations, I presented a racial hierarchy in which Chinese international postdocs had complained to the labor union that they were at the bottom of the racial and social hierarchy and were subsequently expected to work longer hours (referred to as being on “Chinese time”) and received less professional development. Although the majority of white participants had not been witness to this, some white participants acknowledged that they could understand how this could conceivably be the case for Chinese and other Asian postdocs either due to their limited English skills and/or quiet nature in the workplace. The previous examples illustrate this finding, as well. However, white participants generally stressed that it was English skills that mattered

most within the workplace and influenced how an international postdoc was treated and not necessarily race or perceived ethnicity.

Conversations among ethnic minorities about U.S. racial relations and how they influenced racial hierarchies were more pronounced. The majority of ethnic minorities noted the lack of diversity within their respective fields, the consequences of not having a diverse workplace, and how their international status further compounded these experiences. For example:

Yes, so I did see this [racial and social hierarchies], I mean a little bit of you know biasness in my PI from the UC. My Harvard PI was also an international professor, and he came actually from China so he kind of understood the things that we have gone through. The PI that I was working with she was born here, and she is an American so we could see actually the biases that she would be a little bias towards American born people. She would be a little reluctant to do a lot of favors for international postdocs... the American postdocs were paid through T32 grant from a research foundation for her salary. It was more open for her to do a lot of things and at the same time be more flexible in her work towards them... maybe get more funding for going to meetings and those things. But for me or other international postdocs she always had to keep in mind how much money she was putting for us so we had less chances of going to meetings. There was some biases involved.

The participant went on to describe the how she perceived the PI to have disparaging sentiments towards IPDs, imagining that the PI was thinking she had “wasted money in sending those [internationals] to meetings [conferences].” The participant clarified that, “It’s not like she were to outright say that, but it’s just that I felt my PI was being bias in that sense.”

For some ethnic minority participants, these dynamics were additionally stressful and perpetuated microaggressions within the workplace. However, negative feelings regarding racial and social hierarchies were reduced when the composition of the lab (colleagues) was diverse in nature. For example, an ethnic minority participant within the medium-vulnerability group characterized his workplace dynamics very positively, attributing it to his diverse workplace:

I would describe my work environment as extremely comfortable, extremely open. I am very happy. My work environment is a relatively healthy work environment. There are issues like in any other lab and those issues are not necessarily interpersonal issues, they are academic, related to research. People not being happy because they don't receive proper attention or not. Like I said, I am in a privileged position because there was a need for me and I was able to provide for that need. Therefore, my PI is very happy with me. And as you can probably tell I am very extroverted and very friendly. And have a great relationship with all of my colleagues and grad students so this is to me the dream postdoc. I'm very happy. We have a very diverse, I don't know if this is something that is useful for you, lab. We have members of the LGBT community we have a lot of women, we have a bunch of international people. It's a small lab but we are pretty much all different and that's one of the things that I really love.

Notably different from how whites spoke about race, was the ways in which ethnic minority participants self-acknowledged where they stood within the racial hierarchy, and to various degrees, acknowledged a glass ceiling that prevented advancement. For example:

So in terms of academic research I have seen white professors and nonwhite professors and American professors and non-American white professors succeed and become very productive here at UC. In that regard I feel like there isn't necessarily a damper in terms of who will ultimately rise in the research lab. On the other hand, I do recognize if there are cultural gaps in terms of mannerisms, I know that if you just don't have like the American mannerisms or if you have a difficult to understand accent or if you're command of the English language is not solved then that's really going to put a stall between you and the person you are trying to reach out to...I can totally understand how someone who is less American might feel like they are not being seen in the same light or not being able to connect with those they need to connect with in order to rise farther and farther...One kind of mentality mindset that I hear very frequently is, you won't get very far in the U.S. if you're not liked by white people. It sounds very insensitive but in many ways it's true. They are the ones who kind of created modern day American society as we know it, they are the ones in politics they are the ones leading huge corporations and that's not to fault them for being exclusive they just have this significant leg up over nonwhite historically that's just how America is.

In addition to reflecting about glass ceilings, the participant described how difficult the identity construction process can be for immigrants. He also stated, "If you want to be acknowledged by those [powerful, white] people as someone who can function in their capacity, you have to be very relatable to them. That puts a tremendous pressure on those who enter the U.S. in their mid-twenties or early twenties...they are going to have to break down everything that you know

being part of their identity and just kind of reconstruct it into something that is more American. That is going to be more difficult for someone like those people than people who enter their country in their twenties like me.”

Of particular importance is that when ethnic minority postdocs were presented with the racial and social hierarchy example in which international Chinese postdocs were at the bottom, the majority of participants confirmed this to be the case and two participants specified that this was particularly prevalent in the biological sciences. For example, a Chinese participant explained how Chinese cultural values were in contrast to the status quo and how that perpetuated a racial disadvantage within the workplace:

Overall I don't think PI cares too much about your race, but I can still sense some differences when the PI treats some people. For example, my PI he's a Russian. He has one Russian technician, and she migrated here at a young stage. She speaks very good English, but she's originally from Russia. And there's another Russian student, and he was born here. You can feel that he treats them better, gives them more resources, and lets them publish better papers. Also, here's another story from another lab, it's an Indian PI, who gives better projects to Indian postdocs. Chinese postdocs complained about how they are not given enough credit or opportunities....I agree that language issue is probably the most important factor in this general observation about Chinese postdocs. In our education in China, English is a big part for several reasons but spoken English is not very well taught. Second, is that in Chinese culture people don't like to speak too much. They prefer work other than speak. Third, I would say is that Chinese postdocs usually don't know how to handle conflict with the PIs...they don't learn in school how to deal with conflicts with superiors. So sometimes it's difficult for them to communicate with PIs or with HR. I think that's what makes the PI treat the [Chinese] postdocs badly and they don't know how to use their rights to fight back.

The participant went onto to confirm that, “most Chinese, especially those who can't speak English very well, they would be at the bottom of the hierarchy,” and that “people who improve their English, accept American culture, and become active get treated better.” Ultimately, the findings from both white and ethnic-minority participants, indicated that for the majority of ethnic minority postdocs, there exists very real racial hierarchies. Further, these racial hierarchies

are tied to IPs' temporary visa status and perpetuate other non-racial social hierarchies, (e.g., gender and cultural identities) that are found within labs.

However, the most salient social hierarchy revealed by the qualitative data analysis were the politics of respectability among women in STEM—regardless of experienced-vulnerability and race. Participants who identified as women spoke about systemic gendered inequality that persists within academia. With the exception of one female participant, at various points within their postdoctoral experience, women participants spoke about the challenges of being a minority. Per previous qualitative findings, participants described how these challenges become all the more pronounced when a female postdoc has a family to take care of. Similarly, women *and* men who did not have children commented on how much more difficult their postdoctoral appointments would be if they added the pressures of raising a family. This finding indicates how gender also implicates social hierarchies within the workplace and the ways in which U.S. academia does not culturally support working mothers.

Conclusion

The qualitative findings identified inherent workplace vulnerabilities embedded within the postdoctorate and exemplified how these vulnerabilities were detrimental to the IPDs professional and personal development. As well, the findings demonstrated how and under what circumstances workplace vulnerabilities actualized into exploitation of the IPD scholar. Regardless of what became of the participants postdoctoral experience at the UC, they all found themselves in similar positions prior to beginning their appointment: seeking out the right professional fit considerate of their specialization and that of their prospective employer, *and* ensuring that their prospective supervisor had the funding to support an international

postdoctoral appointment. Once these two experiences were aligned, and assuming that their prospective supervisor had a job opening, the participants described the ways in which they were and were not supported in their (oftentimes international) transition to work at the UC. Of particular importance was participants' salient use of the word "lucky" to describe how they had secured their UC appointment. Across the spectrum of participant experiences of vulnerability to abuse, the findings demonstrate that generally, these workers did not feel empowered or informed to negotiate their visa status and/or wages during their job application process and thereafter.

From combating isolating culture shock to understanding how one acquires credit and secures an affordable apartment, the qualitative findings revealed the breadth and depth of the challenges that IPDs have to navigate for a successful employment transition. The findings also demonstrated the ways in which participants' sense of belonging and security was influenced beyond their place of employment, indicative of the significant responsibility the university has in providing comprehensive migratory support. Relatedly, the findings exemplified the ways in which the IPDs personal or migratory agency and/or the support received from their UC employer made a remarkable difference as to how challenges were experienced and additional crises were averted or exacerbated.

The findings establish the need to re-conceptualize the academic migrant labor system so as to constitute workplace security, satisfaction, and affirmational identity-formation experiences. The findings also confirmed the influential role of the Principal Investigator (PI) despite the unionization status of the UC postdoctoral workforce, revealing that regardless of the relationship established between the participants and the PI, the PI's status and influence made the workers inherently vulnerable within the university system. As such, participants explained

why problematic behavior on behalf of the PI (including egregious workplace violations) were tolerated to different degrees and why it was perceived to be the responsibility of the IPD to remove themselves from the situation without disrupting present and future professional working relationships.

The findings also provided reasons as to why participants would find it difficult to report egregious labor violations, given the status and influence of their PI. Perhaps most important to this study, the findings illustrated the multidimensional pathway from which postdocs moved from vulnerable to oppressed and/or abused. The mapping of the data accounted for how and during which employment phase the IPDs were vulnerable and how/when vulnerability actualized into instances of oppression and/or abuse during their UC employment. The vulnerability-to-abused map revealed that abuse can even result in death. The PI wields that much power. Ultimately, the qualitative findings highlight the many opportunities for supportive policies and institutional reforms that will improve the lives of workers. Therefore, it is incumbent upon the university to minimize vulnerability from the onset. The implications of the findings and the role and responsibilities of educators and policymakers are discussed in the following chapter.

CHAPTER SIX: DISCUSSION AND CONCLUSION

Data Synthesis and Discussion

The quantitative and qualitative findings demonstrate which workplace experiences and personal characteristics influence migrant identity formation phenomenon and its relation to workplace vulnerability and workplace supports. The qualitative findings extend the quantitative findings in providing context to the migratory process. As such, inherent vulnerabilities were identified prior, during, and post the postdoctoral appointment. The qualitative data revealed disparate migratory agency and the ways in which agency helped mediate challenges within the workplace. The ability to examine characteristics of vulnerability within the different vulnerability groups (low, medium, and high) revealed patterns of affirmational workplace experiences and the ways in which vulnerability manifested from oppression to abuse. The qualitative findings also developed the topic of residency status and its relationship to preferred residency, illustrative of the ways in which residency permeated different aspects of the participants' professional and personal lives. Of particular significance, the methodological approach supported a rich discussion about migrant identity. Participants were able to acknowledge which experiences influenced their migrant identity. The qualitative findings provided additional information as to how U.S. race relations and social hierarchies impact personal characteristics and the multidimensionality of these experiences.

The qualitative and quantitative findings are not only in conversation with one another, but the qualitative findings emphasize the limitations of the quantitative data. Categories such as personal demographics, instances of labor violations, and reasons for not reporting a workplace

violation are not static. Rather, the qualitative data reveals the depth, breadth, and significance of these experiences. Take for example the categorization of vulnerability groups: although the categorization offered an initial starting point that was helpful to understanding patterns and intragroup differences, the qualitative findings reveal that having a “low” vulnerability experience did not necessarily translate to a positive workplace experience. Although one workplace violation (medium-vulnerability) might be perceived as manageable, the qualitative data demonstrates the ongoing impact a workplace violation can have both personally and professionally. The qualitative findings permit a critical analysis of the quantitative data and go beyond categorization—providing interventions for the workforce. Ultimately, the qualitative data provides a means to critically interrogating a work culture that is not supportive of academic migrants. To that point, the model below illustrates the relationships between institutional policies and practices that impact academic migrant identity per the findings of this study.

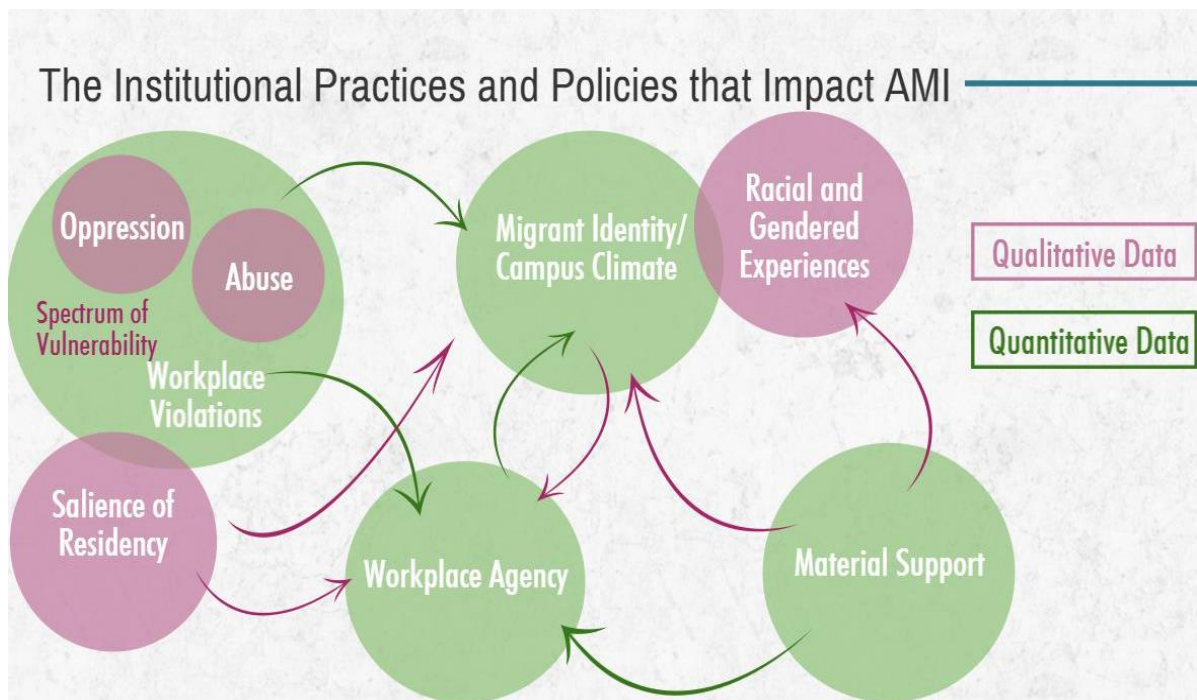


Figure 3. Institutional practices and policies that impact academic migrant identity. This figure illustrates the proposed academic migrant identity model per the findings of this study.

Scholarly Contributions

This study elucidates the international postdoctoral experience and, more broadly, the intersectional plight of academic migrants. The findings echo the general challenges that postdocs experience—power dynamics between the postdoc and PI, workplace vulnerabilities, low wages, etc.—and how those challenges are compounded within the temporary workplace visas status. The mixed methods methodological approach and use of critical frameworks allowed for data to be disaggregated, and illustrated how personal characteristics and U.S. racial and social hierarchies intersect with disparate workplace experiences. In contrast to previous postdoctoral workforce research, the international component is the focal point of this study. Subsequently, salient influences and characteristics of the postdoctorate are identified in consideration of: international relations, disparate migratory agency, the distinct limitations of temporary workplace visas, preferred residency status, and the lived pressures of academic capitalism. For example, the findings not only reference the pyramid lab structure per previous studies (i.e., Camacho & Rhoads, 2015; Stephan, 2012), but extend the discourse by identifying the ramifications of the power dynamics during the work life cycle of the academic migrant.

The findings also dispel the myth that if the majority of postdoctoral workforce is satisfied with their workplace experience and that the issues the institutions need to resolve are relatively few. Rather, this study has confirmed the inherent vulnerabilities of the postdoctorate and the egregious workplace violations that are occurring within “satisfactory” workplace

environments. The findings highlight how workplace vulnerabilities, microaggressions, gender discrimination, and anti-family policies have become normalized. Ultimately, the findings indicate the need to establish a more supportive work environment and why this process necessitates the purposeful dismantling of U.S. race relations and social hierarchies within higher education.

Specific to academic migrant discourse and in part due to the intersectional approach, the findings confirm the various inequities immigrants experience during the migratory process. Factors such as country of origin, English fluency, ethno-type, monetary resources, and migratory regulations influence the migratory experience *and* the migrant identity formation process. This study has presented the disparate sociopolitical realities that academic migrants encounter and how workplace vulnerabilities are perpetuated. To a certain extent, the findings provide additional examples as to how the global economy creates stratification within academia. Premier research institutions “benefit” from this stratified system and inherent workforce vulnerability. The university system needs to move away from an employment system that capitalizes on worker exploitations towards a mutually beneficial arrangement, one that speaks to universities’ missions and purposes.

The topic of academic migrant identity has been discussed, examined, and operationalized at length. In the process of operationalizing an academic migrant identity model through mixed methods methodology, this study helped identify limitations within the current discourse. The proposed model not only provides an intersectional lens to analyze workplace issues according to the experiences of historically marginalized populations, but establishes the ways in which U.S. racial and social hierarchies are a component of campus climate. The qualitative and quantitative findings brought forth a nuanced and rich discussion about

hierarchies and the acknowledged and unacknowledged aspects of the migrant identity formation process.

Perhaps most importantly, this study identifies actionable practices that institutions can implement to establish a campus climate that is truly supportive of international populations.

These recommendations were identified as a result of the theoretical and methodological approach, which amplified the perspectives of academic migrants. The study employed their expertise to clarify the current costs—professional and personal—that academic migrants are expected to bear during their international-academic exchange process. The recommendations presented by the participants illustrate the general lack of institutional support and mechanisms that presently exist for academic migrants. The findings confirm that when their professional well-being and security is compromised, the accompanying challenges that migrants experience intersect with their personal and professional livelihoods. As such, issues relating to vulnerability, oppression, and abuse are part of the migrant identity formation process.

Unfortunately, these experiences also perpetuate U.S. racial and social hierarchies. Whether self-acknowledged or not, academic migrants experience disparate rights and privileges compared to U.S. citizens and permanent residents. If institutions were to adopt the identified recommendations, postsecondary institutions would not only be providing a more equitable work ecology within higher education, but would become active agents in supporting affirmational migrant identity experiences. In fact, the very existence of these recommendations establish that migrant identity formation is significant to their personal and professional life.

Supportive Policies and Systems

With the preceding in mind, participants provided in-depth recommendations that would help transform the institutional culture, making IPDs feel that they were indeed welcomed and their contributions appreciated. Above all else, participants unanimously stressed the importance of having significantly higher wages. A salary commensurate to their education, experience, and workload would enable them to participate in society and allow them to fully engage in their work life. Specifically, participants discussed at length how their current wages oftentimes did not meet their basic expenses. Note that the majority of temporary work visas do not allow IPDs to take on a second job, so they are limited to their current salary. Per the participants, a significant wage increase would demonstrate to the IPDs that they were indeed valued by the institution, as well as provide the necessary job security they needed to overcome workplace challenges. Further, fair wages would help address many of the challenges experienced by IPDs. Additional recommendations addressed issues relating to: institutional support of the visa process, relocation, professional development, campus climate, and immigration reform. These were the overarching participant-led recommendations: 1) higher wages that are both commensurate to IPD productivity and the cost of living in California; 2) a responsive and supportive university system in regards to IPDs migratory issues and concerns; 3) reformation of policies pertaining to temporary work visas so as to alleviate cost, support alternative residency statuses for workers, and facilitate the visa renewal process; and 4) the need for affordable housing due to their low-wages and the high cost of living. Among postdocs who had families, the need for affordable childcare was also established as important, as current postdoctoral wages do not meet the costs of supporting a family. Note that the recommendations were identified by the super-majority of the participants regardless of their experienced vulnerability,

demographics, and/or length of postdoctoral appointment. In the section below, I present the participant-led recommendations that would advance *Supportive Policies and Systems* for the workforce.

Visa Recommendations

Given the extensive limitations and challenges identified with temporary visas, detailed recommendations were made on behalf of the interview participants. These recommendations either stemmed from visa difficulties that participants had experienced and/or observed. The recommendations were as follows:

1. First and foremost, university administrators need to provide detailed information about the different visa types during the job interview process and prior to the IPD signing their employment forms. The visa information provided needs to include visa regulations pertaining to the IPDs home country (per visa type), the renewal process and timeline, all costs associated with the renewal process, and the process/possibility of obtaining permanent residency according to each visa type. This process needs to be the institutional standard.
2. As part of the visa information process, the IPD needs to also be informed about the process of sponsoring a spouse or family through their temporary work permit and any information relating to spousal employment. The institution needs to support spousal employment, especially when dependents are involved as current postdoctoral wages cannot support a family.
3. With the preceding information in mind, IPDs should be able to communicate to their employer which visa type best suits their needs prior to signing their IPD employment

forms. If the employer cannot secure the IPDs preferred visa type, the employer needs to present the IPD with a plan towards securing the preferred visa type during their employment. This visa plan should be independent of the relationship established with their respective PI. The visa negotiation process should be regarded as a safe space in which the IPD can ask questions and make decisions based on accurate information.

4. Should the PI violate the just cause process or threaten residency status, designated university administrators need to immediately intervene and provide visa protections and extensions to immediately accommodate a new PI partnership. When these work violations occur, the university needs to be transparent in regards to how PIs were reprimanded and reiterate that such behavior will not be tolerated. This will help change the culture of vulnerability and communicate to IPDs an assumed standard of institutional support.
5. Regardless of the visa type, the employer needs to provide employees a minimum of a 30-day grace period to establish residency, procure all necessary residency documents, and open a bank account.
6. During the 30 day grace period, the IPD should be able to access emergency loans and/or a paycheck advance to help cover the costs.
7. If the IPD is being sponsored through a multi-year funding grant, the visa sponsorship needs to be congruent to the years of funding available. Specifically, IPDs' visa timeline needs to match the multi-year grant cycle; IPDs on a multi-year funding timeline should not have to renew their visa annually.
8. If the IPDs employment contract is going to be extended beyond their current funding cycle, IPDs should be notified at minimum two months prior to the date of visa

expiration. The paperwork that needs to be submitted on behalf of the employer must be filed at maximum one week after the decision has been made to extend the employment period.

9. All visa related inquiries and follow-up needs to be designated as urgent. The response rate should be no longer than 48 hours. Should an issue take longer to resolve, the employer needs to provide updates to the IPD as they occur. Under no circumstances should a delayed and/or non-response compromise the IPDs visa status.
10. When the IPD engages in the visa renewal process, this timeline and process needs to be regarded as time worked by the employer. A proposed work plan on behalf of the IPD will be submitted prior, so that it is clear how work will advance during the renewal process. The proposed work plan will be considerate of travel dates and meeting times with IPDs' respective embassies and will set realistic work expectations given IPs' visa-related obligations.
11. Should an IPD begin the process of petitioning for permanent residency, the employer will provide a recommendation upon request. The recommendation should be submitted per the filing deadlines. The recommendation needs to fully recognize the work contributions of the IPD, the specialized skills employed, and the ways in which the U.S. benefits from having the IPD become a permanent resident.
12. The IPDs should be able to access and consult with an attorney that will provide guidance and expertise relating to their current and preferred residency status.
13. University administrators need to bear the burden of the bureaucratic process in regards to maintaining the IPDs temporary residency status so as to facilitate the process and allow IPDs to fulfill their job obligations.

Institutional Reform Pertaining to Visa Sponsorship

In order to realize the preceding visa recommendations, participants identified institutional support that must be established to provide a supportive campus climate.

1. University administrators need to clarify during the employment process and after the employment forms have been signed that the IPD is being sponsored by the university and not the PI. Administrators need to establish separate personnel to handle visa-related issues so that distance between the IPDs residency status and employment is secured and communicated. There needs to be designated university personnel whose job is to provide support regarding immigration issues; IPDs need to know who these individuals are and their role. This needs to be the institutional standard.
2. All visa-related issues and residency plans should be communicated in writing. Neither the PI nor the institution can change residency sponsorship/plans without changes being expressly requested by the IPD.
3. The university must bear all costs of the visa renewal process, including financial relocation assistance. The financial relocation assistance needs to include airfare, housing costs, and a stipend to cover costs until the IPD receives their first paycheck. To protect the IPD, this financial assistance should not come from the PI grant. Rather, these costs should be shouldered by the university.
4. When university personnel and/or the PI discuss visa-related issues, under no circumstance should the IPD be made to feel that they are a financial burden due to the process.
5. Administrators need to establish university-wide protocols in dealing with visa issues so that the process of inquiring and resolving visa challenges are accessible. When the

institution communicates that the employer bears all costs of the visa process, under no circumstances should the PI or university personnel communicate that there is a “standard visa” or only “one visa option.” This information is false and negatively impacts IPD agency within the workplace.

Recommendations Pertaining to Relocation

Given the complicated nature of an international relocation, made additionally challenging if the IPD has dependents, this section outlines supportive measures the institution can adopt. The relocation recommendations are as follows:

1. The university needs to reserve emergency temporary family housing for IPDs so that a transitional space exists while they are establishing new residency in the U.S.
2. University administrators need to ensure that there is sufficient university housing for the increasing IPD workforce so that living on campus is an option. This is especially important in geographic areas where the housing market is expensive and beyond the means of a postdoctoral salary.
3. The employer needs to provide a letter of support to creditors, outlining the IPD’s earnings for the academic year and temporary worker status to facilitate the housing process and contextualize the absence of a credit score.
4. The university should establish relationships with affordable housing companies to facilitate the housing search and streamline housing needs that the institution does not have the capacity to support. In addition, the housing application process needs to be demystified and simplified. This information should be made available to IPDs prior to them immigrating to the U.S.

5. The university needs to provide child care subsidies for IPDs with dependents. In addition, university childcare should have room for children of IPDs and provide childcare on a sliding-earning scale to accommodate the limitations of the postdoctoral salary.
6. Given that the majority of IPDs are residing in the U.S. for a temporary period, IPDs should be made explicitly aware that the opportunity sign-up for the university retirement plan is optional. When making the decision to enroll, IPDs need to understand that 5 percent of their salary will go to this plan and they cannot access these funds without incurring penalty costs.
7. IPDs should receive in-depth orientation about their university healthcare benefits and how healthcare works in the U.S., so that the process of choosing a provider and associated costs are clear.
8. Similar to providing comprehensive visa-related information, the employer needs to provide relocation information that includes the cost of living, the process for establishing residency, and resources available to IPDs relating to relocation support. This information needs to provide IPDs with a sense of the bureaucracy they will encounter, both within U.S. institutions and large research institutions. Finally, the information provided should outline the most important aspects of establishing residency that IPDs need to prioritize (i.e., obtaining a social security number, obtaining a bank account, etc.). This information needs to be organized and easily accessible.
9. University administrators need to ensure that sufficient personnel are employed within the International Affairs office so that IPDs are provided with sufficient support throughout their employment.

10. University administrators should effectively communicate any and all family friendly policies and resources available to IPDs.

Recommendations Pertaining to Professional Development

IPDs experience additional challenges in navigating the postdoctorate. As such, the following recommendations were made to mitigate challenges pertaining to residency status:

1. University administrators need to facilitate the grant funding application process so that grant opportunities available to nonresidents are easily identifiable.
2. University administrators must provide additional grant funding and fellowship opportunities specifically for nonresidents so that IPDs can remain competitive within the U.S.
3. To combat existing biases, the university needs to provide additional conference funding for IPDs.
4. In an effort to support a diverse postdoctoral workforce, the UC needs to provide additional funding support for underrepresented scientists.
5. University administrators need to designate high-ranking professors who can serve as mediators should work problems arise so that the IPDs' letter of recommendations and future professional advancement are not compromised. Moreover, these high-ranking professors should work collaboratively with labor unions to provide additionally comprehensive support during work-related grievances and concerns.
6. University administrators need to establish a more hands-on process to ensure that PIs are indeed providing IPDs with professional development opportunities and are providing equitable opportunities within the workplace.

7. Upon employment, university administrators need to clarify the hierarchical structure within the institution and the different resources the IPD can employ, including the labor union, to resolve workplace issues.

Recommendations Pertaining to Campus Climate

The challenges IPDs experience extend beyond workplace, as an international relocation changes all aspects of life. To address issues of isolation and an IPDs ability to navigate U.S. cultural norms and practices, the participants made the following recommendations:

1. University administrators need to communicate and provide space/opportunities for IPDs to meet and support one another. Presently, the International Affairs office speaks more to the undergraduate experience and does not accommodate the life experiences of postdoctoral scholars. The International Affairs office needs to provide age appropriate events and support.
2. Given the rolling employment of the workforce, university administrators should facilitate cohort-based programs and support services. This will allow IPDs to establish a network of colleagues facing similar challenges and adjustments.
3. The International Affairs office needs to include support services to help with different aspects of establishing a new life within the host country, an understanding of U.S. institutional culture, and how to combat culture shock (in and outside of the workplace). This needs to be a space where IPDs can ask questions about cultural norms in the U.S. and how they can manage cultural challenges.
4. University administrators need to be explicitly clear in communicating that adhering to its mission, values, and commitments to diversity are first and foremost for all members of

the campus community. Further, the university needs to publicly demonstrate how it efficiently labor violations are addressed and resolved, to promote a culture of transparency and safety. Members of the campus community who become vulnerable in the process of reporting workplace violations need to be recognize by university leaders and policymakers for working to improve campus climate. Members of the campus community that commit labor violations should not remain in a position where they cannot continue to inflict workplace harm to other, less powerful members of the campus community. This approach will help dispel the normalization of workplace vulnerability for academic migrants and other members of the campus community.

5. Upon employment, university administrators need to communicate resources available to the IPDs, including access to counseling services. The welcoming of IPDs need to be clear and the institutional standard.

Immigration Reform

Unfortunately the recommendations presented do not address all of the present limitations of the immigration system. The following recommendations are for university representatives to help reform federal immigration policies that can provide academic migrants with additional support:

1. Visa extensions should be provided separate from the employment contract. This would be especially useful for one year appointments to allow IPDs sufficient time to conclude their appointment and transition to their new appointment.

2. Academic migrants should be able to renew their visas in the U.S. at their respective embassies. This would provide enormous savings to the IPD and the institution, as well as make the visa renewal process less of a time constraint.
3. Federal protocols need to be established so that IPDs are not perceived as an interchangeable, disposable workforce. Federal incentives should be provided so that academic migrants can more easily obtain permanent residency sponsored by institutions.

Similar to other qualitative findings, these recommendations demonstrated an overall lack of institutional support that reflect poorly on the operating assumptions of university administrators. From the onset, IPDs are expected to immediately acclimate to all aspects of U.S. culture, shoulder an international relocation, and navigate the U.S. immigration system with little to no support. These recommendations provide a foundation to advance campus climate for academic migrants, as well as identify the institutional operating assumptions about the workforce. Further, these recommendations also demonstrate why it is imperative that university educators and policymakers also espouse a critical and intersectional approach in seeking to understand and address challenges experienced by academic migrants.

Limitations

There were several limitations my proposed study that may have impacted the findings of this study. First, the unionization of postdocs has established minimum rights and benefits for the workforce, and this has arguably increased workplace security (Camacho & Rhoads, 2014). Given that only three other universities have a unionized postdoctoral workforce, the studied experiences may not necessarily be characteristic of nonunionized postdocs. In addition, this study explored the experiences of the especially vulnerable and/or discriminated, within the

context of institutional and administrative power dynamics. Consequently, particularly vulnerable postdocs may not have felt comfortable participating in the study, and/or may not have wanted to delve into the nature of their experiences. It is also important to recognize that for the most part, this study only conveys one perspective on the nature of the postdoc experience. Though understanding the experiences of the workforce is central to this study, the perspective of Principal Investigators and resident postdocs is not taken into consideration.

Waters' (1999) framework assumes that experiences outside of the workplace (i.e. home environment, personal networks, etc.) also influences migrant identity. However, this study has only sought to understand work experiences. The inherently complicated phenomenon that is migrant identity was not comprehensively examined. For example, postdoc wages were a survey item and further discussed via the in-depth interviews, but participants did not necessarily discuss all aspects of their livelihoods that were influenced by wages. As such, intersectional areas that related to work experiences may or may not be fully explored.

Specific to the methodology, mixed methods is a form of inquiry that is considered to be a relatively new research approach, and the ability to locate mixed methods studies specific to the research study was difficult (Creswell & Plano Clark, 2011). Therefore, contextualizing this study within the literature has been challenging, which may impact my ability to compare findings across institutions. Relatedly, some may object to the use of mixed methods for my study, since the methodology assumes the mixing of various philosophical positions. The findings may be perceived to be in contrast with qualitative and/or quantitative philosophical assumptions. The triangulation of mixed methods data is not free of shortcomings; replication of mixed methods is difficult, and the “wrong” question on behalf of the research may have subsequent influence that limit the findings presented (Yoshikawa et al., 2008).

Survey Limitations

There were also inherent limitations in employing a survey instrument to understand migrant identity and their experienced vulnerability. Participants had the ability to skip questions and possibly not respond to specific types of questions that could have influenced outcomes within each survey category. According to Johnson and Turner (2003), survey respondents can experience reactive effects and answer questions according to their social desirability; consequently, postdocs may have portrayed a more positive work experience than actually experienced. Additionally, upon data analysis, I realized that although participants had the ability to indicate their native language this survey item did not indicate level of English proficiency. Waters (1999) speaks to the way in which English language proficiency and foreign accent can influence work experiences (positively and negatively), and I could not analyze this important factor as an aspect of migrant identity during the quantitative analysis. Furthermore, all experienced workplace vulnerability items were egregious contract violations. The literature indicates that IPD scholars are an additionally marginalized population for a host of reasons, therefore to utilize a composite score among the survey participants creates a mechanism in which an egregious experience is a “medium” vulnerability indicator. Postdoctoral scholars should not experience any form of workplace violation and the curve established by the composite variable is arbitrary in nature. The identified survey limitations were limitations that I sought to mediate during phase II of the study.

In-depth Interview Limitations

There were also several limitations during and after the interview process that may have influenced the objectives of the study during the in-depth interview process. First, participants that were identified as medium and highly vulnerable participants were less likely to agree to have participated in the in-depth interview process. Given that I sought to highlight marginalized perspectives, limited participation challenged my ability to understand the variability of medium and highly vulnerable participants when compared to the number of low vulnerability participants that I interviewed. Second, all interview participants were contacted approximately 6 months after they completed their survey, and could have been more established (depending on the time of the start of their UC appointment) compared to when they took the survey. This may have influenced their responses (positively or negatively) when asked to elaborate on their particular experiences stemming from their survey responses and may not have captured a moment in time during their migrant identity formation process. In addition, I attempted to interview postdocs from all ten UC campuses. However, postdocs from UC Merced did not participate in the in-depth interview process and there is no data in regards to the experienced work culture at that campus. The majority of the interviews (13) were conducted utilizing the skype video conferencing software, ten interviews were conducted over the phone, and three interviews were conducted in person. Though there are some advantages to conducting an interview over the phone, research indicates that in person interviews establish a more supportive rapport that enables the participant to have more confidence in the interview process (Ritchie, Lewis, McNaughton Nicholls, & Ormston, 2013). Regretfully, this was not possible and although I tried to communicate empathy and support, there were technological limitations as to what I communicate as the interviewer.

Finally, I had the opportunity to conduct two interviews in Spanish. These participants and I had familiar language, culture, and modes of communication that was notably different from other interviews. Since the participants are an international population, it would have been additionally transformative if they were given the opportunity to express themselves in their native language. I believe that more can be learned, particularly as to how they make sense of their migrant identity formation, if the interviewer were to understand and communicate in their native language, regardless of their English fluency. In addition, because I interviewed an international population, there were cultural differences that could have permeated the in-depth interview process that I could have been unaware of and did not account for in my data analysis. Cultural differences and linguistic diversity could potentially lead to misunderstandings between myself and the researcher and the research participants. However, this is somewhat offset by my own experiences and understanding of cultural diversity and language differences, as a former undocumented, woman of color working within the academy.

Future Research

The quantitative and qualitative findings reveal that there exists a specific racial and social hierarchy that is particularly salient in the biological sciences. Future research might further examine this topic by conducting multilingual ethnic-based focus groups and triangulating data with interviews from Principal Investigators. I believe that the exploration of this racial and social hierarchy will further inform knowledge about the pressures of academic capitalism, the manifestation of ethnocentrism within the workplace, and how the institutions permit PIs with seemingly limitless oversight. In addition, the findings relating to vulnerability are in conversation with Roberto Gonzales's (2016) framework regarding the *variability of*

illegality. Although the variability of illegality is developed utilizing longitudinal data from undocumented participants, concepts discussed within the framework speak to the international postdoctoral experience. Namely, issues pertaining to workplace insecurity and vulnerability. I believe that these vulnerabilities are due to anti-immigrant sentiments and policies enacted in the U.S. that cannot be abated by status or level of education. The ability to use this framework with additional data relating to the international postdoctoral experience will further affirm the experiences of this marginalized population.

Conclusion

This study elevates the experiences and recommendations of the international postdoctoral scholars for several reasons. First, if postsecondary institutions seek to actualize diversity mission statements and operate under the assumption that working with international populations benefits the host institution, then the responsibility of providing a safe and supportive workplace lies with the institution. Second, to qualify the ways in which academic migrants are an institutional asset, academic migrants need to perceive their international status, including their temporary workplace visa, as an asset within the workplace. Third, understanding the limitations that academic migrants experience as a result of their temporary workplace visa in contrast to their value to institutions reveals the need for institutional interventions. As such, these policies need to not only address institutional limitations but also mediate U.S. immigration policies that prevent international postdoctoral scholars from fully engaging in their work life.

The recommendations presented in this study are centered on the lived experiences of academic migrants. By definition, the recommendations affirm the academic migrant experience

and provide postsecondary institutions with the foundation to begin the process of establishing supportive interventions. The findings of this study also demonstrate the multifaceted and intersecting dimensions of the academic migrant phenomenon. Given these complexities, it is incumbent upon institutions to develop context-specific interventions *with* academic migrants. University policy makers and administrators require the awareness and analysis of academic migrants in order to interrogate the operating assumptions and implications of immigration policies. Recognizing migrants' inherent vulnerability, the university must institute a culture that is inclusive of policies and practices that facilitate IPDs to access their own agency and participate in developing supportive interventions.

The process of working with university administrators and policymakers necessitates a collaborative approach, one in which the underlying objective is to ensure that academic migrants perceive their migratory status as an *asset* and not a limitation. Accordingly, university administrators and policymakers that work with academic migrants should first complete diversity trainings that include the critical examination of U.S. ethnocentrism and seek to challenge U.S. racial and social hierarchies. This point of reference will facilitate and expedite a collaboration process that recognizes the contributions of academic migrants. Academic migrants who participate in this process need to be compensated for their work and recognized for their significant contributions towards improving campus climate. Before embarking on such a participatory model, it is of utmost importance that university policy makers and administrators first establish support from Principal Investigators and Supervisors. Academic migrants that participate in this process should not be placed in a position in which they have to compromise their professional advancement for developing diversity interventions. Rather, this process needs

to include professional incentives and developmental opportunities that provide advancement for participating academic migrants.

Institutions must value the expert advice of academic migrants on their needs for support. Intervention approaches should seek to incorporate the diverse perspectives of academic migrants through a participatory process. Feedback from ethnic minorities, women, and parents needs to be collected and implemented to ensure that diversity interventions speak to historically marginalized populations. This process will also require that university policy makers and administrators support participation from academic migrants who prefer to express themselves in their native language through the utilization of translators and interpreters. Of equal importance, the proposed interventions need to support the variability of workplace experiences, so that enacting agency within the workplace does not impact their current and/or future residency statuses. Finally, university policymakers and administrators must acknowledge that the work life cycle of an academic migrant is short and certainly does not accommodate the bureaucratic nature of large research institutions. Institutional bureaucracy should not impede the resolution work issues that implicate employees' residency status, job security, professional advancement, and/or fundamental safety and wellbeing. Therefore, during the development, implementation, and ongoing evaluation of these interventions, university personnel must approach the process with an adequate and necessary urgency.

Appendix A

Survey

7/11/2015

Qualtrics Survey Software



English ▼

Default Question Block

If you would prefer to take this survey in another language, please contact the union at uaw5810@uaw5810.org

What rights and protections would you like to win in a new contract? Please select all that apply:

Ability to choose the type of visa based on my personal circumstances

Employer-covered relocation costs

Longer postdoctoral appointments to support visa related timelines

Issuing longer visa appointments so that postdocs do not have to reapply for a new visa every year (i.e., DS2019 Certificate of Eligibility for Exchange Visitor Status); this should be regardless of the length of postdoctoral appointment.

Ensure that all postdocs receive equal due process regardless of immigration status (e.g. expedited hearings in case of discipline and dismissal)

Employer-coverage of all costs for visa expenses (including university and department service fees)

What is your resident status? Please select one:

I'm a citizen/U.S. permanent resident

I became a permanent resident during my postdoc

I'm a non-resident on a J1 visa

I'm a non-resident on a H1B visa

I'm a non-resident on OPT (I did my graduate work in the U.S.)

I'm a non-resident on a TN-visa

Other:

Do you have a spouse and/or children with you in the U.S. who are dependents on your visa?
Please select one:

Yes

No

If you're currently a non-resident, please indicate which of the following statements applies to you. You can use the text box to provide additional information (optional) and select all that apply:

I'm on a UC-sponsored J1 visa, but would rather have had a H1B visa

I'm on a UC-sponsored H1B visa, but would rather have had a J1 visa

I'm on a non-immigration visa (i.e., J1, H1B, F1), but would like to petition for permanent residency if UC would sponsor that.

I'm perfectly fine with my immigration status.

Mark one in each row, regarding your UC postdoctoral experience. You can use the text box to provide additional information (optional):

	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
I feel empowered to discuss any type of work concern, with my Principal Investigator, without any repercussions. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My colleagues perceive my international status as an asset within the workplace. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My UC work colleagues are supportive of international postdocs sponsored by temporary work visas. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All international postdocs that are sponsored by				

temporary work visas have the same advantages in the workplace, regardless of their race, ethno-type, skin color, and/or their English language proficiency.



Principal investigators (PIs, or professors) do not have additional influence over international postdocs in comparison to U.S. citizen or permanent resident postdocs.



Are you willing to share your story about the experience you have had as an international postdoc in order to put a face to the struggle of international postdocs? Please select all that apply:

Yes! I want to talk to a member of the International Postdocs and Diversity working group

Yes! I want to sign a letter or petition in support of the rights of international postdocs

Yes! I want to meet with a representative of my campus diversity office to share my experience as an international postdoc

Yes! Please contact me (enter your contact information below):

Not at this time, thank you

Are you interested in joining with other postdocs to help make sure that we expand (international) postdoc rights and benefits in our new contract?

Yes! Please contact me (enter your contact information below):

Not at this time, thank you

Finish the Survey to Win \$100

Please continue taking the survey so you can be entered to win a raffle of \$100.00. A total of five \$100.00 prizes will be awarded. This information will also be utilized for contract bargaining negotiations and analyzed by a UCLA researcher and former postdoc union employee.

Mark one in each row, regarding your UC postdoctoral experience. You can use the text box to provide additional information (optional):

	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
My workplace has safe working conditions. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplace provides me with the necessary equipment carry out my job duties. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My principal investigator is informed about my skills, expertise and abilities. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My principal investigator is providing me with the professional development I need to further develop my postdoctoral skills and abilities and actively supporting my future professional goals. <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is the length of your current postdoctoral appointment? Please select one:

One year

Two years

Three years

Four years

Other (please specify):

What is your total postdoc experience (please include postdoc reappointment at the same institution)? Please select one:

This is my first postdoc appointment

This is my second postdoc appointment

This is my third postdoc appointment

This is my fourth postdoc appointment

This is my fifth postdoc appointment

I have had more than five postdoc appointments

How often is your Principal Investigator providing you with an [annual evaluation](#) to further develop your postdoctoral skills and abilities? Please select one, you can use the text box to comment on the quality of the evaluation:

Annually

Irregularly

Never

I have not been employed for a year and have not had my annual evaluation

How familiar are you with the [collective bargaining contract](#) that outlines all of your rights and benefits as a postdoctoral researcher? Please select one:

Very knowledgeable

Knowledgeable

Somewhat knowledgeable

Not knowledgeable. You can use the text box to explain what you would like to receive more information about:

Have you experienced any of the following, at any point in your employment as a UC postdoc (please check all that apply)?

I did not receive an appointment letter when I was hired

My PI did not sponsor my preferred visa type when I was hired

I was not informed about my healthcare benefits

My dependents and I were denied healthcare coverage

My salary was less than what I had originally negotiated with my PI

I felt that my job security was threatened

I experienced unsafe working conditions

I was not supported when I incurred a work related injury

I was obligated to work on a holiday and/or time off

- I was denied personal time off
- I did not receive the right training
- My appointment was less than a year long
- I was sexually harassed at work
- I was discriminated at work
- My PI has unrealistic workload expectations
- I experienced bias, prejudice, and/or stereotypes in the workplace

Other:

I have not experienced any of the above

Since your UC postdoc appointment, how often do you experience unfair treatment from your colleagues in the workplace? Please select one, you can use the text box to explain (optional):

Several times a day

Once a day

Once a week

Less frequently than above

Never:

How comfortable do you feel reporting a workplace violation? Please select one:

- Very comfortable
- Comfortable
- Not comfortable
- Very uncomfortable

Mark one in each row to indicate how important the following factors are in determining your likelihood of reporting a workplace violation:

	Not Important	Somewhat Important	Important	Very Important	Most Important
It would impact my professional recommendation from the	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Principal Investigator

It would cause strain between myself and the PI

It would create an uncomfortable work environment

It would impact the way in which I am perceived by my Principal Investigator, colleagues, lab mates, future employers or University of California administrators

It would impact future professional opportunities

It would impact future employment

It would jeopardize my ability to work in the United States

I have no knowledge of the legal procedure

What is your country of origin? If not listed, please enter in the text box below:

How do you think others identify you in the workplace, per your experiences at the UC and in the U.S.? Please select one:

Asian

Arab

Black/African American

Hispanic/Latina/o

Indian

White

Other:

What is your gender identity? Please select one:

Man

Woman

Transgender

Other:

Which of the following best describes your sexual orientation? Please select one:

Heterosexual

LGBTQ

I prefer not to respond

Which religion do you practice? If not listed, please enter in the text box below:

What is your native language? If not listed, please enter in the text box below:

Please identify who you are financially responsible for, please select all that apply:

Myself

My partner

My children

Other family members

Other:

Are you currently separated from your partner and/or children due to your postdoctoral appointment? Please select one:

Yes

No

Are you planning on staying in the U.S. or returning to your home after your postdoctoral appointment? Please select all that apply:

I plan to return to my home country

I would like to stay in the U.S. but I am concerned about getting the right documentation

I would like to stay in the U.S. but my visa will not allow me to stay

I plan to stay in the U.S.

Thank you for completing the survey! May we contact you to participate in a focus group or an in-depth interview?

Yes (please enter your contact information below):

Not at this time, thank you

Powered by Qualtrics

Appendix B

Summary of Statistically Significant Findings from Pilot Study

The findings were selected to demonstrate the way in which the qualitative and quantitative survey data inform work-related experiences. The quantitative data indicates that a majority of postdocs perceived their workplace favorably, were informed about their workplace rights and benefits, were familiar with the collective bargaining contract, and were aware of on-campus career development resources and professional development opportunities. However, a majority of postdocs also reported that they would find it somewhat to extremely difficult if they had to file a grievance for an egregious workplace violation (i.e. sexual harassment, wages below pay scale, denied healthcare for dependents, etc.). And though a majority of postdocs were aware of career development resources and professional development workshops, most were not made aware of such resources when their postdoc appointment began and did not attend an on-campus development workshop/career service.

Conversely, the majority of the open-ended responses do not support favorable work experiences, perceptions, opportunities for professional development, and collegial work relationships. The open-ended responses illustrated the reasons for which work conditions were unfavorable and the ways in which those conditions perpetuated the transient nature of the postdoctorate. Perhaps most significantly, within each workplace topic there were several examples of experienced contractual violations on behalf of the employer, indicative of varying work experiences. The nuances of resident-based differences are presented within each workplace topic and all resident based statistically significant items⁶² ($p < .05$) are provided in

⁶² Statistically significant differences will be marked with an asterisk (*) to indicate $p < .05$

Tables 34 and 35:

Table 34.

	Percent of Postdocs Responding "No"		
	Resident	Nonresident	Sig.
Are you familiar with the collective bargaining contract that outlines all of your rights and benefits as a postdoctoral researcher, negotiated by the postdoctoral union UAW 5810? (n=817)	19	34	***
Are you aware that it is illegal for the University of California to discipline or dismiss postdoctoral scholars without just cause? (n=817)	25	31	*
Are you aware of any career development resources provided by your campus (i.e. grant writing workshops, writing a CV, crafting the perfect cover letter, etc.)? (n=810)	21	31	**
Have you ever attended any UC-sponsored professional development workshops during your current postdoctoral appointment (i.e. grant writing workshops, writing a CV, crafting the perfect cover letter, etc.)? (n=825)	63	71	**
Are professional development workshops (i.e. grant writing workshops, writing a CV, crafting the perfect cover letter, etc.) available on your campus? (n=745)	9	14	*
Have you ever visited the career service office on your campus? (n=824)	83	89	*

*indicates $p < .05$; **indicates $p < .01$; *** indicates $p < .001$

Table 35

Workplace Environment By Perceived Support and Residency Status

	Percent of Postdocs Responding by Level		Sig.
	Resident	Nonresident	
Do you feel that your lab environment/workplace is a supportive community? (n=820)			
Not at all	3	4	**
Somewhat, but it is inadequate	12	13	**
Yes, it is adequate	41	52	**
Absolutely	43	31	

*indicates p-value less than .05; **indicates p-value less than .01; *** indicates p-value less than .001

Appendix C

Interview Protocol

1. Hi, thank you so much for agreeing to participate! I'm going to begin by checking in with you about your demographic information and then I'll ask you more questions about your UC postdoctoral experience.
 - a. Field of study
 - b. Gender
 - c. Sexual orientation
 - d. Country of origin
 - e. Identified as X in the U.S.
 - i. Outside of the U.S. how would you identify?
 - f. Visa type
 - g. Visa status
 - h. Campus
2. Why don't you start by telling me about the process of becoming a postdoc at a premier research university, which is the UC?
 - a. How did you come to work in your lab?
 - i. How did you connect with your PI
 - ii. What was the application process like
 - iii. How difficult was it to receive a UC postdoc position?
 - iv. What is unique to the hiring process for an international postdoc? How did you negotiate your visa type?
3. Once you were hired, what was the transition process like?
 - a. Were there any particular challenges that you encountered at work or living in the U.S. that you did not anticipate?
 - b. How did the university facilitate the transition?
4. How would you describe the experience of being an international postdoc at a premier research university, particularly at (name of their institution)?
 - a. How would you describe the work culture in your lab?
 - b. How would you describe your relationship with your PI?
 - i. Do you think your experience is typical of an international postdoc?
 - ii. Are there other factors that negatively or positively influenced your relationship with your PI, including your international status?
 - c. Were there any challenges that you navigate because of your international status that perhaps permanent residents or citizens do not have to negotiate?
 - d. How do you feel that your international status is an asset within the workplace?
 - i. Define Asset
 1. Research demonstrates that international postdocs are more productive than residents postdocs

2. U.S. policies currently support increased employment for international academics, and this promotes goodwill between nations
 3. Academic excellence necessitates diversity, and so your presence alone makes for a better work environment?
 - ii. Do you feel recognized in this capacity or is being an international postdoc a disadvantage?
 - e. The U.S. is a racialized society whereby people who have certain ethno-types or race experience privilege over others. Did you experience any of that in your work environment? What would you say is the social and racial hierarchy in your lab, meaning is everyone equal?
 - f. Are these dynamics unique to your lab or do they also apply to your campus experience?
 - g. Do you think this mirrors U.S. race relations?
5. You have an identity prior to immigrating to the U.S. (and by identity, I mean your *conception of self of the self—physical, psychological, emotional, and social attributes*). Migrant studies scholars believe that immigrants who live abroad negotiate or construct a new identity within their host country (i.e. you're no longer just you, but the newly appointed postdoc from X country).
- a. With the preceding in mind, how has the UC work environment shaped your (migrant) identity?
 - b. To what degree has that influenced your willingness to remain in the U.S. or return home (provided that there were no visa issues)?
 - c. Which work experiences have had the most significance in shaping your migrant identity?
6. You've touched on the subject of workplace dynamics, how would you characterize workplace power dynamics for a postdoctoral scholar?
- a. How do those workplace power dynamics affect your ability to advocate for yourself in the workplace?
 - b. What is the process that an international postdoc internalizes when/if they have experienced an egregious labor violation (i.e. sexual harassment, working without pay, having their contract terminated early)?
 - i. Feel free to use personal or observed experience
 - c. Do these experiences also shape your migrant identity?
7. It seems that international postdocs are a unique workforce, what do you think are issues that the institution does not recognize that you experience?
- a. What is the university's obligation to provide a safe and supporting environment?
 - b. How can the UC support international postdocs so that they have equal rights to U.S. permanent residents
 - c. How can the UC support international postdocs so that you do indeed feel like your international status is an asset within the workplace?
 - d. Of all the issues you've brought up, which is the most important?
 - e. How else can the union support you?
8. Depending on the number of workplace violations you experienced, I placed survey participants in a vulnerability category.
- a. You were in the X category because you experience X workplace violations?

- b. Do you think that is accurate?
 - c. What factors in the workplace do you think played into you being in that category? What do you think makes for X workplace environment?
9. Preferred pseudo name?

Appendix D

Country of Origin Table

Table 27
 Countries of Origin
International Postdoctoral Work Experience Survey (by valid percent)

<i>Countries</i>	<i>n</i>	<i>Valid Percent</i>
Venezuela	2	.4
United Kingdom of Great Britain	23	4.6
Turkey	4	.8
Tunisia	1	.2
Thailand	2	.4
Switzerland	3	.6
Sweden	6	1.2
Spain	21	4.2
South Africa	1	.2
Singapore	1	.2
Serbia	1	.2
Russian Federation	3	.6
Republic of Korea	14	2.8
Portugal	4	.8
Poland	4	.8
Philippines	1	.2
Pakistan	1	.2
Norway	1	.2
Nigeria	1	.2
New Zealand	2	.4
Netherlands	10	2.0
Nepal	1	.2
Mexico	21	4.2
Malaysia	2	.4
Luxembourg	1	.2
Lithuania	1	.2
Jordan	1	.2
Japan	4	.8

Italy	24	4.8
Israel	16	3.2
Ireland	1	.2
Iran	6	1.2
India	54	10.8
Hungary	2	.4
Hong Kong	3	.6
Greece	2	.4
Germany	48	9.6
Gambia	1	.2
France	35	7.0
Finland	3	.6
El Salvador	1	.2
Egypt	2	.4
Ecuador	1	.2
Denmark	4	.8
Cyprus	2	.4
Croatia	2	.4
Costa Rica	1	.2
Colombia	1	.2
China	98	19.5
Chile	4	.8
Canada	26	5.2
Bulgaria	1	.2
Brazil	8	1.6
Belgium	1	.2
Azerbaijan	1	.2
Austria	4	.8
Australia	6	1.2
Argentina	2	.4
Andorra	1	.2
Vietnam	1	.2
Taiwan	3	.6

Appendix E

Immigrant and Non-Immigrant Visa Types

Temporary Visas

B-1/B-2 Tourist/Visitor Visas

Available to all visitors coming to the U.S. for business or pleasure. B-1 business visitor visas are for a short duration and must not involve local employment. Nationals of certain countries may be eligible to visit the U.S. for up to 90 days without obtaining a visa.

E-1/E-2 Treaty and Investor Visas

Investors and traders and their employees may receive visas to carry on their businesses in the U.S. if their home country has a commercial treaty with the U.S. conferring visa eligibility.

F-1 and M-1 Student Visas

Persons seeking to pursue a full course of study at a school in the U.S. may be eligible for a visa for the course of their study plus, in some cases, a period for practical training in their field of study.

H-1B Specialty Occupation (Professionals) Visas

Professional workers with at least a bachelor's degree (or its equivalent work experience) may be eligible for a non-immigrant visa if their employers can demonstrate that they are to be paid at least the prevailing wage for the position.

J-1 and Q-1 Exchange Visitor Visas

Persons coming to the U.S. in an approved exchange program may be eligible for the J-1 Exchange Visitor's visa. J-1 programs often cover students, short-term scholars, business trainees, teachers, professors and research scholars, specialists, international visitors, government visitors, camp counselors and au pairs. In some cases, participation in a J-1 program will be

coupled with the requirement that the beneficiary spend at least two years outside of the U.S. before being permitted to switch to a different nonimmigrant visa or to permanent residency

K-1 Fiancé Visas

A Fiancé of a U.S. citizen is eligible for a non-immigrant visa conditioned on the conclusion of the marriage within 90 days.

L-1 Intracompany Transfer Visas

L-1 visas are available to executives, managers and specialized knowledge employees transferring to their employer's U.S. affiliate. Executives and managers holding L-1 visas may be eligible for permanent residency without the need to a labor certification.

O-1 Extraordinary Ability Worker Visas

The O-1 category is set aside for foreign nationals with extraordinary ability. This includes entertainers, athletes, scientists, and businesspersons.

P-1 Artists and Athletes Visas

This category covers athletes, artists and entertainers.

R-1 Religious Worker Visas

Religious workers may be eligible for an R-1 visa.

TC and TN NAFTA and U.S.-Canada Free Trade Agreement Visas

A special visa category has been set up for nationals of Canada and Mexico under the provisions of the North American Free Trade Agreement and the U.S.-Canada Free Trade Agreement.

Permanent Residency Visas

Family Sponsored Immigration Visas

U.S. citizens may petition for spouses, parents, children and siblings. Permanent residents may petition for spouses and children.

Employer-Sponsored Immigrant Visas

EB-1 Foreign Nationals of Extraordinary Ability, Outstanding Professors and Researchers and Multinational Executives and Managers

Individuals in this category can petition for permanent residency without having to go through the time consuming labor certification process.

EB-2 Workers with Advanced Degrees or Exceptional Ability in the Sciences, Arts or Business

Visa holders in this category normally must have a job offer and the potential employer must complete the labor certification process. The labor certification involves a testing of the job market to demonstrate that the potential visa holder is not taking a job away from a U.S. worker. In cases where an individual can show that his entry is in the national interest, the job offer and labor certification requirements can be waived.

EB-3 Skilled Workers and Professionals

Visa holders in this category normally must have a job offer and the potential employer must complete the labor certification process.

EB-4 Special Immigrant Visas for Religious Workers

Ministers of religion are eligible for permanent residency.

EB-5 Investor/Employment Creation Visas

Under the 1990 Immigration Act, Congress has set aside up to 10,000 visas per year for alien investors in new commercial enterprises who create employment for ten individuals. There are two groups of investors under the program - those who invest at least \$500,000 in "targeted employment areas" (rural areas or areas experiencing unemployment of at least 150% of the national average rate) and those who invest \$1,000,000 anywhere else. No fewer than 3,000 of the annual allotment of visas must go to targeted employment areas.

DV-1 Visas

55,000 visas are annually allotted in a random drawing to individuals from nations underrepresented in the total immigrant pool.

Other Statuses

Refugee and Asylum Applications

Persons with a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion may be eligible to apply for asylum or refugee status in the U.S.

Temporary Protected Status

Granted to individuals from selected countries which the U.S. currently recognizes as unsafe.

Allows individuals to remain in the U.S. for the duration of their status. This visa type is subject to a periodic INS review and does not lead to a visa.

TN Status

Allows certain Mexican and Canadian workers to avoid the visa application process by proceeding directly to a U.S. port of entry and presenting the necessary documents.

A green card, also known as an I-551 form (formerly I-151), entitles one to live and work legally inside the U.S. as a permanent resident. It provides proof of name and identity to enable TN holders to apply for a driver's license, take out loans, establish a bank account, etc.

Travel Limitations and Citizenship

As a green card holder, one may travel outside the U.S. and return as long as the holder maintains their primary residence in the U.S. If a green card holder wishes to become a U.S. citizen, the green card holder must normally wait at least 5 years from the date you receive your

green card, unless the person is married to a U.S. citizen. A green card is renewable after ten years.

Note: This list of visa types was taken from <http://www.usaza.com/VisaTypes.htm> and the information presented here is also confirmed by the official website for the U.S. Department of Homeland Security.

Appendix F

Qualitative Codebook

Codes	Definition	Example
Pre-work Vulnerability	Experienced challenges that participants experienced prior to beginning their UC postdoc experience	"They didn't even tell me what my options were, I went into it blind and just accepted the terms of employment"
Pre-work Expectations	Feelings regarding their UC postdoc appointment prior to beginning appointment	"I felt really lucky to be part of the lab, I was excited for this new chapter of my life."
International Relocation Challenges	Challenges/issues pertaining to the international relocation process that occurred during or immediately after their international relocation	"I didn't have any established credit, we don't have that in my country...and the process of finding an apartment is not as difficult in my home country as it is here."
Institutional Support for Migration	The degree to which participants received support for their international migration	"Other than the website from the international office that gave some links to apartments, I didn't receive a lot of support. I mean, don't get me wrong, we're smart, we're postdocs, but it can be overwhelming."
Workplace Expectations	The work culture established by the Principal Investigator	"My PI was very accessible and let me know that I can work at my own pace with my experiments, so I felt comfortable and supported."

Workplace Culture	The work culture experienced due to interactions on campus and with colleagues	"I don't think postdocs are very visible here and it's lonely. I keep to myself and don't really speak to anyone since most of the time my lab mates are doing field work. Everyone keeps to themselves and it's a very quiet environment. "
Workplace Status	The significance of working at a premier research university	"So many things had to align perfectly for me to get this position, I feel really lucky to be here in California and be at such a prestigious university...like wow, I can't believe I made it."
PI and Professional Network	The influence the PI has beyond their current postdoc appointment	"My former doctoral advisor introduced me to my PI and because of his recommendation I was able to work in his lab. My PI is very well known and established, so basically he knows everyone and his recommendation is what's going to help me get ahead in my field."
Established relationship with PI	Initial relationship established between the PI and postdoc	"At first my PI seemed to only be interested in finishing the grant funded research and wasn't really interested in me pursuing other aspects of the research that I thought were interesting. He's the boss, so I don't really have much of a say."

Current relationship with PI	Current relationship (power dynamics) between the PI and Postdoc based upon an ongoing relationship since the beginning of the appointment	"Now that I know how my lab works, there is this expectation that you have to maintain a certain level of productivity...and I try to make sure my PI sees my progress. I wouldn't say we have a close relationship, I would say there's a mutual understanding of expectations."
Overall job satisfaction	The degree to which the participants experienced job fulfillment according to their job responsibilities	"On the day to day, I really like working in my lab and with my lab mates everyone is really helpful and the projects are interesting. I'm very lucky to be part of this team."
Professional Development	The degree to which participants felt their postdoctoral appointment was providing them with the necessary experience to move forward in their career trajectory	"I don't really get that kind of support from my PI, like because we are more expensive due to our visa status, we are less likely to go to conferences or apply for grants. So in that sense, it's a disadvantaged."
Visa knowledge	The extent to which participants understood the migration process and implications	"To be honest, I didn't think about asking what the different visa types were. I just thought what I was getting was standard and it was just the way things were."

Visa challenges	Challenges specific to their visa status while in their host country (U.S.)	"Even though I have a multi-year appointment, because of my visa I have to return to my home country and get my visa renewed. This is a really expensive process and it forces you to take time off of work. I have to cover all the costs and anticipate renewal months in advance to get permission to renew."
Current Residency Implications	The experiences of being on a temporary workplace permit while in the host country (U.S.)	"I don't think about my visa status all the time, but because certain things are restricted to only permanent residents or U.S. citizens it does come up at work and then of course, the whole renewal process is expensive and for some reason not seen as part of your work, which it is."
Preferred Residency Status	Ideal or preferred residency status that would be supportive of their work	"Honestly, it's not like living in America is the greatest thing on earth...I mean, Donald Trump is running for President. I lived in countries where it was easier to get residency and I would like that option so I can have the same opportunities as other postdocs. Also, if my postdoc goes well I could have other opportunities and having residency would let me explore those options."

Identity to Racial Hierarchies	The degree to which they experienced U.S. racial hierarchies in relation to their ethnicity and race	"It happens sometimes and it didn't really hurt my feelings, because when they make jokes, I know that they are joking and going off of stupid stereotypes they learned. It's all in good fun."
Identity to Social Hierarchies	The degree to which they experienced social hierarchies in relation to facets of their identity	"I think because I'm a parent, I have the added stress of also thinking about my children and the work culture in my lab is not conducive to me taking time off of work to take care of my kids. It's very stressful."
Identity to Gender	The degree to which they experienced sexism	"I'm a man and I went through this very difficult situation with my PI, I can't imagine what it would be like for a woman or someone who had children. I'm very lucky that I didn't have to deal with that."
Observed Hierarchies	Observed power dynamics and hierarchies within their workplace	"Yes, if you are let's say Chinese and can't speak English very well you are going to have a very hard time getting ahead. You will be overlooked and it will be hard to be taken seriously because you need to communicate effectively."
Observed Microaggressions	Observed microaggressions	"I saw the way she would speak to non-whites and one day told someone that they needed learn English and only speak English."

Experienced Microaggressions	Experienced microaggressions	"He said something really ignorant, something along the lines of Mexicans here are not doctors but farm workers."
International status to Permanent Residency/ U.S. Citizenship	The degree to which participants feel they have a disparate experience compared to resident postdocs	"Overall even if you move here from another state, you don't have to renew your visa, you know the language, it's easier to establish a network, and you have more opportunities for funding. It is a disadvantage to be a non-citizen postdoc."
International Asset	The degree to which the institution perceives international status as an asset and component of diversity	"I don't think they think of us workers as a benefit, my PI is always talking about how expensive it is to hire us because of the visa and so that makes me feel guilty."
International Exchange	The degree to which participants feel that they are positively contributing to the campus climate because of their experience, international status, etc.	"My lab is very diverse and everyone is pretty much from different parts of the world. Overall there is this feeling that we're all passionate about similar things and we all support each other and that's how we make the university better."

Understanding of U.S. racial hierarchies	The degree to which they understand U.S. race relations and how it pertains to them	"I think the university is kind of like a bubble, so often you see these videos of how the police treat African Americans and you know that things are here are not really right. I'm white and I work at the university so I don't really experience this side of the culture, but also there are like no African Americans in my work...so that also says something."
Understanding of U.S. social hierarchies	The degree to which they understand U.S. social hierarchies and how it pertains to them	"No people are not all equal, there are definitely favorites in the lab and it's not necessarily about race it's about how they handle themselves and are just very confident. Like, in my home country you can't act that way...that would have been considered rude. But this attitude is part of this culture and people who have it have it better at work."
Racial and Social Hierarchies in the Workforce	The degree to which they think the university mediates U.S. racial and social hierarchies	"I wouldn't say that racism and sexism doesn't happen here, I would say that it's more of a cleaned up version because it has to be for appearances...because it is the university and people would get in trouble if they were obvious about it. But it's definitely here."

Migrant Identity	How participants participate in the migrant identity negotiation process	"Not being from here is something that I think about often, and not just because the culture is very different from where I'm from, but also because I don't have an established network like a lot of people have here...so it is very lonely and very tiring."
Migrant Identity Formation	How participants negotiated their conception of self within their host (U.S.) country.	"I have a British accent and here in America people associate that with being more proper and honest...I've seen the way I've been treated in certain situations compared to other people and its unfortunate that people have those biases."
Migrant Identity Formation to Academia	How participants negotiated their conception of self within the academy	"In my culture it is not polite to be so...pushy, but when you look at the people that advance you realize who is in charge and to a certain extent you have to placate them, you have to play the game."
Migrant Identity Experience to Residency	How negotiation of identity intersects with their residency status	"I guess in being a temporary worker, at times you feel disposable. Like, it's so easy for you to get replaced and that's in the background as you try to figure out your new life in the U.S."

Workplace Agency	The degree to which participants felt they can advocate for themselves within the workplace	"Only in an extreme violation of my rights would I feel comfortable filing a grievance, because you're basically saying goodbye to your career and you've worked your whole life to get here. It would be extremely difficult."
Perceived Workplace Vulnerability	The degree to which international postdocs have workplace security	"Overall I feel uneasy about my workplace security. I mean, I know that I'm not going to get fired because I've been doing my job, but I also know that if something were to happen my PI could very quickly make a decision and I would have to accept it. I've heard so many stories."
Experienced Labor Violations	Workplace labor violations per the postdoctoral labor union	"The PI basically said that he couldn't afford to keep me on so he had to cut my appointment shorter than what was originally agreed to on my hire letter."
Internalized Workplace Agency	How participants evaluate their ability to advocate for themselves within the workplace	"What would go through my mind would be basically what else could I do besides being a scientist? I'm not sure if I could start my life over because I have so many people counting on me."

Institutional Assumptions	Unrecognized issues by university administrators and policymakers that international postdocs must navigate	"They don't think about how you basically have to readjust your life and it takes time to find an apartment, set up your bank account, and do all the things that you need to do to feel normal...so in that sense having the university recognize that doing an international relocation is a big deal and affording us time to get settled in would be great."
Equitable Support	Policies and Practices that would make it so that international and resident postdocs had the same rights	"We all need to have access to the same funding opportunities. If this is truly about scientific innovation, my residency status should not limit my ability to be part of that."
Institutional Recognition	Policies and practices on behalf of the institution that would establish that IPDs are an asset within the workplace	"When I hear people talk about the importance of diversity, for some reason the international population isn't really considered to be a part of that. I don't know...I know that we are and I think the university needs to do more work around recognizing the contributions of internationals."
Most Significant	Most significant workplace challenge or issue that needs to be immediately addressed by the administration	"Definitely the issue of low wages and the high cost of living. I mean, wages determine your quality of life and being an international worker is already hard, earning low wages makes everything worse."

Union Experience	The degree to which the union is perceived as helpful and/or has helped them navigate a workplace challenge	"I think the union is good, but at the time I didn't want to get them involved because I was trying to solve it by myself and not bring too much attention to the issue."
Role and Responsibility	What the participants believe is the role and responsibility of the university to the IPD workforce	"If they hired us and they truly, as you say, think diversity is good for the institution, then they need to support us and help us with our migration issues and cost. Visa costs are a work cost, I shouldn't have to pay to work."
Post-work Vulnerability	The degree to which their workplace experience may influence future professional opportunities	"Unfortunately because the recommendation letter from the PI means so much, not having a good recommendation could mean that I could not find a job in the future."
Overall Vulnerability	The overall category for their experienced and perceived workplace vulnerability	"Yes, I do believe I was overall in the low vulnerability experience, I had some challenges with my visa but I liked my PI and I really liked my experience. Thankfully nothing happened to me."

References

- Ackers, H.L. (1998). *Shifting Spaces: Women, Citizenship and Migration in the European Union*. Bristol, United Kingdom: Policy Press.
- Ackers, H.L. (2003). The participation of women researchers in the TMR program of the European Commission: An evaluation. *The European Commission*. Retrieved from ftp://ftp.cordis.europa.eu/pub/improving/docs/women_final_rpt_3march2000.pdf
- Ackers, H.L. (2004). Managing work and family life in peripatetic careers: The experiences of mobile women scientists in the European Union. *Women's Studies International Forum* 27(3): 189–201.
- Ackers, H.L. (2005a). Moving people and knowledge: Assessing the impact of enlargement on scientific mobility within the European Union. *International Migration*. 43(5), 100–131.
- Ackers, H.L. (2005b). Promoting scientific mobility and balanced growth in the European Research Area. *INNOVATION: The European Journal of Social Science Research*. 18(3), 301–318.
- Ackers, H. L. (2007). Legislating for equality? Working hours and progression in science careers. *European Law Journal*, 13(2), 169-185.
- Ackers, H.L. (2008). Internationalization, mobility and metrics: A new form of indirect discrimination? *A Review of Science, Learning, and Policy*, 46(4), 411-435.
- Ackers, L. (2010). Internationalization and Equality. *Recherches sociologiques et anthropologiques*,(41-1), 83-103.
- Ackers, H.L. & Gill, B. (2008). *Moving People and Knowledge: Understanding the Processes of Scientific Mobility within an Enlarging Europe*. Cheltenham, United Kingdom: Edward Elgar Publishing.

- Ackers, H.L., Gill, B., Groves, E. & Oliver, E. (2006). Assessing the impact of the Roberts review enhanced salaries and stipends on postdoctoral and postgraduate positions. *Center for the Study of Law & Policy in Europe*. Retrieved from <http://www.rcuk.ac.uk/RCUK-prod/assets/documents/skills/salariesstipends.pdf>
- Ackers, H.L. & Oliver, E. (2007). The effect of regulation in the area of fixed term contracts on the recruitment and retention of early career researchers in the UK. *International Studies of Management and Organization* 37(1), 3–79.
- Ackers, H.L. & Stalford, H. (2007). Managing multiple life courses. The influence of children on migration processes in the European Union. *Social Policy Review* 19, 321–342.
- Adams, J., & Padamsee, T. (2001). Signs and regimes: Rereading feminist work on welfare states. *Social politics: International Studies in Gender, State & Society*,8(1), 1-23.
- Altbach, P.G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of studies in international education*, 11(3-4), 290-305.
- Altbach, P. G. (2004). Higher education crosses borders: Can the United States remain the top destination for foreign students?. *Change: the magazine of higher learning*, 36(2), 18-25.
- America COMPETES Act (ACA). (2007). Public law no:110-69. *Congressional Record*, H9414-9465. Washington, DC: Government Printing Office Section, 1105.
- Anders, G. (2001). Critical ethnography in education: Origins, current status, and new directions. *Review of Educational Research* 59(3), 249-270.
- Anzaldúa, G. (1987). *Borderlands: la frontera* (Vol. 3). San Francisco, CA: Aunt Lute.
- Aronowitz, S. (2000). *The knowledge factory: Dismantling the corporate university and creating true higher education*. Boston, MA: Beacon Press
- Bauder, H. (2012). The international mobility of academics: a labour market perspective. *International Migration*.

- Bekhradnia, B., & Sastry, T. (2005). Migration of academic staff to and from the UK. *Higher Education Policy Institute report, Oxford: HEPI.*
- Berry, J. (2005). *Reclaiming the ivory tower: Organizing adjuncts to change higher education.* New York: Monthly Review Press.
- Berry, J., & Sam, D. (1998). Acculturation and Adaptation. In *Handbook of cross cultural psychology* (Vol.3). Needham Heights, MA: A Viacom Company.
- Berry, J.W., Kim, U., Power, S., Young, M., & Bujaki, M. (1989). Acculturation attitudes in plural societies. *Applied Psychology*, 38, 185-206.
- Berry, J.W. (1997). Immigration, acculturation and adaptation. *Applied Psychology: An International Review*, 45(3), 5-34.
- Bender, D. E., & Kinkela, D. (2001). Thirty years of academic labor: The language of anti-unionism. *Radical History Review*, 79, 7-13.
- Benderly, B. (2004). A union contract aimed at preserving the postdoc experience. *Science* (2 April). Retrieved from http://sciencecareers.sciencemag.org/career_magazine
- Berelson, B. (1960). Postdoctoral work in American universities: A recent survey. *Journal of Higher Education*, 23(3), 119-130.
- Bhugra, D. (2004). *Migration and mental health*, 109(4), 243-358.
- Birnbaum, R. (1976). Unionization and faculty compensation: Part II. *Educational Record*, 57, 116-138.
- Black, G. C., & Stephan, P. E. (2009). The economics of university lab science and the role of foreign graduate students and postdoctoral scholars. In Clotfelter, C.T. (Ed.), *American Universities in Global Market* (pp.129-161). Chicago, IL: University of Chicago Press.

- Boron, A. A. (2006). Reforming the reforms: Transformation and crisis in Latin American and Caribbean universities. In R. A. Rhoads & C. A. Torres (Eds.), *The university, state, and market: The political economy of globalization in the Americas* (pp. 141-163). Stanford, CA: Stanford University Press.
- Boron, A. A., & Torres, C. A. (1996). The impact of neoliberal restructuring on education and poverty in Latin America. *The Alberta Journal of Educational Research*, 42(2), 102-114.
- Bonilla-Silva, E. (2006). *Racism without Racists*. Laham, Maryland: Rowman & Littlefield Publishers.
- Bowskill, M., Lyons, E., & Coyle, A. (2007). The rhetoric of acculturation: When integration means assimilation. *British Journal of Social Psychology*, 46(4), 793-813.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage.
- Bracey, G. W. (2008). On the shortages of scientists and engineers. *The Phi Delta Kappan*, 89(7), 536-538.
- Brah, A., & Phoenix, A. (2013). Ain't I a woman? Revisiting intersectionality. *Journal of International Women's Studies*, 5(3), 75-86.
- Camacho, S. & Rhoads, R. (2013). *Breaking the silence: The unionization of postdoctoral workers at the university of California*. Manuscript submitted for publication.
- Camacho, S. & Rhoads, R. (2015). Breaking the silence: The unionization of postdoctoral workers at the University of California. *Journal of Higher Education*, 86(2).
- Cantwell, B. (2009). International postdocs: Educational migration and academic production in a global market. Dissertation, University of Arizona (UMI:3352591).

- Cantwell, B. (2011). Academic in-sourcing: International postdoctoral employment and new modes of academic production. *Journal of Higher Education Policy and Management*, 33(2), 101-114.
- Cantwell, B. (August, 2013). Explaining postdoc internationalization at UC universities. Higher Education Development Association. Retrieved from <http://uv-net.uio.no/wpmu/hedda/2013/08/12/guest-blogger-explaining-postdoc-internationalization-at-us-universities/>
- Cantwell, B., & Lee, J. J. (2010). Unseen workers in the academic factory: Perceptions of neoracism among international postdocs in the United States and the United Kingdom. *Harvard Educational Review*, 80(4), 490-516.
- Cantwell, B., & Taylor, B. J. (2013). Internationalization of the postdoctorate in the United States: analyzing the demand for international postdoc labor. *Higher Education*, [online first].
- Child, D. (2006). *The essentials of factor analysis* (3rd ed.). New York, NY: Continuum International Publishing Group.
- Chirkov, V. (2009). Summary of the criticism and the potential ways to improve acculturation psychology. *International Journal of Intercultural Relations*, 33, 177-180.
- Chomsky, N. (1999). *Profit over people: Neoliberalism and global order*. New York, NY: Seven Stories Press.
- Choo, Hae Yeon. (2012). The transnational journey of intersectionality. *Gender & Society* 26(1), 40-45.

- Choo, H.Y. & Ferre, M.M. (2010). Practicing intersectionality in sociological Research: A critical analysis of inclusion, interactions, and institutions in the study of inequalities. *Sociological Theory*, 28(2), 129-149.
- Chun, K.M. & Akutsu, P.D. (2003). Acculturation among ethnic minority families. In K.M., Chun P.B. Organista & G. Marin (Eds.). Acculturation advances in theories, measurement and applied research, Washington, DC, US: *American Psychological Association*, 27, 95-119.
- Clark, B. R. (1998). *Creating entrepreneurial universities: Organizational pathways of transformation*. Oxford, UK: Pergamon Press.
- Clark, B. R. (2004). *Sustaining change in universities: Continuities in case studies and concepts*. Berkshire, UK: SRHE & Open University Press
- Collins, P. H. (1998). It's all in the family: Intersections of gender, race, and nation. *Hypatia*, 13(3), 62-82.
- Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics. *University of Chicago Legal Forum*, 1989, 139-166.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color." *Stanford Law Review*, 43(6), 1241-1299.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into practice*, 39(3), 124-130.
- Creswell, J. W. (2009). *Research design: Qualitative and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

- Creswell, J.W. & Plano, Clark, V.L. (2011). *Designing & Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage Press.
- Critelli, F. M. (2008). The Impact of September 11th on Immigrants in the United States. *Journal of Immigrant & Refugee Studies*, 6(2), 141-167.
- Critelli, F. M. (2010). Beyond the veil in Pakistan. *Affilia*, 25, 236-249.
- Cruz-Castro, L. & Sanz-Menendez, L. (2010). Mobility vs. job stability: Assessing tenure and productivity outcomes. *Research Policy*, 39(1), 27-38.
- Currie, S. (2006). Free movers? The post-accession experience of accession-8 migrant workers in the UK. *European Law Review* 31(2), 207–229.
- Dashew Center for International Students and Scholars. (DCISS). (2010). Employment Based Overview. Retrieved from <http://www.internationalcenter.ucla.edu/home/EmploymentBased/81/82/Overview>
- Davis, A. Y. (1976). *Angela Davis*. University of Alabama in Birmingham.
- Davis, G. (2005). Doctors without borders. *American Scientist*. Retrieved from <http://postdoc.sigmaxi.org/results/>
- Davis, K. (2008). Intersectionality as buzzword: A sociology of science perspective on what makes a feminist theory successful. *Feminist Theory*, 9(1), 67-85.
- Deem, R. (1998). New managerialism and higher education: The management of performances and cultures in universities in the United Kingdom. *International Studies in Sociology of Education*, 8(1), 47-70.
- Deem, R. (2001). Globalisation, new managerialism, academic capitalism and entrepreneurialism in universities: Is the local dimension still important? *Comparative Education*, 37(1), 7-20.
- Denzin, N. K. (1978). *The research act*. New York: McGraw-Hill.

- Des Jarlais, C. (March, 2012). *Unionization: Is it enhancing the postdoc experience?*
[PowerPoint document]. Symposium conducted at the meeting of the Committee on Science, Engineering, and Public Policy, Washington, DC.
- DeCuir-Gunby, J.T., Marshall, P.L., & McCulloch, A.W. (2011). Developing and using a codebook for the analysis of interview data: An Example from a professional development research project. *Field Methods*, 15, 85-109.
- DeStefano, C., Zhu, M., & Mindrila, D. (2009). Understanding and using factor scores: considerations for the applied researcher. *Practical Assessment, Research, and Evaluation*, 14(20).
- DeVellis, R.F. (2003). *Scale Development: Theory and applications*. Thousand Oaks, CA: SAGE Publications.
- Dhamoon, R.K. (2011). Considering on mainstreaming intersectionality. *Political Research Quarterly*, 64(1), 230-243
- Dickmann, M., Doherty, N. & Brewster, C. (2006). Why do they go? Individual and corporate perspectives on the factors influencing the decision to accept an international assignment. *The International Journal of Human Resources*, 19(4), 731-751.
- Dillman, D.A. & Smyth, J.D. & Christian L.M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. Wiley.
- Dominguez, V. (1998). Exporting U.S. concepts of race: Are there limits to the U.S. model? *Social Research*, 65(2), 369-399.
- Domonkos, L.S. (1977). History of higher education. *International Encyclopedia of Higher Education*. San Francisco, CA: Jossey-Bass, pg. 2017-40.
- Du Bois, W.E.B. (1903). *The souls of black folk*. New York, NY: Johnson Reprint Company.

- Du Bois, W.E.B. (1968). *The autobiography of W.E.B. Du Bois: A soliloquy on viewing my life from the last decade of its first century*. New York, NY: International Publishers.
- ELPRG. (2007). A response to the European Commission Green Paper Inventing Together, Our Future. *The European Research Area: New Perspectives*. Retrieved from http://www.liv.ac.uk/law/elprg/docs/ELP_Green_Paper_Response_2007.pdf.
- Ehrenreich, N. (2002). Subordination and symbiosis: Mechanism of mutual support between subordinating systems. *University of Missouri- Kansas City Law Review*, 71, 251-324.
- European Commission. (2007). Green paper: Inventing our future together. *The European Research Area*. Retrieved from http://ec.europa.eu/research/era/pdf/era-greenpaper_en.pdf
- Ferro, A. (2006). Desired mobility or satisfied immobility? Migratory aspirations among knowledge workers. *Journal of Education and Work* 19(2), 171–200.
- Freeman, R. B., & Medoff, J. L. (1979). The two faces of unionism. *The Public Interest*, 57, 69-93.
- Geiger, R. L. (1986). *To advance knowledge: The growth of American research universities, 1900-1940*. New York: Oxford University Press.
- Geiger, R. L. (1993). *Research and relevant knowledge: American research universities since World War II*. New York: Oxford University Press.
- Gevin, V. (October, 6, 2010). The spread of postdocs unions. *Nature*. Retrieved October 20, 2012 from <http://www.nature.com/naturejobs/science/articles/10.1038/nj7316-739a>
- Giroux, H. A. (2002). Neoliberalism, corporate culture, and the promise of higher education: The university as a democratic public sphere.” *Harvard Educational Review*, 72(4), 425-464.

- Glenn, E. N. (1999). The Social Construction and Institutionalization of Gender and Race: An Integrative Framework. In M. M. Ferree, J. Lorber, & B. B. Hess (Eds.), *Revisioning Gender* (pp. 3-43). New York: SAGE Publication.
- Goastellec, G., & Pekari, N. (2013). The Internationalization of Academic Markets, Careers and Professions. In *The Work Situation of the Academic Profession in Europe: Findings of a Survey in Twelve Countries* (pp. 229-248). Springer Netherlands.
- Gordon, M. M. (1964). *Assimilation in American life. The role of race, religion and national origins*. New York: Oxford University Press.
- Gray, M. J. (1996). *Immigration and Higher Education: Institutional Responses to Changing Demographics*. RAND, 1700 Main St., PO Box 2138, Santa Monica, CA 90407-2138; 310-451-7002.
- Griffin, K. A., & Museus, S. D. (Eds.) (2011). *Using mixed-methods approaches to study intersectionality in higher education: New Directions for Institutional Research*. San Francisco: Jossey-Bass.
- Golynger, O. (2006). *Ubiquitous Citizens of Europe: The Paradigm of Partial Migration*. Holmes Beach, Florida: Intersentia Publication.
- Gonzales, R. G. (2016). *Lives in Limbo: Undocumented and Coming of Age in America*. University of California Press: Oakland, CA.
- Gonzales, R. G. (2016). *DACA at Year Three: Challenges and Opportunities in Accessing Higher Education and Employment* (Rep.). American Immigration Council.
- Gonzales, R., Terriquez, V., and Rusczyk, S. (2014). Becoming dacommented: Assessing the short-term benefits of deferred action for childhood arrivals (daca). *American Behavioral Scientist*, 58(14).1852-1872.

- Gumport, P. (2000). Academic restructuring: Organizational change and institutional imperatives. *Higher Education*, 39, 67-91.
- Hall, S. & Jacques, M. (1990). *New times: The changing face of politics in the 1990s*. Baltimore, MD: The Johns Hopkins University Press.
- Hansen-Devaux, E. (2011). *Internationalization in higher education: Issues facing stakeholders with possible solutions* (Unpublished dissertation). Kansas State University.
- Hesse-Biber, S. N. (2010). *Mixed methods research: merging theory with practice*. New York: Guilford Press.
- Hing, B.O. (1997). *To Be An American—Cultural Pluralism and the Rhetoric of Assimilation*. New York, NY: University of Michigan Press.
- Hing, B. O. (2000). *To be an American: cultural pluralism and the rhetoric of assimilation*. New York: New York University Press.
- Hoffer, T., Grigorian, K., & Hedberg, E. (2008). *Postdoc participation of science, engineering, and health doctoral recipients*. NSF Intro Brief (No. NSF 08-307). Washington, DC: National Science Foundation.
- hooks, b. (1984). *Feminist theory: from margin to center*. New York, NY: Routledge.
- Jalowiecki, B., & Grzegorz, J.G. (2004). Brain drain, brain gain and mobility: Theories and prospective methods. *Higher Education in Europe*, 29(3), 299–308.
- James, J. (1999). *Shadowboxing: Representations of Black feminist politics*. St. Martin's Press.
- Jick, T.D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24(4), 602-611.
- Jons, H. (2007). Transnational mobility and the spaces of knowledge production: A comparison of different academic fields. *Social Geography Discussions*, 3, 79–119.

- Jean-Baptiste, M., Kaplan, D., & Charum, J. (2001). Scientific nomadism and the new geopolitics of knowledge. *International Social Sciences Journal*, 168.
- Johnson, B. & Turner, L.A. (2003). Data collection strategies in mixed methods research. In Tashakkori, A. & Teddlie, C. (Eds.), *Handbook of mixed methods in social and behavioral research* (pp.297-321). Thousand Oaks, CA: Sage.
- Jones, S. R., Torres, V., & Arminio, J. (2006). *Negotiating the complexities of qualitative research in higher education*. New York: Routledge.
- Julius, D., & Gumport, P. (2003). Graduate student unionization: Catalysts and consequences. *The Review of Higher Education*, 26(2), 187-216.
- Kim, E., & Diaz, J. (2013). Immigrant students and higher education. *Association of Higher Education: Higher Education Report*, 38(6). Hoboken, NJ: John Wiley & Sons.
- Kim, T. (2006). Building a business: A comparative note on the changing identities of the British university. In J. Sprogøe & T. Winther-Jensen (Auth), *Identity, education, and citizenship: Multiple interrelations* (pp. 197-224). Frankfurt, Germany: Peter Lang.
- Kim, T. (2009). Transnational academic mobility, internationalization and interculturality in higher education. *Intercultural Education*, 20(5), 395-405.
- King, D.K. (1988). Multiple jeopardy, multiple consciousness: The context of black feminist ideology. *Signs*, 14(1), 42-72.
- Kings, A. E. (2017). Intersectionality and the changing face of ecofeminism. *Ethics and the Environment*, 22(1), 63-87.
- Kofman, E. (2000). The invisibility of skilled female migrants and gender relations in studies of skilled migration in Europe. *International Journal of Population Geography*, 6, 45–59.

- Lafer, G. (2003). Graduate student unions: Organizing in a changed academic economy. *Labor Studies Journal*, 28(2), 25-43.
- Lee, J. J. (2007). The shaping of the departmental culture: Measuring the relative influences of the institution and discipline. *Journal of Higher Education Policy and Management*, 29(1), 41-55.
- Lee, J. J. (2010). International students' experiences and attitudes at a US host institution: Self-reports and future recommendations. *Journal of Research in International Education*, 9(1), 66-84.
- Lee, J. J. & Opio, T. (2011). Coming to America: Challenges and difficulties faced by African international student athletes. *Sport, Education and Society*, 16(5), 629-644.
- Lee, J. J., & Rice, C. (2007). Welcome to America? International student perceptions of discrimination. *Higher Education*, 53(3), 381-409.
- Lee, J. J., Oseguera, L., Kim, K. A., Fann, A., Davis, T., & Rhoads, R. A. (2004). Tangles in the tapestry: Cultural barriers to graduate student unionization. *The Journal of Higher Education*, 75(3), 340-361.
- Leech, B.K., Onwuuebuzie, A.J. & Combs, J.P. (2011). Writing publishable mixed research articles: Guidelines for emerging scholars in the health sciences and beyond. *International Journal of Multiple Research Approaches*, 5, 7-24.
- Levin, J. (2007). Multiple judgments: Institutional context and part-time faculty. In R. Wagoner (Ed.), *The current landscape and changing perspectives of part-time faculty* (pp. 15-20). San Francisco, CA: Jossey-Bass.
- Levitt, P., & Jaworsky, B. N. (2007). Transnational Migration Studies: Past Developments and Future Trends. *Annual Review of Sociology*, 33(1), 129-156.

- Levin, S., Black, G., Winkler, A., & Stephan, P. (2004). Differential employment patterns for citizens and non-citizens in science and engineering in the United States: Minting and competitiveness effects.
- Lieber, E. (2009). Mixing qualitative and quantitative methods: Insights into design and analysis issues. *Journal of Ethnographic and Qualitative Research*, 3, 218-227.
- Lincoln, Y. S., & Guba, E. G. (1986). "But Is It Rigorous? Trustworthiness and Authenticity in Naturalistic Evaluation." In D. D. Williams (Ed.), *Naturalistic Evaluation* (pp. 73-84). *New Directions for Program Evaluation*, No 30. San Francisco: Jossey-Bass.
- Lowell, B. L., & Salzman, H. (2007). *Into the eye of the storm: Assessing the evidence on science and engineering education, quality, and workforce demand* (research report for The Urban Institute). Washington, DC: The Urban Institute.
- Ma, J., & Stephan, P. E. (2005). The growing postdoctorate population at US research universities (R. L. Clark & J. Ma, Eds.). In *Recruitment, Retention and Retirement in Higher Education*, Edward Elgar Publishing.
- Marcy, G. (2015, October 7). An open letter to the astronomy community. Retrieved from http://w.astro.berkeley.edu/~gmarcy/MarcyLetter_October7.pdf
- Marginson, S., & Considine, M. (2000). *The enterprise university: Power, governance, and reinvention in Australia*. Cambridge, UK: Cambridge University Press.
- Mahroum, S. (1998). Europe and the challenge of brain drain. Institute for Prospective Technological Studies (IPTS) Report no. 29, November.
- Mahroum, S. (2000.) Global magnets: Science and technology disciplines and departments in the United Kingdom. *Minerva* 37(4), 379–390.

- Mahroum, S. (2001). Europe and the immigration of highly skilled labour. *International Migration*, 39(5), 27–42. .
- Mahroum, S. (2003). Brain gain brain drain, an international overview. Background paper for the Austrian Ministry for Transport, Innovation and Technology. *Alpbach Technology Dialogue*, 22–23 August 2003.
- Mahroum, S. (2007). Assessing human resources for science and technology: the 3Ds framework. *Science and Public Policy*, 34(7).
- Massey, D. & Taylor, J.E. *International Migration: Prospects and Policies in a Global Market*. New York, NY: Oxford University Press.
- Maxwell, J. (2006). Literature reviews of, and for, educational research: A commentary on boote and belle’s “scholars before researchers.” *American Educational Research Association*, 35(9), 28-31
- McCall, L. (2005). The complexity of intersectionality. *Journal of Women in Culture and Society*, 30(1), 1771-1800.
- Medoff, J. L. (1979). Layoffs and alternatives under trade unions in U.S. manufacturing. *The American Economic Review*, 69(3), 380-395.
- Merriam, S.B. (2009). *Qualitative Research: A Guide to Design and Implementation*. San Francisco: Jossey Bass.
- Mertens, D. M. (2003). Mixed methods and the politics of human research: The transformative emancipatory perspective. In A. Tashakkori & C. Teddlie, *Handbook of mixed methods in social and behavioral research*. Thousand Oaks, CA: SAGE Publication.
- Mertens, D. M. (2007). Transformative Paradigm: Mixed Methods and social justice. *Journal of Mixed Methods Research*, 1, 212-225.

- Mertens, D. M. (2010). Transformative Mixed Methods Research. *Qualitative Inquiry*, 16(6), 469-474.
- Mertens, D.M. (2011). Publishing mixed methods research. *Journal of Mixed Methods Research*, 5, 3-6.
- Mertens, D. M. (2011). Mixed Methods as Tools for Social Change. *Journal of Mixed Methods Research*, 5(3), 195-197.
- Mertens, D. M. & Ginsberg, P.E. (2009). *The handbook of social research ethics*. SAGE Publication.
- Merton, R. K. (1936). The Unanticipated Consequences of Purposive Social Action. *American Sociological Review*, 1(6), 894-904.
- Metcalf, H., & Rolfe, H. (2011). *Barriers to employers in developing lesbian gay bisexual and transgenderfriendly workplaces*. Government Equalities Office.
- Meyer, J.B., Kaplan, D., & Charum, J. (2001). Scientific nomadism and the new geopolitics of knowledge. *International Social Science Journal*, 168, 309–321
- Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis*. (2nd edition). Thousand Oaks, CA: Sage Publications.
- Morgan, H. (2007). Career, mobility and motility: The experiences of disabled academics and researchers. Nordic Network on Disability Research Biennial Conference. Goteborg, Sweden, May 2007.
- Mohrman, K., Ma, W., & Baker, D. (2008). The research university in transition: The emerging global model. *Higher Education Policy*, 21, 5-27.

- Morris, J. (2012, July 26). UCLA researcher's death draws scrutiny to lab safety. Retrieved from <http://californiawatch.org/higher-ed/ucla-researchers-death-draws-scrutiny-lab-safety-17280>.
- Morrow, R. A., & Torres, C. A. (2000). The state, globalization, and educational policy. In Burbules, N.C., Torres, C.A. (Eds.), *Globalization and Education: Critical perspectives*, (pp 27-56). New York, NY: Routledge.
- National Academy of Sciences (NAS). (2014). *The postdoctoral experience revisited*. Washington, D.C.: The National Academies Press.
- National Institute of Health (NIH). (2002). National research service award stipend increase and other budgetary changes effective for fiscal year 2002. Retrieved from <http://grants.nih.gov/grants/guide/notice-files/not-od-02-028.html>
- National Institute of Health (NIH). (1975). Ruth L. Kirschstein national research service award stipends, tuition/fees and other budgetary levels effective for fiscal year 1975. Retrieved from <http://grants.nih.gov/grants/guide/notice-files/not-od-12-033.html>
- National Institute of Health (NIH). (2012). Ruth L. Kirschstein national research service award stipends, tuition/fees and other budgetary levels effective for fiscal year 2012. Retrieved from <http://grants.nih.gov/grants/guide/notice-files/not-od-12-033.html>
- National Postdoctoral Association (NPA). (2005). Recommendations for postdoctoral policies and Practices. Retrieved from <http://www.nationalpostdoc.org/images/stories/Documents/PolicyDocuments/npa->
- National Postdoctoral Association (NPA). (2006). Position paper on the nrsa postdoctoral stipends. Retrieved from <http://www.nationalpostdoc.org/component/content/article/33-publications/position-statement/142-position-paper-on-nrsa-postdoctoral-stipends>

- National Postdoctoral Association (NPA). (2009). What is a postdoc? Retrieved from <http://www.nationalpostdoc.org/index.php/policy-22/what-is-a-postdoc>
- National Research Council (NRC). (1920). *Bulletin of the National Research Council*. Washington, D.C.: The National Academies Press.
- National Research Council (NRC). (1969). *The invisible university: Postdoctoral education in the United States*. Washington, DC: National Academy of Sciences.
- National Research Council (NRC). (2000). *Enhancing the postdoctoral experience for scientists and engineers*. Washington DC: National Academy of Sciences.
- National Research Council of the National Academies (2005). *Bridges to independence: Fostering the independence of new investigators in biomedical research*. Washington, D.C.: National Academies Press.
- National Research Council (NRC). (2005a). *Bridges to independence: Fostering the independence of new investigator in biomedical research*. Washington, DC: The National Academies Press.
- National Research Council (NRC). (2005b). *Policy implications of international graduate students and postdoctoral scholar in the United States*. Washington, DC: The National Academic Press.
- National Science Board (NSB). (2008). *Science and Engineering Indicators*. Arlington, CA: National Science Foundation. Retrieved from <http://www.nsf.gov/statistics/seind10/>.
- National Science Board (NSB). (2010). *Science and engineering indicators*. Arlington, VA: National Science Foundation.
- National Science Foundation (NSF). (2008). *Science and engineering indicators*. Washington, DC: National Science Foundation.

- National Science Foundation (NSF). (2009). *Doctorate recipients from U.S. universities: summary report 2007-08*. Arlington, VA: National Science Foundation.
- National Science Foundation (NSF). (2010). *NSF-NIH survey of graduate students and postdoctorates*. Retrieved from <http://www.nsf.gov/statistics/nsf13314/pdf/tab21.pdf>.
- National Science Foundation (NSF). (2014). *Survey of Graduate Students and Post doctorates in Science and Engineering*. National Science Foundation.
- Paddock, R. C. (2007, May 23). Suicides a symptom of larger UC crisis. Retrieved from <http://articles.latimes.com/2007/may/23/local/me-mental23>
- Patton, M.Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: SAGE Publication.
- Pelizon, C. (May 10, 2002). Is the Italian brain drain becoming a flood? *Science Next Wave*. Retrieved from http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2002_05_10/nodoi.18436851861153693658
- Perlesz, A. & Lindsey, J. (2003). Methodological triangulation in researching families: Making sense of dissonant data. *International Journal of Social Research Methodology*, 6(1), 25-40.
- Phillips, E.D., Lombard, J.V., Abbey, C.W., & Craig, D.D. (2015). The top American research universities: 2015 annual report. *The Center for Measuring University Performance*. Retrieved from <https://mup.asu.edu/sites/default/files/mup-2015-top-american-research-universities-annual-report.pdf>
- Plano Clar, V.L. & Creswell, J.W. (2008). *The Mixed Methods Reader*. Thousand Oaks, CA: Sage Press.

- Portes, A. & Rumbaut, R.G. (2006). *Immigrant America* (3rd eds.). Berkeley, CA: University of California Press.
- Powell, J. W. (1880). *Introduction to the study of Indian languages*. (2nd eds.). Washington, DC.: US Government Printing Office.
- Organization for Economic Co-Operation and Development (OECD). (1999). Quality and internationalization in higher education. OECD.
- Organization for Economic Co-Operation and Development (OECD). (2001). International mobility in higher education. OECD.
- Organization for Economic Co-Operation and Development (OECD). (2008). The global competition for talent: Mobility of the highly skilled. OECD.
- Raghuram, P. (2004). The difference that skills make: gender, family migration strategies and regulated labour markets. *Journal of Ethnic and Migration Studies*, 30(2), 303-321.
- Rankin, S.R., & Reason, R.D. (2005). Differing perceptions: How students of color and white students perceive campus climate for underrepresented groups. *Journal of College Student Development*, 46(1), 43-61.
- Rankin, S., & Reason, R. (2008). Transformational Tapestry Model: A comprehensive approach to transforming campus climate. *Journal of Diversity in Higher Education*, 1(4), 262-274.
- Redfield, R., Linton, R. & Herskovits, M. J. (1936). Memorandum for the study of acculturation. *American Anthropologist*, 38, 149–152.
- Reed, A. & Micoli, K. (2005). Postdocs at the tipping point. *Science* (3 June). Retrieved from http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2005_06_03/nodoi.8474427838476872315

- Rees, D. I. (1993). The effect of unionization on faculty salaries and compensation: Estimates from the 1980s. *Journal of Labor Research*, 14(4), 399-422.
- Regets, M. C. (1998). Has the use of postdocs changed? (Issue Brief from the National Science Foundation Division of Science Resources Studies). Washington, DC: National Science Foundation.
- Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (2014). *Qualitative research practice: a guide for social science students and researchers*. Thousand Oaks, CA: Sage.
- Rhoades, G. (1998). *Managed professionals*. Albany, NY: State University of New York Press.
- Rhoades, G., & Rhoads, R. A. (2003). The public discourse of U.S. graduate employee unions: Social movement identities, ideologies, and strategies. *The Review of Higher Education*, 26(2), 163-186.
- Rhoads, R. A. (2003). Globalization and resistance in the United States and Mexico: The global Potemkin village. *Higher Education*, 45(2), 223-250.
- Rhoads, R. A. (2011). The U.S. research university as a global model: Some fundamental problems to consider." *InterActions*, 7(2) [online journal].
- Rhoads, R. A., & Rhoades, G. (2005). Graduate employee unionization as symbol of and challenge to the corporatization of U.S. research universities. *The Journal of Higher Education*, 76(3), 243-275.
- Rhoads, R. A., & Torres, C. A. (Eds.). (2006). *The university, state, and market: The political economy of globalization in the Americas*. Stanford, CA: Stanford University Press.
- Richardson, L. (2000). Writing: A method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (2nd ed., pp., 923-943). Thousand Oaks, CA: Sage.

- Rothwell, N. (2002). *Who Wants to be a Scientist? Choosing Science as a Career*. Cambridge: University Press.
- Rudmin, F. W. (2003). Critical history of the acculturation psychology of assimilation, separation, integration, and marginalization. *Review of General Psychology, 7*, 3-37.
- Rudmin, F. W. (2003). Catalogue of acculturation constructs: descriptions of 126 taxonomies, 1918–2003. In W. J. Lonner, D. L. Dinnel, S. A. Hayes & D. N. Sattler (eds.), *Online readings in psychology and culture* (Unit 8, Chapter 8), (www.wvu.edu/~culture), Center for Cross-Cultural Research, Western Washington University, Bellingham, Washington, DC.
- Russell, D. W. (2002). In Search of Underlying Dimensions: The Use (and Abuse) of Factor Analysis in Personality and Social Psychology Bulletin. *Personality and Social Psychology Bulletin, 28*(12), 1629-1646.
- Ryan, G.W. & Bernard, H.R., (2003). Techniques to identify themes. *Field Methods, 15*, 85-109.
- Slaughter, S., & Rhoades, G. (2004). *Academic capitalism and the new economy: Markets, state and higher education*. Baltimore, MD: Johns Hopkins University Press.
- Salt, J. (1997) International movements of the highly skilled. Paris: OECD Publishing.
- Sharkness, J., DeAngelo, L., & Pryor, J. (2010). *CIRP Construct Technical Report* (Rep.). Cooperative Institutional Research Program at the Higher Education Research Institute at UCLA.
- Slonim-Nevo, V. & Nevo, I, (2009). Conflicting findings in mixed methods research: An illustration from an Israeli study on immigration. *Journal of Mixed Methods Research, 3*(2), 109-128.

- Smyth, J. D., Dillman, D. A., Christian, L. M., & McBride, M. (2009). Open-Ended Questions in Web Surveys: Can Increasing the Size of Answer Boxes and Providing Extra Verbal Instructions Improve Response Quality? *Public Opinion Quarterly*, 73(2), 325-337.
- Sheridan, L.P. (2006). Islamophobia pre-and post- September 11th, 2001. *Journal of Interpersonal Violence*, 21(3), 317-3336.
- Solorzano, D., Ceja, M., & Yoso, T. (2001). Critical race theory, racial microaggressions, and campus climate: The experiences of African American college students. *Journal of Negro Education*, 69(1/2), 60-73.
- Spears, A. (1999). Race and ideology: An introduction. *Race and Ideology: Language, Symbolism, and Popular Culture*. Detroit, MI: Wayne State Press.
- Steele, C.M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*. 52(6), 613-629.
- Stephan, P. (2010). The "I"s have it: Immigration and innovation, the perspective from academe. (J. Lerner & S. Stern, Eds.). In *Innovation Policy and the Economy*. University of Chicago Press, Chicago, IL.
- Stephan, P. E. (2011, September 20). Job market effects on scientific productivity. Paper presented in *First World Conference on the Future of Science*. Retrieved from http://www.cso.edu/upload/PDF_rencontres/SEM_ES_Paula-Stephan.pdf
- Stephan, P. E. (2012). *How economics shapes science*. Cambridge, MA: Harvard University Press.
- Stephan, P.E. (2013). How to Exploit Postdocs. *BioScience*, 63(4), 245-246.

- Stephan, P. E., Black, G., & Chang, T. (2007). The small size of the small scale market: The early-stage labor for highly skilled nanotechnology workers. *Research Policy*, 36(6), 887-892.
- Stephan, P., & Ma, J. (2005). The Increased Frequency and Duration of the Postdoctorate Career Stage. *American Economic Review*, 95(2), 71-75.
- Suárez-Orozco, M. M., & Qin-Hilliard, D. B. (Eds.). (2004). *Globalization: Culture and education in the new millennium*. Univ of California Press.
- Suárez-Orozco, C., Suárez-Orozco, M. M., & Todorova, I. (2009). *Learning a new land: Immigrant students in American society*. Harvard University Press.
- Sumell, A. & Stephan, P. & Adams, J. (2009). Capturing Knowledge: The location decision of new PhDs working in industry. (R.B. Freeman & D.F. Goroff, Eds.). In *Science and Engineering Careers in the United States: An Analysis of Markets and Employment*. University of Chicago Press, Chicago, IL.
- Sweetman, D., Badiee, M., & Creswell, J.W. (2010). Use of the transformative framework in mixed methods studies. *Qualitative Inquiry*, 16(6), 441-454.
- Tashakkori, A., & Szalacha, L. A. (Eds.). *Handbook of Mixed Methods in Social and Behavioral Research*. Thousand Oaks, CA: Sage.
- Tashakkori, A. & Teddlie, C. (2003). *Handbook of mixed methods in social and behavioral research*. Thousand Oaks: Sage.
- The Top 50 NIH-Funded Universities of 2014 | The Lists | GEN Genetic Engineering & Biotechnology News - Biotech from Bench to Business. (n.d.). Retrieved from <http://www.genengnews.com/the-lists/the-top-50-nih-funded-universities-of-2014/77900233>

- Teitelbaum, M. S. (2003). Do we need more scientists? *The Public Interest* (Fall), 40-53.
- Times Higher Education (2017). World university rankings (2016-2017). Retrieved from [https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/name/university of california/sort_by/rank/sort_order/asc](https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#!/page/0/length/25/name/university%20of%20california/sort_by/rank/sort_order/asc)
- Tremblay, K. (2004, October). Links between academic mobility and immigration. In *Symposium on International Labour and Academic Mobility: Emerging Trends and Implications for Public Policy, Toronto* (Vol. 22).
- Tremblay, K. (2005). Academic mobility and immigration. *Journal of Studies in International Education*, 9(3), 196-228.
- Trinh, M.T. (1989) *Woman/Native/Other: Writing, Postcoloniality and Feminism*. Bloomington: Indiana University Press.
- Tuna, C. (2010). Postdoctoral researchers in California ratify labor deal. *Wall Street Journal* (12 August). Retrieved from <http://online.wsj.com/article>
- Thelin, J. R. (2004). *A history of American higher education*. Baltimore: Johns Hopkins University Press.
- United Automobile Workers (UAW). (2010). 6,500 University of California postdoctoral researchers ratify inaugural contract (a document of the UAW International Solidarity House. <http://www.uaw.org/articles/6500-university-california-postdoctoral-researchers-ratify-inaugural-contract>
- United Automobile Workers (UAW). (2011). Know your rights: Contract (a document of the UAW Local 5810) http://uaw5810.org/?page_id=85
- United Automobile Workers (UAW). (2012a). About the union (a document of the UAW Local 2865). <http://www.uaw2865.org/about/history/>

United Automobile Workers (UAW). (2012b). About your union (a document of the UAW Local 5810) http://uaw5810.org/?page_id=2625

United Automobile Workers (UAW). (2012c). Statewide department numbers report. 05-17 (a document of the UAW Local 5810 unpublished raw data).

University of California. (2014). Annual financial report 2012-2013. Retrieved from <http://finreports.universityofcalifornia.edu/index.php?file=12-13/pdf/fullreport-1213.pdf>

University of California Council of Postdoctoral Scholars (UCCPS). (2006). UCCPS Constitution. Retrieved from <http://www.ucpostdoc.org/constitution>

University of California Council of Postdoctoral Scholars (UCCPS). (2010). Appointment and promotion: Postdoctoral scholars (APM-390). <http://www.ucpostdoc.org/files/apm-390.pdf>

University of California Office of the President (UCOP). (2011). Demographics of the postdoctoral scholars unit (PX) (a document of the UC Human Resources and Benefits). http://atyourservice.ucop.edu/employees/policies_employee_labor_relations/collective_bargaining_units/post_docs/demographics.html

University of California Office of the President (UCOP). (2012). Labor relations and collective bargaining (a document of the UC Human Resources and Benefits). http://atyourservice.ucop.edu/employees/policies_employee_labor_relations/labor_relations.html

University of California, San Francisco (UCSF). (2011). History of postdocs at UCSF (a document of the Office of Postdoctoral Affairs, UCFS Graduate Division). <http://graduate.ucsf.edu/postdoctoral/history-postdocs-ucsf>

- United States House of Representatives. (2010). Understanding problems in first contract negotiations: Postdoctoral scholar bargaining at the University of California (Field Hearing before the Committee on Education and Labor, Serial No. 111-59). Washington, DC: U.S. Government Printing Office.
- Van de Sande, D., Ackers, H.L., & Gill, B. (2005). Impact Assessment of the Marie Curie Fellowships under the 4th and 5th Framework Programmes of Research and Technological Development of the EU (1994–2002). Brussels: Final Report, European Commission.
- Viredale, R. & Appleyard R. (2001). International migration of the highly skilled: Introduction. *International Migration* (Geneva, Switzerland) 39(5), 3–6.
- Viruell-Fuentes, E. A., Miranda, P. Y., & Abdulrahim, S. (2012). More than culture: structural racism, intersectionality theory, and immigrant health. *Social Science & Medicine*, 75(12), 2099-2106.
- Wasem, R. E. (2012). Immigration of foreign nationals with science, technology, engineering, and mathematics (stem) degrees. *Congressional Research Service Report for Congress*, no: R42530. Retrieved from <http://www.fas.org/sgp/crs/misc/R42530.pdf>
- Washburn, J. (2005). *University inc.: The corporate corruption of higher education*. New York, NY: Basic Books.
- Waters, M. (1999). *Black identities: West Indian dreams and American realities*. Cambridge, Ma: Harvard University Press.
- Webb, E. J., Campbell, D. T., Schwartz, R. D., & Sechrest, L. (1966). *Unobtrusive measures; nonreactive research in the social sciences*. Chicago, IL: Rand McNally.

- Weisman, J. & Peters, J.W. (2013, September 20). Government shuts down in budget impasse. *New York Times*. Retrieved from <http://www.nytimes.com/2013/10/01/us/politics/congress-shutdown-debate.html>
- Winkler, A. E., Levin, S. G., Stephan, P. E., & Glänzel, W. (2013). Publishing Trends in Economics across Colleges and Universities, 1991–2007. *Eastern Economic Journal*, 40(4), 560-582.
- Wit, H. D., & Knight, J. (1999). *Quality and internationalization in higher education*. Paris: Organization for Economic Co-operation and Development.
- Witherell, S. & Pittman, S. (2012). International education exchanges are at all-time high, strengthening economies and societies around the world. Retrieved from Institute of International Education from <http://www.iie.org/Who-We-Are/News-and-Events/Press-Center/Press-Releases/2012/11-13-2012-Open-Doors-International-Students>
- Wood, F. (2004). Beyond Brain Drain mobility, competitiveness and scientific excellence. *Centre for Higher Education Management and Policy*, University of New England, Armidale, Australia.
- World Intellectual Property Organization (WIPO). (2012). *2012 World intellectual property indicators*. Geneva, Switzerland: World Intellectual Property Organization.
- Yates, M. D. (2009). *Why unions matter* (2nd ed.). New York, NY: Monthly Review Press
- Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Yong, A. G., & Pearce, S. (2013). A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2), 79-94.

Yoshikawa, H., Weisner, T.S., Kalil, A., & Way, N. (2008). Mixing qualitative and qualitative data in research development: Uses and methodological choices. *Developmental Psychology*, 44, 344-354.

Zumeta, W. (1985). *Extending the educational ladder: The changing quality and value of postdoctoral study*. Lexington, MA: Lexington Books.