

*Professional Immigrant Women's Experiences of Managing Work and Family Conflicts: The Case of Chinese and Taiwanese Faculty in Research Intensive Universities*

Yun Ling Li

Dissertation submitted to the faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy  
In  
Sociology

Toni Calasanti, Chair  
Barbara Ellen Smith  
Sarah Ovink  
Minjeong Kim

4 May 2017  
Blacksburg, VA

Keywords: Immigrant Women, Work Processes, Work and Family Conflicts, STEM (Science, Technology, Engineering, and Mathematics) Fields, Gender and Work

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(ABSTRACT)

This study investigates first-generation Chinese and Taiwanese immigrant women faculty's workplace experiences and their strategies for managing work and family demands. By looking at how immigration, ethnicity, gender, and work processes shape these women's ideology and practices, this study addresses the following questions: How do married Chinese and Taiwanese immigrant women in research-intensive universities handle work and family conflicts? How do they negotiate their gender-role expectations and actual practices at work and home? And, finally, do their practices vary by academic disciplines based on the work processes involved in conducting research? This study points to the dynamic nature of cultures such that immigrant women can challenge some aspects of the traditional culture and retain those aspects that help them to receive support for managing work and family demands. Findings from this study also suggest that based on different work processes, what may seem to be flexible can, in fact, present particular barriers and impede workplace performance. Finally, these findings show that in some academic fields, being women may place obstacles for career advancement, but that co-ethnic network provides alternative opportunities for them and can lead to greater research productivity. This study resonates with previous studies showing that childcare responsibilities place women faculty at a disadvantageous position in terms of job evaluation and career advancement. As well, it illuminates how disciplinary differences concerning work process shape women faculty's capability of arranging work schedule flexibly.

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## ACKNOWLEDGEMENT

I would like to acknowledge my committee, for their support, advice, and all the discussions we have had during my educational journey.

Dr. Toni Calasanti – You have been an amazing mentor for me. I am very grateful that you are my advisor. Your professionalism and mentorship has presented me a role model of being a good scholar. Thank you for keeping me on the track and willing to spend tremendous time helping me to finish my dissertation. Thank you.

Dr. Barbara Ellen smith – I am thankful that I was able to know you when I first come to Virginia Tech. Your dedication to research and teaching, along with other work, has showed me how to be a scholar and an activist simultaneously. I wish you the best for your retirement life. Thank you.

Dr. Sarah Ovink – I am so appreciative for your support, and all the intellectual discussions when we meet. Other than my dissertation, it has been a wonderful experience to work with you on the NSF research project. I have learned a lot from you about how to manage a big project, which I think very helpful for my future career. Thank you.

Dr. Minjeong Kim – I am lucky enough to have you on my committee. Although you have left Tech to San Diego, we still manage to make this work. Your knowledge on immigration has helped me so much that I cannot thank you enough. You've also helped me to develop my professional network, and I am really grateful for that! Thank you.

To the entire faculty in Sociology department at Virginia Tech - I appreciate all the support, guidance, and knowledge you have shared with me along the way. Special thanks to Dr. Anthony Peguero, Dr. Neal King, Dr. Christine Labuski and Dr. Nick Copeland.

To the staff members in Sociology department at Virginia Tech – Miss Brenda Husser, Tish Glosch, and Amy Kokkinakos. Thank you for being there and help me figure it all out when I have questions. I can't image my life at Tech would be without your help.

To my close Taiwanese friends at Tech, Hung-Yin, Kuan-Hung, Shane, and Winnie. I am grateful that for the past two years, you are here with me, to share my happiness and difficulties. You make me feel less lonely here.

To my family, my sisters my mom, and my dad in heaven. Thank you for the continuous support when I am so far away from home. I hope what I have done make you proud.

To my best friend/boyfriend. You are the best thing happened to me. I cannot achieve this without you. I am so lucky to have you there, cheering me up when I am down, supporting me and making me smile.

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## CHAPTER 1: INTRODUCTION

Women's experiences of work-family conflict have been a concern addressed by sociologists, especially those interested in understanding gender inequalities. In relation to workplace issues, sociologists have been interested to understand how women's work and family demands and struggles place them in a disadvantaged position in terms of salaries, promotion opportunities or evaluations, and these unequal outcomes are often associated with women's family responsibilities. Indeed, the realms of paid work and family have been described as greedy institutions, each demanding high levels of commitment and devotion (Blair-Loy, 2003). As well, work organizations value and reward masculine characteristics and experiences; as Acker (1990) argues, organizations assume an ideal worker who can commit fully to the workplace and can ignore reproductive responsibilities. As a result, women are easily marginalized in gendered organizational processes.

Different cultural backgrounds can influence the ways that women perceive and enact their work and family responsibilities (Inman, Howard, Beaumont, & Walker, 2007; Park & Chesla, 2007; Sun, 2007), as can immigration status (Rhoads & Konrad, 2007). At the same time, particular organizations and jobs can present different levels and kinds of constraints for balancing work and family. For example, how work is structured and the processes of fulfilling job duties may present obstacles, or provide opportunities, for women employees' ability to manage work schedules and demands while also meeting family needs.

In this study, I conduct in-depth interviews of first-generation, professional women immigrants who came from Taiwan and China, and who are employed in STEM fields, as defined by the National Science Foundation (2012) in higher education. Given that this broad definition includes fields with different work processes that have potential implications for

productivity, I separate the bench-science STEM fields from social sciences in order to examine possible variations. I then ask the following questions: How do married Chinese and Taiwanese immigrant women in research-intensive universities handle work and family conflicts? How do they negotiate their gender-role expectations and actual practices at work and at home? And, finally, do their practices vary by these sets of academic disciplines based on the work processes involved? This study comprises an interesting case study because, on the one hand, these immigrant women might be expected to hold Confucian ideologies that would demand a more traditional role in the home. On the other hand, many of these women are employed in traditional bench-science STEM fields that are expected to be even more demanding of work time than are some other fields. By looking at their work in two greedy institutions (Blair-Loy, 2003; Coser, 1974), higher educational institutions and family, I hope to illuminate the processes by which successful Taiwanese and Chinese women negotiate these disparities while employed in the gendered and racialized context of research-intensive universities.

## CHAPTER 2: LITERATURE REVIEW

### Gender Inequality in the Workplace

The last several decades have witnessed increased scholarly attention to gender inequality in the workplace. Early scholars (as well as some present-day researchers) have pointed to women's socialization or human capital attributes. They argue that women's disadvantages at work are due either to their socialization, which leads them to prioritize domestic responsibilities over professional, or to their not accumulating enough human capital useful for employment (such as educational attainment or work experience) that can make them competitive in the workplace (Paglin, 1990; Spade & Reese, 1991).

In an important break from these narratives, Rosabeth M. Kanter's path-breaking study "Men and Women of the Corporation" (Kanter, 1977) is the first significant work to point to the importance of organizations and how these shape gendered behaviors in the workplace. She argues that when one group is a numerical minority, a "token," wherein the minority group makes up less than 15% of the total workplace population, group members will experience heightened visibility, exclusion, and problems of assimilation (Kanter, 1977). The token status of such employees leads to such problems as being subjected to greater scrutiny or stereotyping from coworkers and managers alike. Kanter thus uses tokenism to explain women's difficulties and unequal treatment in male-dominated occupations and managerial positions; she argues that such presumably inherent gender differences as women's lower commitment to work, lower career aspirations, and presumed fewer leadership skills are consequences of their very low representation within the managerial ranks. The heightened visibility, exclusion and role

encapsulation that such women experience (along with short job ladders) affect their behaviors and also result in inequalities.

The underlying assumption of Kanter's pioneering study is that the workplace and policies are gender neutral; her focus is on the gender composition of the work organizations, and consequences for women, rather than on gender relations *per se*—the power relations existing in the broader society and that accrue to gender status. Thus, she fails to consider how power shapes gender or race. However, this only becomes apparent when research turns to examining what happens when members of dominant groups are numeric minorities in organizations. For instance, Christine L. Williams (1995) looks at men working in female-dominated occupations and finds that men working in female-dominated occupations are benefited from the characteristics that accrue to tokenism; in other words, the heightened visibility and gender role expectations make these men more eligible for higher-rank positions. Further, in these occupations, the emphasis on masculinity makes men seem to be exceptional workers in comparison with women. Hence, Williams argues that men in traditionally female-dominated occupations are likely to take a “glass escalator” that enables them to move upward on occupational ladders more quickly than women, even though female-dominated jobs are often thought to reflect women's “fit” for such work.

### ***Gendered organizations***

William's study reveals the importance of masculinity in female-dominated occupations, and that men are considered as valuable workers. This implicit valuing of men is true of workplace organizations in general. In her classic work, Acker (1990) argues that organizations are gendered through their organizing processes and culture, and further affect workers' identities in the workplace. Such organizing processes include those related to wage

determination, job design, and rules in the workplace, to name a few; these practices regulate both men and women workers' behaviors and attitudes at work, but gender inequalities are built into these processes and lead to gendered wage gaps or job segregation. At the same time, organizations' cultures, including beliefs about gender differences and acceptable gender behaviors in relation to jobs and work practices, shape the structuring practices that support unequal treatment between male and female workers (Acker, 2012). Hence, men and women learn to behave in normative ways in the workplace (e.g., how should a man or a woman react toward a particular issue?). Further, the organizational logic is created in an abstract and presumably gender-neutral way, with expectations for workers' behaviors such as being at work at a certain time, agreeing with the length of work hours, or avoiding distractions outside the work. Such expectations assume reproductive labor is not the responsibility of workers. In this way, organizational logic reflects a gender division of labor that assigns to women primary responsibility for domestic labor and thus incorporates male experiences as the standard for workers.

Acker's arguments have been applied by many feminist scholars investigating women's occupational status and their unequal positions in workplace. From their studies, it is clear that gendered organizational practices are prevalent phenomena, especially in western countries (Billing, 2011; Elson, 1999; Leidner, 1991; Ridgeway & Correll, 2004). For instance, to investigate how gendered organizational logic is exercised regardless the gender composition of the workplace, Britton examines prison guards' work experiences in men's and women's prisons (Britton, 1997). From her respondents' training and working experiences, it is clear that the prison guard is assumed to be a man who is going to be working in an extremely violent environment, since the training courses rarely show work in women's prisons, and the training

courses do not instruct female prison guards about how they should handle sexual harassments during their duty. Similar to William's (1995) study, Britton also finds that male prison guards are more likely to be promoted to higher ranks, whether in men's or women's prisons; because the association between masculinity and violence, men are perceived as more capable of dealing with violent situations and hence are more likely to be assigned to deal with inmate violence, regardless of their actual body size. What is clear in her study is the underlying masculinized assumption of the organizational structure and consequently benefits men in terms of job preparations and promotions. Coltrane (2004) also notes that many women and their employers still assume that women would specialize in family work and cut back on work hours after marriage or having children. At the same time, there exists a "career advancement double standard" (Coltrane, 216), assuming the men as the breadwinner of the household with a stay-at-home wife who thus needs to be paid more than women, while women are assumed to be less qualified for promotion since her income is presumably secondary to the household. Thus, even though women have increased their share in the professional occupations, their salary and advancement still lag behind men's.

### **Gender, Race, and Higher Education**

#### ***Work in research-intensive higher education institutions***

As Acker describes organizations, they might be viewed as "greedy institutions" – institutions that "seek exclusive and undivided loyalty, and ... attempt to reduce the claims of competing roles and status positions on those they wish to encompass within their boundaries." (Cosser, 1974) Such organizations place high demands on employees; Research-intensive, higher education institutions are one example of a greedy and gendered organization (Wright et al., 2004). The 2004 National Study of Postsecondary Faculty Survey (NSOPF-04)

shows that among full-time faculty, those who work in engineering fields reported 56.1 work hours on average, while faculty who work in social science and humanities report 54.7 and 52.9 work hours respectively (Cataldi, Bradburn, & Fahimi, 2005). Although faculty overwork is commonplace, faculty in the U.S. academic system spend more time on their academic activities than in other English-speaking countries, and their work hours are significantly more than those who work in Western Europe or Latin American countries (Bentley & Kyvik, 2012). Faculty members who can devote a fair amount of energy to their research and can be flexible with their time thus have greater chances for getting promoted and tenured than do those with more time constraints.

In higher education institutions, a full-time faculty member in a tenure-track position is evaluated by her/his department, affiliated college and the university during her/his probationary appointment. Universities' procedures on reviewing tenure qualifications are developed based on American Association of University Professor's "Statement of Principles on Academic Freedom and Tenure;" with some flexibility. This evaluation usually takes place in the faculty member's sixth year (AAUP, 1940) of his/her employment. The faculty member is expected to engage in appropriate levels of research, teaching and service in order to be considered as a qualified candidate for tenure.

Although some institutions may enlarge their criteria, most research-intensive higher education institutions still depend on the traditional three elements (ACE, AAUP, & United Educators, 2000). Further, each task weighs differently, both within and between categories, depending on the discipline and the evaluating units. Among the three categories, faculty members' research performance is considered the most important to achieving tenure within research-intensive, doctoral-granting universities. Tenure-track faculty who pass the evaluation

are promoted to associate professor rank; those who do not pass are often offered terminal contracts, usually for one year. The criteria for tenure review are complex as they in fact compose various tasks. Take the University of Maryland as an example. As is the case for other research-intensive public universities, University of Maryland reviews its tenure-track faculty based: 1) research, scholarly or creative activities; 2) teaching, mentoring and advising; and 3) services. But each category includes several tasks or outcomes that can be considered as constituting adequate performance (APT Review Committee of University of Maryland, 2013). Thus, research activities include different types of scholarly work, including books, talks or professional presentations, films, and so on. Tenure-track faculty do not need to perform all types of scholarly works listed in the guidelines, but those who have engaged in more activities have greater chances to pass the evaluation. Moreover, which activities comprise adequate teaching and service are also quite varied.

### ***Disciplinary differences in research-intensive higher education institutions***

The complexity of job performance review within research-intensive universities relates to variations across disciplines and colleges. That is, while tenure and promotion evaluation processes may have few differences between institutions, the decentralization of higher education institutions (Schofer & Meyer, 2005) means that the specific content of each criterion can vary across disciplines and departments (S. R. Bird, 2011; Eveline, 2004). This further affects how faculty in each department understand the tenure evaluation. Bird (2011) points to a disjuncture between formally stated reward-structures of the university and each department: not every department defines the particular tasks of teaching, research and service in the same way, nor will they value each to the same degree. Hence, such discrepancies may result in faculty aligning with university's expectations in key performance areas (S. R. Bird, 2011). However,

the formal university criteria do not speak specifically enough to departmental criteria, and thus, for example, evaluating the quality of faculty's research performance may vary by disciplines. Some studies show that grant money is beneficial not only for faculty productivity, it is also directly related to faculty's tenure possibilities (Teodorescu, 2000). This is especially the case for disciplines that require expensive equipment and higher levels of labor, such as Electrical Engineering or Chemical Engineering. In such disciplines, when governmental education appropriations are reduced, being able to bring outside funds certainly becomes an advantage for tenure-track faculty.

Aside from university-level, formal tenure and promotion criteria, disciplines also serve to define what constitute research and productivity, and differences thus accrue in these indicators. Accordingly, the work processes across disciplines also vary and how research is conducted can be vastly different. In research institutes, collaborative work in research activity has been a norm for scientists and faculty; it is especially the case for certain disciplines (Bozeman & Corley, 2004; Godin & Gingras, 2000). Thus, Lee and Bozeman (2005) find that faculty who work in Engineering, Bioscience, Chemistry, Physics and other science fields spend half of their research time working with other researchers and graduate students in their work group. Although the authors do not specify the tasks involved in the collaborative work, nor do they investigate the size of the research teams, they discover that each faculty interviewed had an average of thirteen collaborators. For the humanities, by contrast, collaborative work is not generally required during the research process and scholars commonly work alone. Work in social science disciplines fall somewhere in between: research in some social Science disciplines are carried by teams while others are performed by scholars independently (Wanner, Lewis, &

Gregorio, 1981). Being able to work alone rather than collaboratively (especially in teams) can give faculty more flexibility in terms of research time allocation and location.

There are several reasons for the different work processes across disciplines. Conducting research in the natural sciences, for instance, requires substantial material resources and funds for equipment and support personnel; at the same time, industries are inclined to collaborate with research universities, in order to get early access to new discoveries and innovations, and further capitalize the research productions (Lee, 2000; S. Lee & Bozeman, 2005). Given the relatively higher ratio of collaborative work in natural science and other “hard” science fields, faculty in these disciplines are more likely to spend more time in labs and worksites. Further, the nature of a research project and the technology for accomplishing it affect the degree of task interdependence (Pfeffer & Langton, 1993).

A recent study by Cech and Blair-Loy (2014) explore some of these issues of gender and work demands in STEM fields in relation to “flexibility stigma”, the “negative sanctions toward employees who ask for or are assumed to need workplace arrangements” in order to attend to family obligations (Cech and Blair-Loy, 2014: 87). Arguing that STEM faculty in research-intensive universities provide an exemplar of the ideal worker described by Acker (1990), they explore the extent to which faculty feel the devotion to work schema penalizes those who might take advantage of flexible options for work-family balance. Although they find that such faculty tend to have more control over how they arrange their work time, more than half of their respondents still work more than 60 hours a week and spend half of their work hours on research and research-related activities. By contrast, research projects in humanities or some social science disciplines tend to have fewer requirements for expensive and complex technologies, and most of the work can be finished through personal computers and the Internet. This gives more

flexibility to such faculty as to where and when to conduct research. Further, Cech and Blair-Loy (2014) find that STEM faculty feel that their colleagues perceive those who use work-family policies to be less committed to work. Finally, they find that such beliefs about work and competence and commitment result in faculty being less satisfied with their jobs, with their work-family balance, and to consider leaving the university. However, Cech and Blair-Loy do not look at specific work processes in STEM fields, to ascertain the extent to which these matter for women's experiences in these disciplines. In addition, they do not examine heterogeneity among the women, particularly in relation to race/ethnicity or immigrant status, which might well have an impact on their intentions to leave their jobs.

### ***Gender, race, and higher education institutions***

Given the different work processes involved, it comes as no surprise that the gender composition of faculty across such disciplines differs. In the discussion that follows, I will refer to the so-called STEM fields: science, technology, engineering, and mathematics. Based on this rubric, women are underrepresented among faculty in STEM fields: from 1990 to 2007, the ratio of women full professors in science and engineering fields at 4-year colleges and universities only increased from 10% to 15% (Glass & Minnotte, 2010). But women's representations within STEM disciplines vary: some studies (Beede et al., 2011; Kulis, Sicotte, & Collins, 2002) have showed that women have enhanced their odds of holding faculty positions in the biological and health sciences, but have relatively poor odds of holding jobs in engineering, physics/astronomy, earth/environmental sciences, and agriculture. Otherwise, in social sciences and humanities, women have almost reached parity with their male counterparts in certain disciplines such as sociology and anthropology, though they are still underrepresented in other disciplines (political science and economics)(Kulis et al., 2002).

This situation is complicated by the intersection of gender and race. As Acker's (2009) later work argues, organizational practices, actions, and meanings are not only gendered processes, they are also racialized (and class-based) processes. These "inequality regimes"(Acker, 2009) are interrelated in ways that shape and maintain class, gender and racial inequalities within particular organizations. Focusing on gender and race only, we may consider that research education institutions are both gendered and racialized. As part of the larger society, the academia is based on western, white, male-centric rationality (Mansfield, Welton, Lee, & Young, 2010; Parker & Welch, 2013); further, faculty positions in higher education systems have been dominated by men. Among other things, this means that standards within academia, including the prestige of subfields, journals and other publications, have typically reflected white men's experiences and not those of women or racial minority group members. Thus, what counts as the high level of research can vary even within a discipline, and subfields in which women and racial minority members publish are sometimes considered less important(Roos & Gatta, 2009). Women faculty of color are particularly vulnerable in the tenure review process; Bernal & Villalpando's (2002) case study indicates that women faculty of color who publish their work in ethnic and women's studies journals often face challenges regarding the rigor and worthiness of their works. Gregory (2001) also finds that minority faculty often face two issues regarding their academic publications: those whose published work focusing on minority issues sometimes feel that the majority peers fail to recognize the quality of their research; or when minority faculty study minority populations, their research outcomes are rarely considered relevant within their fields or deemed significant contributions to the academia, and therefore are not widely recognized as scholarly work.

Beyond this issue of evaluations, however, are issues of work processes that are gendered and racialized. First, aside from possible biases concerning what editors of prestigious journals might see as valuable contributions, and having articles published in prestigious journals takes time and resources to produce such articles. However, women or racial minority faculty may lack access to such resources as lab space or funding opportunities, and thus experience a lower publication rate, which further limit their academic career advancement (Jagsi et al., 2006). Issues of resource lack can be particularly problematic for women and minority faculty working in white, male-dominated disciplines, such as the hard science disciplines in STEM fields. For instance, Davis (2001) finds that in the scientific community, women's participation is constrained because men often play a "gatekeeper" role that control the distribution of resources, such as powerful networks or awards. Studies that focused on women scientists at the Massachusetts Institute of Technology (MIT) also show that despite the fact that their work was well-recognized by the disciplines, some women scientists still faced sex discrimination regarding salary and lab space (Bailyn, 2003; Hopkins, 2002): they not only feel behind their male colleagues in compensation, they are also allocated less lab space.

Second, even if women have a fairer share of resource allocation, the work processes in the hard science disciplines described in the previous section, such as collaborative work and spending long hours at labs, still affect women more than men because of women's family responsibilities. Reviewing data produced within a 20-year time frame, Ceci and Williams (2011) argue that women in all scientific fields are more likely to be affected by work-family balance issues: there exists significant gender differences in hours worked, such that women scientists with children are expected to devote physical and emotional resources to child-rearing and simultaneously make intellectual contributions academically. Further, having children early

in one's career exerts more downward pressure on pre-tenure women than on men. Cech and Blair-Loy's study (2014) shows that in academic STEM fields, mothers are perceived as less committed to their professional work by the colleagues than are those without small children. Because of the image of the ideal worker (Acker, 1990), those who seem to violate the work devotion schema (Blair-Loy, 2003) (e.g., use work-family balance policies for family caring) are seen by colleagues and employers as having lower career commitment and are thus penalized. They find that even when work-family balance policies are in place, faculty still have very low intention to use such policies due to possible negative career consequences. This is especially true for women or parents of children under 3 years since they are likely to be aware of the flexibility stigma.

Third, research on higher education workload finds out that women and racial minority faculty members spend more hours on teaching and service than men faculty members do. Studies also show that women faculty in male-dominated disciplines are assigned the less prestigious, less valued tasks (Bozeman & Gaughan, 2011; Misra, Lundquist, Holmes, & Agiomavritis, 2011). In looking at faculty members' time allocation, Swann and Link (2008) find that women faculty at both assistant and associate professor ranks have longer work hours than their male counterparts at the same rank. This study also shows that although women faculty work longer hours than do men, women faculty's time spent on research is still less than men faculty's by two to three hours weekly. Hence, women's longer work hours do not compensate for the time they spend on service and teaching works. Even if women faculty have secured tenure, their service work load still is not mitigated: based on survey data and focus group interviews, Joya Misra and her research team (2011) discover that women associate professors spend almost 220 more hours on teaching, mentoring and service over two semesters than men at

that rank, and women respondents also express concerns that service workloads have impeded their career advancement to full professor rank. Some scholars refer to the service work in academia as “institutional housekeeping”(S. Bird, Litt, & Wang, 2004) or “glue work” (Lester, 2008). The underlying meaning of these descriptions is that these types of work are often invisible and supportive, and hence overlooked, on the one hand, and comprise women’s work, on the other. Racial minority women faculty members’ time is especially constrained as they are often asked to participate committees as the representation of their profession, race, and gender, and also frequently spend additional time mentoring and advising students who are from similar racial groups (Skachkova, 2007). Some studies show that mentors from similar backgrounds are particularly important to students of color because the mentors can enable students to gain a sense of academic self-efficacy, and at the same time student of color may appreciate the guidance of someone who has already solved some problems confronting one’s own demographic group(Ortiz-Walters & Gilson, 2005; Syed, Azmitia, & Cooper, 2011).

Fourth, women and racial minority faculty members sometimes experience a “chilly climate:” an environment of hostility, being an outsider, and invisibility in their departments (Ponjuan, Conley, & Trower, 2011; Vaccaro, 2010). In such chilly departments, women and racial minority faculty may have different professional working relationships with senior faculty members. Research shows that women faculty who do not develop good collegial relationships are at greater risk of failing to understand their organizational role, and have decreased confidence in their competence and less sense of belonging (Ponjuan et al., 2011). For racial minority women faculty, the work experiences are simultaneously affected by gender and race. In Turner’s (2002) studies on women faculty of color, the respondents state the salience of race and gender. That is, although women faculty are often excluded from the “academic old-boy

network,” women faculty of color are further removed from the network and at the same time they cannot always expect support from their white female colleagues (Turner, 2002). They also face issues when interacting with students. Research finds that faculty of color, especially those who work in predominantly white universities, often feel devalued by the students (Stanley, 2006). Challenges they face include problematic student attitudes and behaviors and a questioning of their authority and credibility in the classroom. Women faculty of color may experience racist sexism (Pittman, 2010) in the classroom. And Skachkova’s (2007) study shows that immigrant women faculty, especially those coming from non-western countries, tend to be challenged by students; for example, an Indian female assistant professor reported being regarded skeptically by students because they did not consider her country to be a leader in that field, and because she was a woman expert in a predominantly male profession. Thus, women faculty of color in male-dominated disciplines may be especially vulnerable to difficulties with students. Indeed, research on African American and Latina women professors in engineering departments (DeCuir-Gunby, Long-Mitchell, & Grant, 2009) shows that they experience unique difficulties when they interact with students due to the intersection of their race and gender. Because the majority of engineering students are white men, women in this study feel that the students are antagonistic and frequently question women’s authenticity as “real engineers” and their identity as engineering professors.

Taken together, women faculty, especially racial and ethnic minority members, face multiple difficulties in academia. Such problems constrain them from accumulating the experience and resources that are beneficial to their career advancement.

## **Women's Domestic Responsibility**

Women's home responsibilities can also detract them from their abilities to spend as much time in workplace productivity as do comparable men; women are primarily responsible for domestic labor, although the exact proportion of women's responsibilities may vary by race and ethnicity, a reality that has been documented by many scholars (Bianchi, Milkie, Sayer, & Robinson, 2000; Blair-Loy, 2003; Chesters, 2012; Coltrane & Shih, 2010). Some recent studies (Bartley, Blanton, & Gilliard, 2005; Kan, Sullivan, & Gershuny, 2011) have shown that men have increased their time spent on domestic work while women's time spent on domestic work has decreased; men's domestic work time has increased by more than an hour and women's time spent on domestic work has decreased almost 1.5 hours per day since the 1960s (Kan et al., 2011). Still, the overall gender difference in time spent and responsibility for domestic labor remains, and indeed is all the more evident when multitasking is taken into account (Offer & Schneider, 2011; Sayer, 2005, 2007).

In addition, when we look at the tasks men and women do, gendered segregation among domestic tasks remains. Domestic tasks that are aimed to maintain individuals' daily lives and household functioning, such as meal preparation or cooking, housecleaning, shopping for groceries and household goods, washing dishes or cleaning up after meals, and laundry (Coltrane, 2000), are predominately performed by women. These tasks not only are time-consuming, they also are more routine and non-optional. Take food preparation as an example. Beagan and her colleagues (2008) find out that women rationalize their responsibility for food preparation through health rationales, gender role expectations, and a belief in women's higher standards for food. DeVault's (1991) classic study further argues that preparing food for the family not only a means women use to hold the family together, it also helps women to construct

their identity as wife and mother. These studies point to that the household tasks done predominately by women are often associated with femininity, while men's share of household tasks is often considered as an expression of masculinity, such as house repairing or mowing the lawn (Kan et al., 2011).

Hence, the family is often defined as another greedy institution given the fact that family members, especially women are forced to devote their limited time and energies to maintain the household. Women who are employed in academia thus face two greedy institutions – work (education institutions) and family, each competing for women's total devotion (Blair-Loy, 2003). Based on a research conducted in one research-intensive university, Misra and her research team (2012) find out that childcare responsibility plays significant role on academic women's work/life conflict issues: academic mothers are particularly disadvantaged when there are younger children (under age 12) presence, compared to both male academics or academic women without children. Although academic mothers still maintain high work activities when their children are young, their time spent on research decreased significantly.

### **Skilled Immigrants and Their Work and Family Conflicts**

#### ***Skilled immigrants in the U.S. academy***

To increase intellectual exchange among scholars, many U.S. universities have started to hire first-generation immigrant faculty. These immigrant faculty not only engage in research activities, they also are responsible for administrative tasks (Gahungu, 2011). Interactions between immigrant faculty and students also help to improve U.S.-born students' awareness of world affairs in globalized society. Although most immigrant faculty have stayed in the U.S. for at least four to six years for their doctoral degree, language and cultural differences still present obstacles to these faculty. For example, Kim and her colleagues (2014) find out that immigrant

women faculty in counseling and psychology typically face challenges of languages and pressure to conform to Western communication norms. In addition, they may face difficulties establishing networks and finding mentors, mixed experience with mentoring students (e.g., being stereotyped by students as nonassertive and passive, or hard to keep professional boundaries with co-ethnic students), or research being undervalued for their research topics are not recognized by the mainstream. These obstacles may negatively affect immigrant faculty's research productivity and students' evaluation, which can further harm their career advancement. However, Webber's study (2012) shows that immigrant faculty spend more time on research than U.S.-born faculty; holding constant for time spent on research and instruction, immigrant faculty show significantly higher productivity. He argues that part of the reasons is because these immigrant faculty are junior faculty who tend to devote more time to research to pursue promotion and tenure. What Webber has found is consistent with other studies on immigrant faculty's research productivity (Corley & Sabharwal, 2007; Mamiseishvili, 2010).

Statistics shows that immigrant faculty, especially those from Asian countries, are more likely to concentrate in science and engineering disciplines (Institute of International Education, 2016; National Science Board, 2016). Among women faculty of color, Asian immigrant women faculty also have the higher representation in science and engineering disciplines (Hess, 2013, National Science Board, 2016), and they are more likely to be employed in research-intensive universities. It is not clear how they manage to success in these male-dominated fields, especially when Asian immigrant women often are considered to be passive and non-confrontational. Moreover, Immigrant women from some Asian countries, such as China and Taiwan, that are deeply influenced by Confucianism are expected to take primary responsibilities for domestic, family oriented labor (Inman, Howard, Beaumont et al. 2007, Hu and Kamo 2007, Sung and

Pascall 2014). For instance, Park and Chesla (2007) argue that under Confucian tradition, there are strict role divisions and power imbalance between husband and wife the husband has primary responsibility to financially support the family and the authority to make decision about important family matters, while the wife is responsible for managing the home and caring for the children. Hence, it is even more difficult for skilled immigrant women from some Asian countries to balance work and family responsibilities. In the next section, I examine Chinese and Taiwanese women skilled immigrants' work and family conflicts.

### ***Chinese and Taiwanese women facing work and family demands***

Confucianism, the philosophic tradition that originated with Confucius and was further developed and sustained by scholars and supporters into contemporary China and Taiwan, has historically referred to man as “yang” and superior, while women as “yin” and inferior(Li, 2000). Confucianism is patriarchal in additional ways that bind women to certain virtues: obedience to men in the family, morality, proper speech, modest manner/appearance, and diligent work (Li, 2000; Sun, 2007), and further socializes women to be subordinate to men. At the same time, these virtues not only assign a domestic role to women and a public status to men, but also create power imbalances between husband and wife: the husband has primary responsibility to financially support the family and the authority to make decisions about important family matters, while the wife is responsible for managing the home and caring for the children(Park & Chesla, 2007). In their review of studies about women in management in different countries, Omar and Davidson (2001) find that in countries with a strong Confucian orientation, there exists sanctions either against women working or against women holding jobs that gives them power over and prestige above men. For immigrant families, the Confucian ideology concerning gender expectations and women's domesticity may diminish gradually after two or three

generations(Sun, 2007), but first-generation immigrant women can face significant challenges to their beliefs and practices as a result of migration and acculturation.

How Chinese and Taiwanese immigrant women faculty handle these situations and conflicts is unclear. Given the gendered work processes described above, on the one hand, and Confucianism on the other, one would expect that the majority of such women would be in less male-dominated fields, such as social sciences and humanities. Yet, they appear to be more represented in traditional STEM fields than in the social sciences. While their faculty representation across fields is a bit unclear given that those of Asian background have been placed into one large category, data from National Center for Education Statistics shows that in 2003, 2.8% of full-time faculty in degree-granting institutions in U.S. are Asian/Pacific Islander women, an increase since 1998 (National Center for Education Statistics, 2012). A more recent study on women faculty of color in STEM shows that in all STEM disciplines—defined on the basis of NSF’s broader definition-- Asian American women compose 3.7% of all faculty, which is the largest group of women faculty of color(Hess, Gault, & Yi, 2013). However, no data identifies the origins of these women’s nationality nor indicates whether such women are first- or latter generation immigrants. Hence, the extent to which these data reflects first-generation Chinese and Taiwanese immigrant women’s experiences is unknown.

Chinese and Taiwanese first-generation immigrant women faculty as a group is especially interesting for exploring professional women’s work and family conflicts, as they may be experiencing the extremes of the conflict between greedy institutions. These women faculty face at least two sources of pressure that native-born women do not. First, immigrant women, especially first-generation immigrant women bring with them somewhat different cultural expectations, including those related to gender (Inman et al., 2007; Park & Chesla, 2007; Sun,

2007). As I have noted, traditionally, Chinese and Taiwanese women are expected to take primary responsibility for domestic, family-oriented labor and to be obedient (Chen, 2005; Sung & Pascall, 2014). For instance, Hu and Kamo's (2007) study of Taiwanese women's household labor shows that their domestic labor pattern is somewhat different from women in Western countries in many ways. That Taiwanese women prioritize their reproductive labor over careers might be inferred from the fact that the percentage of full-time housewives is much higher than that in the U.S. (42% versus 4.8%). But more to the point, Taiwanese women's relative income advantage in relation to their husband does not change the fact that these women still are responsible for more than 70% of household labor, and there is no clear sign of a declining gender gap in housework. Thus, it appears likely that Chinese and Taiwanese women faculty would continue to take primary responsibility for domestic labor, despite the demands of their work in higher education.

At the same time, Chinese and Taiwanese immigrant women faculty work in the gendered organization of universities wherein they may need to display (or learn to display) characteristics and behaviors that contradict their gender norms in order to achieve tenured positions. Given the nature of immigration law, which favors those with skills and occupations that are most desirable, it is likely that women in fields such as STEM disciplines are highly recruited. Thus, if women are in male-dominated fields, it may be harder still for them to negotiate their gender expectations. Chinn's study (2002) on Asian and Pacific Islander women scientists shows that when these women enter male-dominated occupations, some are especially likely to experience contradictory constructions of self: there are masculine practices, such as competitiveness or trying to control factors that are beneficial for their professional careers, that encourage behaviors that are contradictory to the underlying culture of femininity for Asian

women. Such pressure can be compounded by the necessity of maintaining one's job in order to live in the U.S. since for non-citizen faculty, getting permanent residency through employer-sponsored process requires her to exhibit her eligibility as "extraordinary ability, outstanding researcher/professor" (Rhoads & Konrad, 2007).

In sum, numerous studies mentioned above have examined the conflicts women face between work and family, and pointed to the ways in which gendered organization, related work processes, and the gendered division of domestic labor influence women's disadvantaged position in the workplace and overall gender inequality therein. However, few consider the interwoven relations between race, ethnicity, and gender in relation to universities, and to my knowledge, none has explored how and to what degree Chinese and Taiwanese first-generation women immigrant faculty face the intense obstacles to and pressures for success in the gendered university workplace.

Based on the review of literature and the gaps I have identified, my research questions are as follows:

1. How do married Chinese and Taiwanese immigrant women in research-intensive universities handle their work and family conflicts?
2. How do they negotiate their gender-role expectations and actual practices at work and at home?
3. Finally, I ask whether and how their practices vary by academic disciplines due to the gendered work processes involved in conducting research?

In order to address these general questions, I explore a number of specific issues such as: the work process, such as what the formal procedures and requirements for tenure positions are; whether this affects immigrant women faculty's decisions concerning family events (e.g., did

they consider their work when making decisions about timing of marriage, whether or when to have children, etc.); how these procedures and requirements are affected by their disciplines; how these immigrant women allocate their time between family responsibilities and professional work, and whether their practices vary by disciplines; what their expectations are concerning domestic responsibilities; what their arrangements with their husbands are concerning family responsibilities; and how they come to this kind of arrangement.

## CHAPTER 3 METHOD

### Data Collection Considerations

I conducted qualitative, semi-structured interviews to collect my data. This not only allowed me the freedom to probe far beyond the answers to my prepared questions, but also reflected my awareness that participants understand the world in varying ways (Berg, 1998). I chose to use semi-structured interview based on the following considerations. First, dealing with work and family balance issues is dynamic and changed over time; conducting face-to-face interviews facilitates my understanding of how women negotiate these obligations and the processes of arranging tasks with husbands in their daily lives. Second, individuals' ideologies often affect how they see their responsibilities and how they actually behave. However, people's behaviors oftentimes may not follow their ideology for any number of reasons. Further, people's ideology may change over time, especially when they are at different life stages. Conducting face-to-face interview gave me chance to investigate the interrelations between their actual behaviors and ideological changes, and how their practices were shaped by both ideologies and realities. Third, one benefit of conducting semi-structured interviews is that participants are able to elaborate their thoughts during the interview at any point; at the same time, I have more flexibility in organizing the sequence of the interview questions, as well as the ability to follow up and ask new questions as information emerges. Semi-structured interviews also allow the space for both me and participants to discuss topics that may not appear in the questionnaire but are relevant to the research project. By doing so, both the participants and I have worked together to shape the research, and this helps me to investigate the research topic from both my and the participants' perspectives.

## **Analytical Strategy**

In order to address my research questions, I developed my analytic strategies based on grounded theory (Charmaz, 2006; Glaser & Strauss, 1999). Grounded theory looks to identify emergent themes; data is collected and analyzed based on flexible, non-formulaic rules. Grounded theorists start with collecting data; theoretical analyses are developed from the beginning of his/her research in that analysis is a continuous process, and any significant topic or concept may appear at any point in the process. According to Kathy Charmaz (2011), grounded theory coding strategies take data apart and define how they are constituted. By doing so, I questioned what is happening in small segments of data and what theoretical category each segment indicated. For example, when my participants described their daily routines, it contained references to both public and private lives. Thus, their perceived expectation about their professional performance was not merely reflective of gendered organizations; I also needed to look at whether and how these expectations further influenced the division of labor at their household.

The coding process had two phases: at the initial coding phase, I used coding software, ATLAS.ti, to do line-by-line coding; this gave me a close look at what participants said and the detailed data about fundamental processes (Charmaz, 2006) regarding their daily lives and life histories. My coding system had three main categories: professional field, family aspect, and work and family balance issues; each category included several sub categories. For instance, the professional field category was composed of sub-categories such as: tenure requirements, job tasks (teaching, mentoring, services, research), disciplinary characteristics, flexible work arrangement, to name a few; in family aspect category, household tasks, child care, arrangements

on division of domestic labor, community activities, etc. were included. Since each line might contain different themes, some responses were multiple-coded.

After first-phase, line-by-line coding, the second phase coding was focused coding. At this phase, I looked at each initial-coded transcription and found out the most frequent mentioned themes that made the most analytic sense (Charmaz, 2006, 2011). I also investigated the interrelations between initial codes by drawing conceptual maps (Welsh, 2002). By doing so, I saw whether and how women's public and private spheres mutually affected each other, as well as how their Chinese or Taiwanese immigrant identity and status further complicated the above two interrelated spheres. In particular, focused coding helped me to bridge the gap between interview data and theories. For example, I had participants who mentioned their daily routines, their descriptions resonated with existing work/family literature; however, how they made such arrangements with their husbands or others and the processes were shaped by their cultural beliefs in certain ways. Further, when they described their academic work, I was able to acquire information about whether and how their gender and ethnicity were seen and perceived in their workplace, and how they performed their ethnicity and gender. By looking at their actual practices, ideology and perceived expectations, I was able to find out whether and how cultural beliefs mattered to my participants, and how gendered work processes further shaped my participants' cultural beliefs and their actual behaviors.

The analysis in grounded theory is not linear; rather, it evolves during the coding process. At the last stage of analysis, I incorporated my focused codes and conceptual maps with previous studies. I looked at how my current study fitted into existing theories such as Acker's gendered organization theory, along with studies on paid/unpaid labor studies (Beagan et al., 2008; Coltrane, 2000; Sayer, 2005). However, since the theories I mentioned above were developed

based on western women's experiences, these theories could only partially explain Chinese and Taiwanese women immigrants' lived experiences. To make up the deficiencies in terms of explanatory adequacy, I incorporated ethnic network argument (Portes & Zhou, 1993; Zhou, 2005) and studies specifically looked at immigrant women's experiences at U.S. academy (Mamiseishvili, 2010). Moreover, looking at work processes involved in conducting research in different disciplines, this study showed that immigrant women's workplace experiences and strategies of managing work and family demands were shaped simultaneously by their multiple identities, cultural beliefs, and institutional characteristics.

### **Sample**

The target group of this research was first-generation Taiwanese and Chinese immigrant women who work in research-intensive universities; this group was relatively hard to locate. I first applied "The Carnegie Classification of Institutions of Higher Education" (Carnegie, 2012) to identify research-intensive universities -- research universities that had very high and high research activity, including both private and public universities. I recruited participants who were working in New England, Middle Atlantic, and South Atlantic areas (according to Census Regions and Divisions of United States) by the time of conducting interviews based on time, budget and proximity considerations. Participants were recruited from STEM fields (based on NSF categorization); however, work processes within STEM fields differ and these differences shaped faculty's work experiences, I categorized my participants in two camps based on the different work processes: bench-science STEM fields and social sciences. Within bench-science STEM fields category, I focused on lab-based disciplines in the college of engineering and college of science because of their work processes (Rhoton, 2011; Xu, 2008) and the relatively higher representations of Asian women faculty (Hess et al., 2013). To conduct research, these

disciplines typically require workers to spend the majority of their work time in labs and to collaborate with colleagues or graduate students (Kmec, 2013). For social sciences category, with some variations, these disciplines tend to demand less to none lab hours and do not necessarily rely on collaborating with colleagues in order to conduct research; if collaboration is needed, social science faculty are more likely to have flexibility in their collective projects. In order to meet the criterion that respondents be first-generation immigrants from Taiwan and China, I looked at faculty profiles and Curriculum Vitae to find out if Asian women received their bachelor's degree in Taiwan or China. By doing so, I identified participants that were raised in Taiwan or China. After locating potential participants, I sent a recruitment letter by email to them, introducing myself, the research I was conducting, as well as the expected benefits of this study. I also used this email to confirm that my participants are first-generation immigrant women.

### ***Demographics of the sample***

Recruiting emails were sent to 344 women faculty; 42 of them responded and were interviewed. Among 83 universities in the proposed area, 22 universities were included in this study. The response rate was 12%. All respondents were either born in China or Taiwan, and they all had received their doctoral degrees in the U.S. universities. 14 women faculty were from social sciences and 28 were from bench-science STEM fields. Their academic rankings were: by the time of conducting interviews: 7 of them were full professors, 16 of them were associate professors, and 19 were assistant professors. As to original nationality, 6 of them were originally from Taiwan and the rest 36 were from China. Their resident status in the U.S. were: 18 of them were naturalized U.S. citizens, 16 of them were permanent residents (green card holders), and the rest of 8 were on H1B non-immigrant visa.

Marital status of my respondents varied. Originally, I planned to recruit married women with children, but I ended up interviewing with some single women for I expected that they could provide me some insights as to how women faculty organized their daily schedule pre- and post-marriage. By the time of conducting interviews, 33 of the respondents were married, 3 were single, another 3 were in stable relationships; I also had 3 respondents that were separated, divorced, or widow. Most married women faculty were living with their spouses, except 4 respondents whose husbands were living at different locations mainly due to employment considerations. The husbands' ethnicities diverse: among 36 respondents who had married, or had had married before, only 10 of them married to people of different ethnic backgrounds. As to employment status, 10 husbands were working as faculty members, 21 husbands worked in the industry, and 5 were not working due to health or visa issues (one had passed away).

Migration histories of immigrant women faculty in this study were similar: they received bachelor degrees back in their home countries. After graduating from colleges, they either directly came to the U.S. for graduate schools, or they started working for few years in home countries and then came to the U.S. for further education. When these immigrant women faculty first moved to the U.S. as graduate students, most of them came here alone, with no relatives or close family members in the U.S. They had been living in the U.S for at least six years by the time that we talked. Most married respondents met their spouses at graduate schools, and had been in steady relationships before receiving doctoral degrees; in other words, most of them got married during grad schools, or they had planned to get married right after graduation. Only one respondent married to her husband before migrating to the U.S, and she moved to the U.S. as a dependent to her husband and pursuing a doctoral degree was an unexpected development to her.

Basic participant characteristics are listed in Appendix A.

## **Semi-Structured Interviews**

Appendix B contains the interview guide, but the order of the questions and topics of each interview varied. Interviews were conducted by in person or through Skype. The length of each interview differed, ranging from one hour to two hours. All interviews were digitally recorded and later transcribed verbatim. Before the interviews started, I asked participants their preferences as to language since they were proficient in Mandarin and English. Only one interview was conducted in English thoroughly. Although all respondents did not express the particular preference as to language, most of the interviews were mixed: respondents tended to use English to describe their research and specialties, and use Mandarin to describe things that were less related to their professionals. For instance, they described their lab activities, such as equipment they used during the experiments or steps they usually took to conduct a research, in English; they used Mandarin to describe their relations with their family members, or how they divide their household tasks. Additional data to be collected included post-interview memos. Because my coding system was in English, all transcripts, except one that was conducted in English, were translated into English before coding.

The Interview normally started with demographic information, such as family formation, the number of children and their migration history; these questions helped me to create rapport with my respondents. Then I moved on to questions dealing with the substantive issues of my research. The order of interview questions sometimes changed because I was not able to anticipate how respondents might react to the questions when I designed them. Their answers promoted me to change the flow of the questioning, and at the end of the interview, I always reviewed the questions again to make sure I had not missed topics about which I want to know. Still, there were some questions I missed and I did not realize then, until later I did the coding.

Occasionally, respondents expressed their rejections to certain questions for being too personal, although I had reassured them of the confidentiality of their answers. When situations as such happened, I usually gave up the questions that might make them uncomfortable.

To address my research questions, specifically, how married Chinese and Taiwanese immigrant women in research-intensive universities handle their work and family conflicts; how they negotiate their gender-role expectations and actual practices at work and at home; and how these practices might differ based on academic disciplines based on variations in the gendered work processes involved in conducting research, my interview guide explored several topics. Some of my questions drew from Cech and Blair-Loy's (2014) study on academic scientists and engineers.

# CHAPTER 4 IMMIGRANT WOMEN FACULTY'S WORKPLACE EXPERIENCES

## Introduction

Higher education institutions around the world have striven to recruit “the world’s best and brightest” faculty to enhance their scientific leadership and innovation, and American colleges and universities recognize their responsibilities to promote international intellectual exchange and encourage the free flow of ideas, knowledge, and people of all nations (Banerjee, 2006; Mamiseishvili, 2010; Mamiseishvili & Rosser, 2010). According to data from the Institute of International Education (Institute of International Education, 2016), the number of international scholars in the United States has increased since 2003. Since 2010, the leading places of origin of international scholars have been China, India, South Korea and Germany; major fields of specialization include Science, Technology, Engineering and Math (STEM) fields: 76.4 % of total international scholars in 1999-2000, to 76.0 of total international scholars in 2015-2016. The growing presence and significance of foreign-born academics in STEM fields on U.S. college campuses have generated some interest among scholars to examine their productivity and workplace experiences. Some of these studies show that, compared to U.S.-born faculty, foreign-born faculty have stronger preferences for research than teaching, and they are more likely to have lower job satisfactions due to obstacles they’ve faced in the workplace (Corley & Sabharwal, 2007; Kim, Twombly, & Wolf-Wendel, 2012; Webber, 2012).

While there is a growing body of literature on foreign-born academics, very little known about foreign-born women in the U.S higher educational institutes (Hernandez, Ngunjiri, & Chang, 2015; Mamiseishvili, 2010; Skachkova, 2007) despite the fact that, among doctoral students or academic faculty, an increasing number of women exist in all disciplines, especially

in STEM fields (Hess, Gault, & Yi, 2013). The 2004 National Study of Postsecondary Faculty (Cataldi, Bradburn, & Fahimi, 2005) shows that women comprise nearly 37% of the foreign-born professors in U.S. colleges and universities, and many of them major in STEM fields.

The current study attempts to examine how the intersections of gender and ethnicity may lead to the relatively higher concentration in STEM fields of foreign-born women faculty, as opposed to other disciplines. By exploring Chinese and Taiwanese immigrant women faculty's stories, this study aims to partially address the gap in the literature concerning foreign-born women faculty's workplace experiences in U.S. universities and colleges.

### **Literature Review**

To better characterize migration from less advanced countries to advanced countries in the late 20<sup>th</sup> century, Portes and Böröcz (1989) propose a typology of modes of incorporation. They posit that migration outcomes are affected by characteristics of sending and receiving countries, and immigrants' skill levels. Based on the different possible combinations of these factors, the authors assert that immigrants might experience one of nine possible outcomes. Specifically, they assert that the receiving country may be characterized as handicapped (the government and employers in the host country take a negative view toward immigrants), neutral (no particular stereotypes exist in the host country), or advantaged (immigrants may receive active legal assistance from the host society). Immigrants' skill levels, reflective of their class or origin, can also affect the outcomes. Portes and Böröcz (1989) categorize immigrants into three skill-based groups: manual labor, professional-technical and entrepreneurial. Hence, immigrants with manual labor skills might move to a country where the government supports immigrants and facilitates their entry into advantageous positions; the result is upward mobility in the host country. By the same token, professional or technical immigrants might migrate to a

handicapped country, where the host society has low receptivity and the government may reduce or suppress the inflow of immigrants, and end up underemployed as service providers. This typology of modes of incorporation makes clear that there is no a singular assimilation path; governmental policy, public opinion and labor market demand interact with each other and can channel immigrants of similar backgrounds into very different paths.

### ***Ethnic enclaves and networks***

According to the typology of modes of incorporation, Portes and Böröcz (1989) argue that when immigrants arrive into advantaged contexts, they might be able to capitalize on their background skills and experiences, and the returns might exceed those received by the native-born. In these instances, because the government has actively supported earlier arrivals, and these established immigrants can help later migrants; in other words, membership in the ethnic community can be an asset for incorporation.

Building on discussions on ethnic relations, Portes and Zhou (1993) later argue that, because contemporary society consists of segregated and unequal segments, such as differential labor markets and resource distribution, occupational achievement or economic success does not necessarily require assimilation into the mainstream. Rather, in some contexts, an ethnic enclave may provide economic opportunities, such as co-ethnic entrepreneurs within the ethnic community or a financial support system, to immigrants and their offspring (Portes & Zhou, 1993). The concept of an ethnic enclave refers to the spatial concentration of immigrants who organize a variety of enterprises to serve their market as well as the general population and employ a substantial proportion of workers of the same ethnic background (Wilson & Portes, 1980). For instance, Portes and Zhou (1993) found that, among Punjabi Sikhs who lived in California, the parents would pressure their children not to have too much contact with white

peers and defined “becoming Americanized” as forgetting one’s roots and adopting denigrated American customs, such as making decisions without consulting parents. However, Punjabi youth still performed better academically than majority Anglo students. The authors’ explanation of their success is that because the first-generation Punjabi immigrants had created material and social capital, their offspring not only received resources for their advancement, they were also convinced that their parents’ ways paid off economically. This argument, known as segmented assimilation theory (Portes & Zhou, 1993), challenges the notion of assimilation as a unitary process through which immigrants from different races or ethnicities would eventually become Americanized. Instead, with the deliberate preservation of the immigrant community’s values and solidarity, Punjabi youths achieve economic advancement.

Other studies on ethnic enclaves (Damm, 2009; Warman, 2007) have shown that, from these enclaves, the obtained knowledge of relevant job vacancies from relatively high-skilled co-ethnic workers can help to increase annual earnings of new arrivals by enhancing the job-worker match quality and the hourly wage rate. However, useful information can come from co-ethnic individuals outside of the enclave and go beyond geographic limitation. Min Zhou (2005) finds out that those who have succeeded and left enclaves might aspire to return to the enclave to perform community services, cultural activities, and financially support various ethnic businesses. Similarly, Sanders and his colleagues (2002) find that newly arrival Asian immigrants tend to rely on family- or ethnic-based ties to find jobs. Job seekers who have kin or acquaintances whose social connections are expansive are likely to receive more useful information and assistance than job seekers whose social network is poorly developed. Immigrants who are employed in the mainstream economy serve as pipelines of information about opportunities outside the ethnic enclaves. Unlike ethnic enclave that is spatially

concentrated, ethnic relations and networks are not restricted by geographic boundaries. Hence, even though the ethnic ties may be weak due to the lack of proximity, ethnic networks outside of the enclave still can function as bridges and can provide lower-class enclave residents access to more advantageous resources facilitating mobility.

### ***Skilled immigrants***

Immigrants with tertiary education, that is, one who has completed a college degree or more (Batalova & Lowell, 2007), tend to have a smoother path to incorporation into the primary labor market sector. Skilled immigrants' individual merits and occupational qualifications, along with a relatively open labor market (e.g., having neutral or advantageous attitudes toward inflows, according to Portes and Böröcz's typology) are essential for successful adaptation. So far, most of the studies on skilled immigrants' success trajectory focus on migration from less developed countries (e.g., China, India or other south-Asian countries) to more developed countries (e.g., United States, Canada, or European countries). The topics of such studies include trends of migration, immigrants' upward mobility, or policy related issues; factors behind skilled immigrants' migration, their entry patterns, and effects on the host country and society; and immigrants' well-being. For example, Cheng and Yang (1998) found that economic and educational interactions between sending and receiving countries are important driving forces of professional migration; specifically, gaps between the sending country and the receiving country in living conditions and professional employment opportunities are significant factors contributing the professional migration.

Among these professional immigrants, Asians emerge as a dominant group in the immigration of all professionals, but their entry patterns differ. For example, the majority Asian health professionals in the United States are originally from the Philippines, while the Asian

engineers or information technology workers are from China, Taiwan or India (Kanjapan, 1995). In the case of the United States, skilled foreign workers enter the U.S. usually initially under non-immigrant temporary workers, under the visa type known as H-1B visa. Permanent resident, employment-based admissions are given to immigrants of several preference categories: immigrants with extraordinary ability or outstanding professions, skilled workers with at least two years of work experience or work-related training, or special immigrants such as religious ministers (Batalova & Lowell, 2007). However, because applications for the H-1B visa or permanent resident admission require sponsorships from employers, professional foreign workers who are waiting to apply for a work visa or permanent residence may face risks of exploitation by employers, such as lower wages or refusing access to training (Murphey, 2006).

Skilled immigrants' upward mobility is another topic often discussed by scholars. Akresh (2006) finds that the value of human capital differs by countries of origin: compared to immigrants originally from European countries, Latin America and the Caribbean immigrants' previous education and work experiences do not transfer well when they settle in the U.S, and they are likely to only acquire lower-skilled jobs. In this regard, the results for immigrants from Asian countries are in-between: they are better off than Latin America and the Caribbean immigrants, but not as well-received as European immigrants.

The ability to speak English well is positively associated with upward mobility, but again, experiences can vary. For instance, Chiswick and Taengnoi (2007) find that highly-skilled immigrants with limited proficiency in English, or whose first language is linguistically distant from English, are more likely to be in occupations such as computer or engineering occupations in which English communication skills are not very important. These occupations are not necessarily lower-skilled; rather, work processes embedded in these occupations allow

immigrants with limited language can still perform well. In the same vein, some immigrants with little exposure to English, and whose native language is highly distinct from English, can be hired into some speaking-intensive occupations if these jobs mostly provide service to immigrants from the same linguistic background.

From these literature, we can conclude that among skilled immigrants, employment and economic success are related to governmental policies, the employers' assessment of education experiences and other human capital that are acquired in foreign countries. As a type of professional occupation, the number of foreign-born faculty in the American universities has increased, and some academic fields such as engineering and computer sciences have significantly higher percentages of foreign-born faculty (Kim et al., 2012). Next, I briefly review immigrant faculty's experiences in U.S. universities.

### ***Immigrant faculty in U.S. academia***

Based on interviews conducted among several foreign-born faculty working in U.S. universities, Gahungu (Gahungu, 2011) concludes that, by hiring foreign-born faculty and engaging them in administrative tasks or other campus-wide activities, the universities are trying to increase students' awareness of world affairs in globalized society. Nonetheless, language and cultural differences present obstacles to foreign-born faculty. In particular, language barriers can impede effective communication with student and other native faculty, and add to the time required to prepare lectures, grade papers, and write grant proposals and manuscripts. And cultural barriers and an unfamiliar environment can lead to feelings of social isolation (Gahungu, 2011; Lewallen, Crane, Letvak, Jones, & Hu, 2003).

Difficulties that immigrant faculty face may negatively affect their research productivity and students' evaluation, which can further harm their career advancement. Studies on how

foreign-born faculty perform in their fields (Corley & Sabharwal, 2007; Mamiseishvili, 2010; Mamiseishvili & Rosser, 2010; Webber, 2012) have found that they are more productive in research and are less engaged in service and teaching than their U.S.-born counterparts. Webber (2012) argues that, regardless of disciplines, foreign-born faculty are more often junior compared to their U.S.-born peers, and the pursuit of promotion and tenure may direct their attention toward research and away from teaching and administrative duties. Mamiseishvili's (2010) comparison of research productivity US-born and foreign-born women faculty is consistent with Webber's: foreign-born women academics have higher levels of scholarly output than U.S-born women, but they teach considerably fewer students, especially at the undergraduate level. Moreover, although both foreign-born and U.S.-born women faculty are assigned to similar teaching responsibilities, fewer students seem to enroll in classes taught by foreign-born women faculty. Skachkova (2007) finds that, collectively, foreign-born women faculty experience "systematic differential treatment in academia from students, colleagues, and administrators". For example, foreign-born women faculty are often questioned by students regarding their credibility, a challenge that is exacerbated by their accents. Moreover, participants in Skachkova's study felt that, compared to their U.S.-born counterparts, immigrant women faculty are more likely to teach courses (and research on topics) related to their ethnic, national or regional background; but such U.S. students and scholars are less interested in these. Thus, immigrant women faculty in disciplines that involved less cultural specificity and historical idioms, such as engineering or chemistry, tended to have fewer difficulties in the classroom and in interactions with other colleagues.

However, immigrant women faculty in science and engineering fields may face different challenges. Although STEM fields overall are traditionally male-dominated, academic STEM

fields are not homogeneous in terms of sex composition: the sex ratios in life sciences such as biology or biomedical sciences are at parity, and in psychology, the sex ratio is 2 to 1 (woman to man) (National Science Board, 2016). Previous studies (Glass & Minnotte, 2010; Henley, 2015; Xu, 2008) have shown that women's underrepresentation in STEM fields are the result of multiple factors, such as subconscious bias that evaluates women as less productive members, or the lack of systematic support for women balancing work and family, resulting in women's higher attrition and turnover rates in academic STEM fields. Hence, many initiatives, such as Advance Program funded by National Science Foundation (NSF), aim to increase woman's representation in academic STEM fields. In fields such electrical engineering, material engineering, or computer sciences, the number of woman doctorate recipients has increased since 2003 (National Science Foundation, 2013). Moreover, the increase of Asian women in STEM fields is significant, compared to other racial minority women, such as African American or Latina women.

Regardless of actions taken by administrators to increase women's representation in STEM fields, they are still the minority: they are numerically fewer than men and have less power than men in the same fields. Kanter's tokenism theory (Kanter, 1993) argued that in the workplace, members of a numerical minority group (less than 15 percent of the job incumbents) experience greater visibility. This heightened visibility results in greater scrutiny of the behaviors and job performance of minority group members. As a result, they experience greater pressures to perform their work to higher standards in terms of quality and volume, and to behave in expected, stereotypical ways. For immigrant women faculty, the pressure resulting from their token status in their respective departments are amplified by the expectations of being a role model for their profession, ethnicity, and gender. Studies have shown that women faculty of

color are expected to handle minority and gender affairs, representing two constituencies (Chinn, 2002; Kim, Hogge, Mok, & Nishida, 2014; Sabharwal, 2017). Specifically, the academic success and relatively higher income and socioeconomic status of Asian Americans have made this group of people, including those originally coming from China, South Korea Taiwan, and, to some extent, India, the “model minority” in the broader public perceptions. Recent research on workplace experiences of women faculty of color, however, has noted that the model minority depiction is problematic: this stereotype may result in women faculty of color encountering greater accountability and time demands than faced by white women faculty. For instance, their numeric rarity results in their more frequent requests received to serve on multiple boards or committees (Turner, 2002). Moreover, the characteristics associated with model minority stereotype, such as passivity, hard-working, and docile, may lead to Asian women faculty struggle with lower tenure rates or marginalization due to the presumption that Asian women faculty are non-confrontational and uncritical of mainstream America (Ng, Lee, & Pak, 2007; Nguyen, 2016).

Although previous studies have shown that immigrant women faculty, in general, face obstacles in teaching, service, and research due to their gender and ethnicity, the number of Asian women in STEM fields has increased significantly, compared to other racial minority women, such as African American or Latina women. National Science Board (2016) data show that when looking at proportions of women faculty of color among STEM fields, Asian/Pacific women faculty are more likely to be employed in research-intensive universities than other underrepresented minorities. But STEM fields are not homogeneous: based on NSF’s definition, STEM fields include disciplines that require intensive writing and research that can be accomplished alone, like Sociology or Political Science. STEM fields also include disciplines

that involve collaborative lab work, such as Chemistry or Biological Engineering. These different work processes may result in varying requirement when faculty conduct their research (Lee & Bozeman, 2005; Skachkova, 2007), and how these differences might impact Asian immigrant women's experiences is unclear.

Previous studies on professional immigrants have tended to ignore gender, and to lump workers into homogeneous occupational groups, ignoring the ways that work processes might form a context that leads to different experiences. This study addresses these gaps in the literature and explores how work processes might shape the ways that gender and immigrant ethnicity are experienced in the workplace. I examine Chinese and Taiwanese women faculty who are working in different kinds of STEM fields in research-intensive universities, and ask: How do gender and ethnicity, in relation to disciplinary differences, shape these immigrant women faculty's experiences in their workplace?

## **Method**

### ***Sample***

To derive my sample of Chinese and Taiwanese women faculty who work in research-intensive universities, I began with the Carnegie Classification of Institutions of Higher Education to locate universities that are categorized as very high and high research intensive<sup>1</sup>, whether public or private. Based on time, budget and proximity considerations, I recruited my participants who are currently working in New England, Middle Atlantic, and South Atlantic areas from the eighty-three qualified universities in these regions. Work processes vary based on

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<sup>1</sup> The Carnegie Classification of Institutions of Higher Education made some changes as to how it categorized higher education institutes in late 2015. Rather than classifying based on the level of research activity, higher education institutes now are categorized as Doctoral Universities, Master's Colleges and Universities, Baccalaureate Colleges...etc. This study uses the previous classification.

disciplines and are essential to this study. By National Science Foundation definition<sup>2</sup>, all my participants work in STEM fields, and that includes people from bench sciences and social sciences. Because of the different work processes involved in conducting research, I group my participants into two camps: bench-science STEM fields and social science fields. Bench-science STEM fields include disciplines that mostly require laboratory work, such as chemistry, biology, or engineering, while social science fields include sociology, political science, and economics.

I sent emails to potential participants at the selected schools, explained my research project to them and asked their willingness to be interviewed. Recruitment emails were sent to 344 women faculty members; 42 women faculty responded positively and were interviewed, representing 22 universities of the 83 I had identified, and a response rate of 12%. All my participants are either born in China or Taiwan and received their doctoral degrees in U.S. universities. Among these 42 women faculty members, 28 are from bench-science STEM fields and 14 are from social science fields; 7 of them are full professors, 16 of them are associate professors and 19 are assistant professors. Six are originally from Taiwan and the other 36 are from China; 18 have naturalized as U.S. citizens, 16 of them are permanent residents (green card holders), and the final 8 are on H1B non-immigrant visas. The marital statuses of my participants varied: 33 are married, 3 are single, another 3 have a boyfriend or girlfriend, and the last three are either separated, divorced or widowed and without a current partner.

These immigrant women have similar migration histories. They received their bachelor degrees in their home countries. After college graduation, they either came directly to the U.S. for graduate school, or they worked for a few years in their home countries and then came to the U.S. for further education. Hence, all have been in the U.S. for at least eight years.

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<sup>2</sup> National Science Foundation definition on STEM fields is available at <https://www.nsf.gov/pubs/2016/nsf16588/nsf16588.pdf> of Appendix section.

### *Semi-structured interviews*

Due to the distance between my participants and me, I ended up conducting 15 face-to-face interviews and 27 Skype or phone interviews. Length of each interview differs, depending on participant's schedule, method of having this interview, and participant's willingness of sharing information with me: when this interview was conducted face-to-face, it usually took more than one hour to finish this interview, and the participant tended to talk more when we physically met; but on average, each participant had spent at least 45 minutes with me, sharing their life stories.

All interviews except one were conducted in Chinese. Although these women are fluent in both Chinese and English, it is still easier for them to communicate in the first language. However, the conversations were often interwoven with Chinese and English, with the latter used especially when discussing research. Topics covered included migration history, discussing research specialties, workplace environment, including what their jobs entailed, how they accomplished their tasks, and the like, family and personal lives such as the number of children, marriage, relations with children and spouses.

I used semi-structured interviews as this allows me the freedom to probe far beyond the answers to my prepared questions; it also allows themes to emerge as participants may understand the world in varying ways (Berg, 1998). Not only participants could elaborate their thoughts during the interview at any point, I also had more flexibility in organizing the sequence of the interview questions, as well as the ability to follow and ask new questions as information emerges.

Interviews were digitally recorded after participants gave their signed consent. After each interview, I usually wrote down some field notes about my thoughts and observations. These

field notes were especially useful when I transcribed the interviews because they helped me to recall the conversations, such as participants' attitudes toward certain topics, or how they demonstrated their relations with family members by showing family photos. Names in this paper are pseudonyms to protect participants' privacy.

### ***Data analysis***

My analytic strategy is based on grounded theory (Charmaz, 2006; Glaser & Strauss, 1999). After collecting respondents' answers, I use qualitative coding software, ATLAS.ti, to do initial coding. At this phase, the coding was line-by-line, and three main themes were developed to categorize data – family-related, professional-related, and work and family conflicts. Each theme had sub-themes, allowing me to be more attentive about topics that emerged from our conversations. After initial coding, second-phase coding allowed me to explore interrelations among different codes. Instead of using all codes, at this stage, I focused on codes that are most relevant to Asian immigrant women's workplace experiences; however, some codes from the other two themes were also used to reflect on or support particular arguments. For instance, when we talked about difficulties of being an Asian woman in a U.S. university, the respondent may mention her relation with other colleagues, as well as her domestic responsibilities. Since individual's public and private spheres are interrelated, it is not possible to only look at one aspect without referring to the other.

The two-phase coding helped me to draw several conceptual maps that connect sub-themes. Each sub-theme is a node in the map, and quotes from respondents are the lines connecting the nodes. At the last stage of analysis, I used these conceptual maps and focused codes, to see how they fit into, or how they are different from, existing theories, and how these relate to contemporary scholarship.

## **A Minority in Question: The Intersection of Gender and Ethnicity**

Women faculty in this study have intersecting identities: they are not just woman but are Chinese or Taiwanese immigrant women in their departments. However, their association with aspects of these identities are contextual: under some circumstances or in some disciplines, one identity may take precedence over the other. Hence, the intersections of ethnicity and gender bring different outcomes for the women faculty in my study, in the context of characteristics of bench-science STEM fields and social science fields. In the following sections, I discuss the differences that accrue to their work in these varying sets of disciplines.

### ***Bench-science STEM fields***

In STEM fields, women faculty or faculty of color are considered as the minority because they often have less power and tend to be marginalized by the majority white male faculty. Despite research that shows that being a woman and a faculty of color can lead to marginalization, participants in this study who work in bench-science STEM fields usually did not consider themselves as minorities. To be more precise, they talked about being a minority in terms of numbers, and not power. Thus, in terms of gender, they did feel that women are a minority in their fields; but when it comes to “minority status,” they take this to mean racial status. Given the relative numbers of Asian immigrant faculty members in U.S. higher educational institutions, especially in science- and technology-related disciplines (National Science Foundation, 2014), they felt their numbers were not that low. Hence, most of the STEM woman faculty members in my study expressed sentiments similar to Elisa, from biology: “Being Asian is not a minority here (in STEM); there are so many men faculty members that are originally from China; and there are faculty members from India or (South) Korea.”

Unlike the experiences that many racial minority women faculty have faced (Evans & Cokley, 2008; Merritt & Reskin, 1991), bench-science STEM women faculty in this study felt that being a woman is a minority but being a Chinese or Taiwanese faculty member is not a minority. Some of the bench-science STEM woman faculty members in my study felt that this “partial” minority status provided some benefits in her career; for instance, as a woman, the visibility of her research is higher than her male counterparts in professional settings because she is one of the few women in that setting. To her, the kind of visibility that Kanter (1993) pointed to was positive. As one participant explained:

I think that they come to listen to my presentation is because I am a woman doing the science/technology thing; out of curiosity, you know? This is a good thing of being the minority in my discipline. They come to my presentation, and if they think my research interesting, and then, we probably can work together in the next projects, maybe applying a grant or something (Grace, Biology).

On the flip side, however, the heightened visibility can be potentially damaging these women’s career. The ascribed characteristics of women being caring and attentive, compounded with the stereotypes associated with Asian women of being docile and passive, meaning that these Chinese and Taiwanese women faculty sometimes found themselves in the situation where they were expected to take on tasks that are not specifically related to conducting research and indeed, can detract. For example, more than one participant mentioned that they were the one responsible for scheduling the research meeting time for everyone, manage the budget or allocate administrative tasks. These clerical and administrative tasks faculty time away from doing research, and were imposed on these women.

Given the increased number of Asian faculty in STEM fields, for these Chinese or Taiwanese faculty members, their ethnicity has become an asset. More than one participant expressed to me that the presence of Asian faculty in their fields allowed them to receive resources from their personal as well as professional networks. For example, Demi from Electrical and Computer Engineering told me:

A lot of Chinese faculty are in this area, both male and female. Some of us have known each other when we were in Mainland (China). Like this project I am working on, the professor in the (university), he was in the same lab with me when we were in college. Then, we came to the U.S. and we still stay connected. And there's this project that I think we can work on together; so, yeah, that works pretty well.

The kind of collaborative work that Demi described is not unique to immigrant faculty; native-born faculty often work together based on previous collegial relationships built in graduate school. However, immigrant faculty may have other connections that are less available to native-born faculty. This type of connection is often less direct, meaning that it may go through multiple individuals, to form this connection. An example was provided by Kelly from Food Science:

On one of my projects, I am working with this lab that is in a nearby university. We didn't know each other at first. The PI of that lab, she is a friend of my colleague here. The Chinese professors here, we sometimes have dinner together; maybe at someone's home, with the kids and spouses. I think it was a dinner party, and a colleague told me that there was a professor who was looking for

someone specializing in my area and he wanted to introduce us. This (project) kind of expands my network; not just people in my university, but also knowing Chinese faculty in other universities.

Other than working with co-ethnic faculty in other universities, this co-ethnic network has gone beyond geographic limitation: several universities have established grants that are specifically focusing on building collaboration between U.S. and Chinese universities. Although these grants are not restricted by applicants' nationalities, application criteria such as organizational support from Chinese and U.S. universities, or having colleagues in universities locating in Greater China, make it easier for Chinese immigrant faculty in the U.S. to apply for these funds, compared to native-born faculty who may have less or weak academic connection to Mainland China. In addition, Chinese immigrant faculty are able to use the co-ethnic network for alternative opportunities, to develop their research and achieve career advancement, without fully incorporating into the mainstream U.S. academy.

Co-ethnic network not only provides financial resources for conducting research, it also provides potential collaborators. Working as a team is the common characteristic in most of the bench-science STEM fields, and working with people who are from similar ethnic and cultural background can make the collaborative work less stressful:

Sophia (Engineering): If given options, I tend to choose to work with Chinese faculty.

Me: Why?

Sophia: Although I want to work with some U.S. faculty, because of the cultural differences, sometimes it is hard for me to figure out exactly what do they think.

Working with other Chinese faculty is much easier. Despite the language, I don't need to wrack my brain guessing what he or she means by saying this or that.

Even at the professional workplace, there exist untold customs and rules that are used to coordinate colleagues' interactions because formal and informal interactions are often inseparable. Sophia's "figure out exactly what do they think" illustrates the situation when immigrant faculty are not sure if there exists any hidden meaning behind a simple conversation. During the daily interaction, immigrants, who were raised and educated in other countries, sometimes face a situation where they feel deviant; for example, not getting the punchline of a story, or not fully comprehending the points made by the discussion. Although these odd situations may diminish when immigrants stay longer in the host country, occasionally, the pressure of "knowing everything that other people are saying" still exists. By contrast, working with co-ethnic scholars, who have gone through the similar educational pathway and have the same language, may avoid conflicts or discrepant expectations due to misunderstanding.

Given the fact that research done in lab-based STEM fields requires equipment, lab space, and labor power (including staff, graduate students, post-docs) to operate the machines and do the experiments, working collaboratively becomes a better choice than working solo; it is financially efficient and can be more productive. Through these collaborations, these Chinese and Taiwanese women faculty not only can explore more potential projects, but they also have more opportunity to find resources beneficial to research. However, during the collaborative processes, some bench-science STEM women faculty also feel that they are the ones that need to be more attentive than their men collaborators:

I feel that when I work with other male faculty, sometimes I need to pay attention to the details, like, arranging meeting times or else.... They (male faculty) are

more aggressive than women, and they usually don't like to do the budgeting thing...Meetings, budgeting, these things usually become my responsibility because they usually aren't capable of trivia. (Kathrine, Computer Engineering)

Kathrine's comment that men "aren't capable of trivia" indicates there exists an expectation that women should be more attentive and careful of details, while men do take care of the larger, more important thinking. Such things as scheduling meeting times or controlling budget are important for conducting research, but they have less direct relation with research capability or productivity. Much like domestic labor frees men to produce in the public sphere, when women faculty are assigned to these extra tasks, their time is diverted from the "real research work" in which men can more easily engage. Other than being the faculty member responsible for administrative work in a research team, women faculty in bench-science STEM fields were often asked by the department or the university to do tasks that are less related to their research. For example, they were asked to join search committees for new faculty, or they constantly received requests from the university or the department to serve on a variety of committees.

Service work? TOO MUCH! TOO MUCH! At one point, I sat on eleven committees, and some of them were as chair. My experiences are, sometimes they need a woman, or they need a minority, or both. Anyway, I just did my best. But I didn't say yes to all the requests; that would exhaust my time! (Ayana, Food Science)

Despite the extra burden to their current workload, many bench-science STEM women still tended to take a positive lens to the service work request and considered that being able to represent Chinese or Taiwanese women in the U.S. academy would be beneficial for existing and future co-ethnic women scholars. Thus, they spoke of being a "voice for your people" (Kaylyn,

Animal Science) or “being a role model” (Rosalie, Computer Science), despite the extra burden this added to their current workload.

### *Social science fields*

While the association with one’s ethnicity is beneficial for most participants of the bench-science STEM fields, it is not exactly the same for the faculty in the social sciences. First, Chinese or Taiwanese faculty in these fields are more of a numerical minority. Oftentimes, there are only one or two Chinese or Taiwanese faculty in their departments, and typically, she is the only Asian woman faculty member in her department. This dovetails with the NSF survey that found fewer Chinese or Taiwanese immigrant faculty in social sciences than in other disciplines. This is perhaps a result of self-selection process: whether they decide to pursue doctoral degree oversea at the first place is crucial. For those students who are not born in the U.S., gaining doctoral degree in the U.S. educational system is considered as rewarding for job opportunity and career advancement (Zhou, 2014); but the cost-benefit analysis is an important element when he/she decides whether he/she is going abroad to spend the money in the following four to eight years to pursue a higher degree. Pursuing a degree in one of the bench-science STEM fields is considered by many students and parents as a worthy investment because this usually leads to a good career outcome: in all sectors, on average, doctoral recipients in bench-science STEM earn \$10,000 dollars more than those who graduate from the social sciences. Within academia, tenured or tenure-track position faculty in bench-science STEM earn almost \$15,000 dollars more than those from social sciences (Melguizo & Wolniak, 2011; National Science Board, 2016). As a result, immigrants tend to come to the U.S. more for bench-science STEM fields.

Because of the numerical minority situation of Chinese and Taiwanese women faculty in social sciences fields, they are harder to form the co-ethnic network that is commonly found in

bench-science STEM fields. The lack of co-ethnic network and accompanied resources does not place many obstacles when they conduct their research because collaborative work is less common in social sciences than in bench-science STEM fields, and conducting research in social science usually involves less equipment and less costly. For those participants who have social science positions in academia, the most common difficulty they face is in writing and publishing, and these were constantly mentioned in my conversations with them. Quantitatively, social science faculty's research productivity is evaluated by publications and grant proposals. Writing manuscripts or grant proposals involve a large amount of writing, and scholars need to be able to use words and sentences smoothly and appropriately. Immigrant faculty, no matter how long they have stayed in the U.S., feel it is less likely for them to write as well as native-born scholars. This is especially a problem for immigrant faculty in social sciences because they need to skillfully handle both professional jargon and daily terms in their writing, in order to convey their thoughts to fellow scholars, or to the general public. Sarah, who has been in the U.S. academy for more than ten years, from graduate student to a faculty member, mentioned her frustration in publishing and writing. Note her contrast to what is done in bench-science STEM fields as this was, I found an important difference between them:

Writing is always hard for us (immigrants). I know what I want to say in my study, but I always feel that I don't have enough words to express my thoughts. I can see myself using the same words again and again, and this kind of makes my research boring. People in science or technology, they often use equations, charts, those technical terms, but not us. And I am a quantitative person, and I have some numbers to use. But still, I need words to explain these numbers.

In fact, study participants in the bench-science STEM fields did not feel that writing was a problem for them; their use of equations, charts, and the like freed them from worrying about writing flow, idioms, and the like.

To remedy their deficiency, some social science faculty hire an editor to correct grammar mistakes or wording, or they collaborate with other U.S.-born faculty on research projects. Either strategy has some drawbacks. First, in addition to the expense, hiring an editor prolongs the submission and publication process because it takes extra time to do the editing, and it thus compromises immigrant faculty's productivity. Second, although collaboration is common in academia, it mainly refers to intellectual exchanges, such as research ideas and data based on faculty's specialties; editing manuscript, albeit important, involves less intellectual activity and is time-consuming. Britney, a junior social science faculty in my study said that she felt "bad" and "owes him/her a favor" when she needed her co-project investigator to edit the manuscript.

Another problem faced by immigrant faculty relevant to productivity concerns their research interests. Immigrant faculty's research topics may be related to their racial, ethnic or national identity; these studies are less valued in the U.S. Ruth from sociology mentioned that her research is less valued in U.S. journals because she mainly investigates issues in China; and after several rejections, she has come to realize that submitting manuscripts to international journals is a better strategy for her, although these journals are less prestigious, compared to U.S. disciplinary journals. At the same time, being identified as Chinese or Taiwanese sometimes restrict these faculty's options on teaching or research areas, like in this example from Phoebe in Communication:

I look like I am Chinese, and I am Chinese, so some people may assume that I can teach courses related to Asian studies or Asian Americans. Or, they feel that I am

less capable of teaching courses like “Media and Culture,” because, “what does she know about American culture?” (laugh) But, actually, I am really good at media studies, and I have done cultural studies for more than seven years.

Doubts concerning immigrant faculty’s capabilities may come from faculty or students of different racial backgrounds. As immigrant women faculty, they are facing challenges due to the intersection of their gender and immigrant Asian status. As the literature review noted, immigrant faculty face more challenges to their authority by students, a situation exacerbated by accents; and women’s authority is also questioned, leading to lower course evaluations than men receive (Laube, Massoni, Sprague, & Ferber, 2007; Smith, 2009). As Skachkova’s study (Skachkova, 2007) finds, the effects of gender and immigrant status for immigrant women faculty in the U.S. universities intersect, and my participant’s response resonated with her findings:

I am the only Asian woman in my department, and when I teach, the students usually are fine. But occasionally, I receive comments, like, sometimes they don’t understand my teaching because of my accent. Only one time did I have to face this in person. So, there was this student, white and male student, and he approached me after the class and said, “Can you speak slower and clearer next time? I am not quite sure if I got everything you taught.” I think this is both gender and foreigner thing, and I highly doubt it if he would talk to a U.S. male professor the way that he talked to me. (Kaia, Sociology).

Women in bench-science STEM fields mentioned that they were asked to do service work that was less relevant to their research or to be responsible for

administrative work for their research team. Some women faculty in social sciences shared similar experiences with these bench-science STEM women faculty, but the burden for social science women faculty seemed to be lighter.

...Not exactly extra service work, but, occasionally, there are international students stopping by and ask for informal advice. It's more like "similar to me" effect because she wants to find someone who is similar and approachable.

(Emma, Political Science)

Compared to white women faculty, Asian women faculty across disciplines are still numerical minorities, so in both bench-science STEM fields and social sciences, their visibility means that either they are seen as a model by others, or they expect themselves to be the model for other co-ethnic women academics. Among the fourteen social sciences women faculty, only one participant specifically expressed that she felt she had more service work than other women faculty in her department, and she attributed this extra service work to the idea that "It is harder for Asian women to say no" (Chelsea, Economics).

## **Discussion**

The intersections of gender and ethnicity lead to different results for Chinese and Taiwanese immigrant women faculty in this study because the experiences are simultaneously shaped by their academic fields as well.

First, in fields that have increasing number of co-ethnic faculty, such as bench-science STEM fields in this study, co-ethnic networks can be an asset for the academic career. The development of co-ethnic network is similar to Zhou and Portes's discussion on segmented

assimilation theory and ethnic enclave (Portes & Zhou, 1993; Zhou, 2005), but it goes beyond geographic locale. In the U.S. academy, immigrant faculty can plug into established networks of co-ethnic faculty from the same or different universities, within or outside the United States, and this provides potential grant or funding opportunities. But the intersection of ethnicity and gender brings contradictory effects to these immigrant women faculty in STEM: on the one hand, resources they gain from co-ethnic network do help to increase their research productivity, and in research-intensive universities, having the reputation of being a productive researcher does empower these women faculty. However, when Chinese and Taiwanese immigrant women faculty work with other co-ethnic men faculty, they are predominately responsible for administrative work or tasks that are less related to conducting research. When women are assigned to do these tasks, they are less likely to reject such demands because rejection is incompatible with femininity. For women from China or Taiwan, where women are expected to express femininity, they are even less likely to reject demands from others, particularly from men, who are traditionally considered to be superior to women (Chinn, 2002; Park & Chesla, 2007).

In social science fields, ethnicity does not function as it does in bench-science STEM fields. Many disciplines in social sciences are full of cultural idioms and historical specificities. Being faculty from other ethnicities, immigrant faculty in the U.S. academia are often considered less equipped to teach social science courses by U.S.-born colleagues and U.S.-born students. The intense writing and speaking requirement in social sciences place extra obstacles to immigrant faculty in these fields when they conduct their work. Compared to bench-science STEM fields, Chinese or Taiwanese immigrant faculty of all genders in social sciences are still a numerical minority, and they often occupy lower rank as lecturers or non-tenure-track

faculty(Mamiseishvili, 2010). The co-ethnic network that has established in bench-science STEM fields is limited for Chinese or Taiwanese immigrant faculty in social sciences. Moreover, these immigrant faculty's association with certain ethnicity and immigrant status often put them in the situation where they are expected to teach certain types of courses or to be experts on topics that are relevant to their national or ethnic origin. In the case of Chinese or Taiwanese immigrant faculty, they may be asked to teach courses that relate to Asian or Asian Americans. Although some of them do specialize in areas that are related to their ethnicities or race, such presumption can potentially become microaggression that hampers immigrant faculty career development. U.S.-born colleagues or superiors may ascribe a degree of expertise to immigrant faculty, and such faculty may feel pressured to conform to a stereotype that they do not endorse, particularly if they are not familiar with that field of study (Sue, Bucceri, Lin, Nadal, & Torino, 2009).

In both bench-science STEM fields and social science fields, Chinese and Taiwanese immigrant women faculty all face a similar problem: demands that are irrelevant to their research; but women in bench-science STEM fields are more frequently asked to do these tasks than are their counterparts in the social sciences. In part, this is shaped by work processes. That is, while both groups of women seem to get requests to serve on committees, those in bench-science STEM fields also get assigned administrative and clerical tasks for their teams. Social science faculty are less likely to get such requests because they generally work alone. These differences matter as faculty evaluation at research-intensive universities relate mainly to their productivity; teaching and service work is less valued. Previous studies (Misra, Lundquist, & Templer, 2012; Swann & Link, 2008) find that women faculty of color are more likely to be asked to do service work than are white women faculty, in order to represent diversity. The

Chinese and Taiwanese immigrant women faculty in this study did feel that, compared to other co-ethnic immigrant men faculty or other U.S.-born women faculty, they were more often to be asked to do service work for their department or for the university in general. Although service work did add an extra burden to already heavy workloads for these women faculty, they often considered the service requests as signifying acceptance into the academic community and felt that it was what a good departmental citizen would do.

### **Conclusion**

Previous studies show that immigrants may be able to capitalize resources acquired from ethnic networks (Portes & Zhou, 1993; Sanders et al., 2002; Zhou, 2005). Among skilled immigrants, recent research has suggested that their workplace experiences are further shaped by gender (Kim et al., 2014; Mamiseishvili, 2010) and human capital (Akresh, 2006; Chiswick & Taengnoi, 2007). In U.S. universities, Asian women faculty seem to be more highly concentrated in some male-dominated disciplines than are other women faculty of color (National Science Board, 2016). The work processes involved in conducting research vary by disciplines (Lee & Bozeman, 2005; Skachkova, 2007), and these differences may contribute to Asian women faculty's relative higher representation in some STEM disciplines, as opposed to other fields. In this study, I investigated how work processes shape first-generation Chinese and Taiwanese immigrant women's workplace experiences. Working in the research-intensive universities, the stories of the immigrant women faculty in this study show the intersectional effects of ethnicity and gender in the context of specific work processes.

First, their gendered ethnicity can simultaneously be an asset and a burden for Chinese and Taiwanese immigrant women faculty in disciplines that require collaborative work and laboratory equipment. Co-ethnic networks in the academy provide resources that may not be

available for faculty from other ethnic groups; hence, these immigrant faculty in bench-science STEM fields may benefit from information such as grant opportunities or potential collaborators that are circulated within the co-ethnic network. However, in such white, male-dominated disciplines, women are expected to represent their ethnicity by being uncomplaining, persevering, and submissive to authority. Not only does the “model minority” stereotype reinforces this expectation, but being Asian women brings even more work, particularly service work, to immigrant women faculty in these disciplines. Such service work often takes on a particular form because of the nature of their work, such as providing support services to their research teams.

Second, these immigrant women faculty in social sciences experience less benefit from being who they are. Not only do they share the pressure of representing their gendered ethnicity with their bench-science STEM colleagues, social science women faculty also face challenges from coworkers and students as to their capabilities. Social science disciplines are culturally and historically embedded, and hence Chinese and Taiwanese women faculty are often expected to be experts in their ethnicity and any related topics; conversely, they may be rejected as experts on topics that are less relevant to their gender and ethnicity. At the same time, their more solitary pursuit of their research shields them from the kinds of supportive service demands of research teams that their bench-science STEM counterparts experience.

Third, research productivity is valued differently in social sciences, as opposed to bench-science STEM fields. In the social sciences, faculty are expected to publish in prestigious journals, in order to demonstrate their productivity. However, immigrant faculty’s research subjects are of less interest to U.S. scholars and hence journals, especially when these subjects are less relevant to the host society. Moreover, the intensive writing involved in social sciences

makes it difficult and time-consuming for immigrant faculty to publish an article. Although publication in bench-science STEM fields is important too, writing in these disciplines are more formulaic and faculty's research outcomes often can be expressed by formulas or charts. Successful grant applications are another indicator for faculty's productivity, and Asian immigrant faculty in bench-science STEM fields are able use resources from co-ethnic network to increase their chance of obtaining grants. Thus, the ways in which these two general disciplinary groups operate and reward faculty are different, such that, contrary to usual expectations, Chinese and Taiwanese women may find it easier to be productive in the bench-STEM fields than in social sciences.

Given my focus on women, I am unable to detect whether and how Chinese and Taiwanese men faculty's experiences would be different from Chinese and Taiwanese women faculty. Similarly, I cannot discern whether or how their experiences may differ from or be similar to those of other non-White women faculty in these disciplines in research-intensive universities. Finally, this study only investigates immigrant women faculty who stay in the U.S. academy after receiving their doctoral degrees. These are topics worth further examination in the future.

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# CHAPTER 5 IMMIGRANT WOMEN FACULTY'S WORK AND FAMILY CONFLICTS

## Introduction

Research makes clear that women's continued responsibility for domestic labor, including housework and childrearing, leads them to experience work and family conflicts, and at a higher rate than do men (Bianchi, Milkie, Sayer et al. 2000, Coltrane and Shih 2010, Maume, Sebastian and Bardo 2010). Although men have increased their time spent on some domestic tasks, on average, employed women still spent 8.5 more hours per week on domestic activities than employed men (Sayer 2005). The repercussions of women's work and family conflicts can be severe, in terms of both their employment and their wellbeing. While the form of these conflicts and resources to respond to them may vary by class, the unequal division of labor still plagues professional women. Thus, several studies (Cha 2010, Kelliher and Anderson 2010) document the negative impact on professional women's careers when faced with difficulties relating to arranging childcare and performing domestic tasks.

As a type of professionals, women academics keep facing intensive work and family conflicts, and their experiences have been investigated by many scholars (Blair-Loy and Cech 2014, Misra, Lundquist and Templer 2012, Ward and Wolf-Wendel 2012). These studies have demonstrated that women faculty with children, although with some control over their work schedule, feel that they spend less time on research, and tend to overwork frequently; to response to family needs, they are also more likely to change their career path than their men counterparts. The attitudes toward work and family responsibilities are related to cultural ritual (Zhou 2013), and immigrant women faculty who are from places that value women's domesticity may be more difficult to balance work and family demands. Yet, we have seen the increasing number of

immigrant women faculty from some China and Taiwan, especially in some male-dominated disciplines, such as science, technology, engineering and mathematics (STEM) fields. It is not clear how characteristics associated with these fields may help or hamper women's ability to manage work and family conflicts. Drawing interview data from first-generation Chinese and Taiwanese immigrant women faculty from different disciplines, this study asks: How do work processes shape immigrant women faculty's workplace obstacles and their strategies for managing work and family conflicts?

### **Literature Review**

Cha (2010) finds that among couples who are both employed in professional occupations and who thus must engage in lengthy work hours regularly, women have higher odds of quitting their jobs after having children than do men in response to spousal overwork. For Cha's study indicates that job characteristics, such as long work hours and less flexible work arrangement, including location and time, may bring effects to women's employment and their reactions to work and family conflicts. Although professional women seem to have more resources for managing work and family conflicts when compared to working-class women, it is not necessarily easier for them to achieve work-family balance (Blair-Loy 2003, Coltrane 2004). In her book on executive women in the United States, Mary Blair-Loy (2003) found that career-oriented executive women faced intensive work demands, including meetings, travel, and evenings and weekends spent entertaining clients. Compared to their male colleagues who usually have stay-at-home wives who take care of household responsibilities, these executive women often have full-time employed husbands. In Blair-Loy's analysis, the two "schemes": devotion to work and devotion to family -- are extremely difficult to reconcile, and different cohorts of women may adjust differently. For example, the oldest and middle cohorts in her

book, who finished college before 1973, responded to the conflicts between family devotion and their career plans by not marrying, or marrying but not having children. Those who do have children either switch to part-time or leave the labor force entirely. The youngest cohort (who finished college between 1974 and 1980), on the other hand, chose to marry at later ages and to have children even later, if at all. After childbearing, they continue to pursue demanding, uninterrupted full-time careers by delegating much day-to-day childcare to other women and sharing domestic tasks with spouses.

The changing cultural and societal landscapes have, to some degree, freed younger women from responsibility for some domestic tasks, by sharing household cleaning tasks with spouses or eating out rather than cooking at home (Bianchi 2011, Sayer 2005). However, the negative responses to work demands and long work hours remain a problem for professional mothers with families. According to Acker's analysis (1990), the workplace is structured in ways that rewards certain beliefs, behaviors, and attitudes; these practices regulate both men and women workers, and hence workers are expected to be at work at certain, agree with the length of work hours, or avoid distractions outside the work. Such expectations seem to be created in an abstract and presumably gender-neutral way, in fact, it incorporates men's experiences as the standard of workers. Instead of leaving labor force entirely, some women may choose to work part time, or arrange their work schedule flexibly, but either may hamper women's career advancement (Blair-Loy 2003, Stone and Hernandez 2013). Formal flexibility policies may recognize the realities of dual-earner families and their child care responsibilities, but informal practices appear to stigmatize the use of these policies. For instance, Williams, Blair-Loy, and Berdahl (2013) argue that such "flexibility stigmas" – the bias against workers who take caregiving leave or take advantage of flexible work policies - affect employees differently,

depending on their class and gender. For low-wage workers, requesting flexible work arrangements often resulted in being given fewer hours; they are also easily fired for requesting flexibility because they are replaceable. For professional women, however, the flexibility stigma has a different but quite delirious impact: taking a career break is seen to signal the inability or unwillingness to work long hours for lawyers and academics (who are expected to work at least 50-60 hours per week) and investment bankers and doctors (70-90 hours per week). Availing oneself of such family policies directly violates the work devotion schema.

### ***Women academics and work and family conflicts***

As their professional status and occupation demands, tenure-track university faculty work on average more than 50 hours per week, regardless of discipline or ranks (Bentley and Kyvik 2012, Misra et al. 2012). As well, they are subject to a time-sensitive and standardized trajectory for advancement (tenure review after 6 years since being hired, with exceptions such as adjustments for family leaves). Hence, women faculty are not free from the difficulties discussed above. For example, in a study focusing on women faculty in a medical school, Shollen and coauthors (2009) found that although both men and women faculty in this study spent time on family and household responsibilities, the men spent significantly fewer hours on these responsibilities. This study also dovetails with previous studies (Blair-Loy 2003, Coltrane 2004) that found that women were more likely to delay having children than were men: 16 percent of woman respondents report having no children, compared to 9 percent of men respondents.

Although Shollen et al. (2009) found almost no difference between men and women faculty in terms of their research productivity, Misra and her colleagues (2012) concluded somewhat differently. These authors found that, although men and women faculty devote the

same overall time to their employment each week, mothers of young children spent less time on research. When faced with a time bind, these women tended to sacrifice time on research, instead of teaching, mentoring or service, so that they would not affect other colleagues and students. Cutting back on scholarship means that women faculty with younger children may have lower productivity, an outcome that is especially problematic for faculty in research-oriented universities because this activity matters the most to career advancement. The negative effects of childcare on women faculty's development, including changing career paths from tenure track to non-tenure positions, or women's underrepresentation in male-dominated disciplines, are also found in several other studies (Ceci and Williams 2011, Chronister, Gansneder, Baldwin et al. 2001, Kmec 2013).

In the case of academic employees, using family-friendly policies can be perceived to contradict the ideal worker image that is embedded in the organizational culture, and the tenure system has strong disincentives for women to have children. As noted above, in research-intensive universities, the scholarly output is the most important factor in evaluating a junior faculty member's tenure and promotion. What constitutes a demonstration of adequate research can vary across disciplines and departments (Bird 2011). Some studies (Ali, Bhattacharyya and Olejniczak 2010, Bhattacharyya and Olejniczak 2010, Teodorescu 2000) show that grant money is beneficial not only for faculty productivity, but is also directly related to faculty's tenure possibilities; this is especially the case for disciplines that require expensive equipment and higher levels of labor, such as electrical or chemical engineering.

Disciplines and departments may also vary in terms of work processes themselves. For instance, Lee and Bozeman (2005) found that in science and engineering related fields, faculty tend to work collaboratively, with other faculty, post-doctoral fellows, or graduate students. On

average, they spent half of their research time working as a team and each faculty member had an average of thirteen collaborators on multiple research projects. Collaborative work with industries is also encouraged, especially when government funding is reduced. Such cooperation garners industry early access to new discoveries and innovations, and this further capitalizes the research production (Lee and Bozeman 2005, Lee 2000). From the university and faculty's standpoint, partnering with industry usually means substantial financial inflow that can be used for equipment, labor force, and even lab spaces. By contrast, in the humanities, collaborative work is not generally required by the research process and scholars commonly work alone. Work in social science disciplines fall somewhere in between: research in some social science disciplines are carried by teams while others are performed by scholars independently (Wanner, Lewis and Gregorio 1981). Being able to work alone rather than collaboratively (especially in teams) can give faculty more flexibility in terms of research time allocation and location.

These different work processes, which vary by discipline, can influence how women faculty manage work and family conflicts. For example, Shockly & Allen (2010) found that when the faculty are expected to have more face time in the office, they are less likely to use family-friendly policies or other flexible work arrangements. For faculty in bench sciences, setting up a lab space and keeping it running is costly and time-consuming, and hence, they may continually invest concentrated time and energy working with other lab members on conducting/instructing experiments and grant funding for research productivity (Ward and Wolf-Wendel 2012). Hence, those who are not able to live up to this work model, such as mothers in STEM fields, may be subject to a motherhood penalty: they are seen as less committed to their work and are seen as less ideal workers if they have child care responsibilities or use work-life policies (Blair-Loy and Cech 2014). This “communal nature” of laboratories may be less

common for disciplines that are solitary: in humanities or social sciences, faculty are more likely to be able to change how they conduct their research in terms of location or time, to meet demands from family if they need to. The ability to control work schedules may suppress the work-family conflicts, but it can also increase the frequency of working and multitasking activities at home (Schieman and Young 2010). Professional jobs that feature heavy work pressures increase boundary permeability and push employees to blur roles to accomplish work duties that could be completed in the workplace (Glavin and Schieman 2012). Given the time commitment of academic STEM fields, women scholars in these areas may be especially subject to the blurring boundary of work and family spheres.

Indeed, women's household and childcare responsibilities may partially account for their underrepresentation in these fields (Ceci and Williams 2011). The above suggests that women will be especially challenged by the demands of work processes in bench sciences. If so, such demands could be an even bigger issue for immigrant women faculty, if they are from cultures that might be seen to be even more traditional concerning the division of domestic labor. Yet, many married immigrant women faculty have been doing relatively well in the U.S. academy, especially in those male-dominated STEM fields. Only a few studies look specifically at immigrant women faculty's work and family conflicts; most focus on factors resulting in professional women's underemployment and unemployment in the host country (Gu 2012, Liversage 2009, Zhou 2013). These studies point to racial discrimination, the loss of human capital due to migration, or traditional gender role as possible culprits in such women's underemployment. In one study of Chinese immigrant academic couples in Britain, Fang Lee Cooke (2007) argues that Chinese gender relations afford the husband more power in the patriarchal family system, and the wife not only assumes childcare responsibilities but also

assists the husband's career in order to maintain a harmonious family environment; consequently, the wife opts to stay home providing childcare. Immigrant women, especially first-generation immigrant women, bring with them cultural expectations to the host country. Immigrant women from some Asian countries, such as China and Taiwan, that are deeply influenced by Confucianism are expected to take primary responsibilities for domestic, family oriented labor, including procreation (Inman, Howard, Beaumont et al. 2007, Park and Chesla 2007). Procreation, in order to carry ancestral heritage and name, is important for traditional Confucian culture, and hence, adult, married children are expected to have offspring, regardless their work, financial situation, or any objective conditions (Sung and Pascall 2014). For instance, Hu and Kamo's study (2007) shows that some high-income Taiwanese women may prioritize their reproductive labor over careers, despite their relative income advantage in relation to their husband. Immigrant women who remain active workplace activities, to manage work and family conflicts without compromising the husbands' careers, the wives need to either use a formal childcare facility or informal social networks (e.g., neighbors or co-ethnic friends) when it is available, or they call on family members to help, bringing them to the host country (Salaff and Greve 2004, Vega 2016). While Cook's study is suggestive and indicates women academics' underemployment after migration, it does not explore immigrant women academics who begin their career in the U.S. academy, nor does it investigate how immigrant women academics' strategies of managing work and family conflicts may be shaped by work processes.

In sum, previous studies have suggested that professional women may experience particular obstacles when mitigating work and family conflicts due to the characteristics associated with their professions. These include the commitments of time, energy, and emotional investments in their careers; the stigma associated with taking advantage of flexible family

policies; and work processes that demand that one adheres to a fixed schedule in terms of time and place. Academic women faculty's career advancement may be hampered or even terminated by work and family conflicts, a situation that may be more severe for those who work in male-dominated fields, such as bench-science STEM disciplines, particularly for those who come from countries with traditional gender divisions of domestic work. Yet, the number of immigrant Chinese and Taiwanese women faculty in U.S. universities, including in STEM fields, seems to be increasing. How do these women, from relatively traditional cultural backgrounds concerning gender relations in the family, manage to balance demands from work and family spheres? And how is this influenced by the work processes of different disciplines? To begin to answer these questions, in this study I examine Chinese and Taiwanese first-generation immigrant women faculty in research-intensive universities in the U.S., and ask: How do work processes shape these immigrant women faculty's workplace obstacles and their strategies for managing work and family conflicts?

### **Data Collection**

Thirty-nine respondents were recruited from twenty-three research-intensive universities in the east coast: having very high and high research activities in these universities, based on Carnegie Classification of Institutions of Higher Education. All respondents are women; marital status varies: 34 are currently married, 2 are planning to get married within several years, and 3 are divorced, widow or separated. Living arrangement varies too: most of the married couples living together, except 6 living apart for employment reason. With the exception of 2 respondents who have never married, among the other 37 respondents, only three have no children, and the rest have either one or two children. All respondents are originally from China or Taiwan (35 from China and 4 from Taiwan); all of them received their doctoral degree in

Western countries, mostly from U.S. universities except 2 receiving their degree from Canada. After receiving their doctorate, most of them directly entered the labor force as tenure-track assistant professors, with some of them have post-doctoral experiences before being so hired. In terms of their ranks, 17 are assistant professors; 15 are associate professors, and 7 are professors. These 39 respondents are divided into two categories: bench-science STEM fields, which have similar work processes to one another, and social sciences. Examples of the former are computer science, mechanical engineering, physics, or chemistry; the latter include sociology, political science or communication.

To reach eligible respondents, I sent out recruitment letters to all immigrant women faculty who meet the selection criteria: currently working in research-intensive, public or private universities as tenure-track faculty, and who received their bachelor degrees in China or Taiwan. Considering a respondent's bachelor degree was done to exclude second-generation Chinese Americans or Taiwanese Americans. Each interview, conducted either in-person or through Skype or Facetime, lasted for one to two hours; interviews are digitally recorded and transcribed. Other than interview transcripts, I also took notes about the interactions between myself and respondents; for example, whether the respondent showed me her family pictures, how she decorated her office, or whether she was interrupted by colleagues or phone calls from family members.

After transcribing the interviews, I used grounded theory (Charmaz 2006) as my coding and analytical framework. The coding process included two phases: the first phase was initial coding – other than demographic codes, I also reviewed transcripts line by line, to identify key concepts and themes, as well as quotes that could be used to support these concepts. After the initial coding, the second phase was analytical coding. At this stage, I used these identified

themes, interpreted these data to see how these data reflect existing arguments on work and family conflicts or, how they went beyond what literature had suggested.

## **Findings**

### ***How work Is done***

Boundaries that can divide work and family spheres emerged as an important theme in my study. How work is accomplished means that women in some disciplines are able better to delineate the line between the two spheres, as opposed to those in other disciplines. In this section, I present data about how women faculty of the two disciplinary categories arrange their work location and time differently, and the implications this has for balancing work and family conflicts.

### **Doing bench-science STEM**

As previous studies have shown, conducting research in bench-science STEM fields normally involves collaborative teamwork and expensive equipment in a laboratory setting. In the current study, some respondents noted that their work location is restricted because they need to take soil sample from the field, or they need to nurture embryos in the petri dish. During the junior faculty stage, they may do these experiments personally, because they may not have enough resources to support graduate students, staff, or post-doctoral fellows to do the experiments. When faculty advance to associate professors or have received enough funds, they are able to support individuals to perform the experiments; by then, the faculty only do experiments themselves when beginning a new study, or to instruct a newly-admitted student or fellow. However, they still spend plenty of time in the lab or in the office, and have intensive interactions with student and lab members:

For an experimental science like mine, my students spend about 90% of their time on the (experiment) table, and 10% of their time on reading or analyzing data. If they are at the writing stage, they probably spend more time by the desk...I don't do experiments now. Normally, I start an experiment, and then I ask my students to continue and finish it. If they see any abnormality, they would ask me to come to the lab to check and we would study it together. The lab is just a few doors away from my office. (Courtney, Chemistry)

Other than work location, work time is also constricted for some women faculty in bench-science STEM. Some tasks, such as teaching or regular meetings, can be scheduled beforehand; these tasks are also bound to the location. However, respondents in this group normally come to the campus five days a week; occasionally they come to the office during the weekends when they have a manuscript or a grant proposal due. The teaching load of two courses per semester does not require daily office visits; regular meetings might be scheduled on their teaching days. Still, they need to come to the office on a daily basis:

I come to the office every day during the weekdays. Before having my child, I used to pick one day between Saturday and Sunday as my work day too; but I am not doing this anymore. But I still come in every day. I need to be able to respond to my [graduate] students' needs and questions in a timely manner, especially when they encounter problems during an experiment. So, other than group meeting and individual meetings, [I come in daily so] the students can stop by my office when they need. (Abbie, Geoscience)

In general, bench-science STEM women faculty with children of one year of age or older have a regular work schedule: they start their day by dropping off the children at daycare or

school, and then they come into the office for teaching, meeting, or working with students, or writing grant proposals or manuscripts. Their workday there usually ends at five in the afternoon, when they need to pick up their children from daycare or school. Moreover, they do their best to find nearby daycare or school for their children, so that they are able to respond to children's emergencies immediately. Because their work time and location is relatively restricted, being able to react quickly is especially important for them, so that their work won't be affected significantly.

For the past three years or so, there were only one or two times when my child needed me during the school hours. Certainly, I could leave the office for a while.

His school was close to the university, so, when he needed me, I went there, drove him home and came back to my office. I could not leave my office for too long.

(Dorothy, Mechanical Engineering)

Although Dorothy's husband worked in a similar discipline at the same university, it often was Dorothy who picked up the child. Her professional work did not prevent her from taking primary childcare responsibility, but work processes involved in engineering made her unable to be away from her office frequently and for very long stretches.

Finally, like many other elite professionals, these women faculty bring work home. However, the kinds of work that they carry with them tend to be less intellectually-focused tasks, such as replying to emails. And these tasks usually have less direct relation to their research.

Bring home work, sometimes I do that. But I only do the reading or replying students' emails, the emergency emails; otherwise, I'll wait until I am in the office. But I usually don't work a lot when I come home because all my stuff is in

the lab. Like, I don't have a supercomputer in my house; that's very expensive equipment, and university property too. (Samantha, Computer Science)

### Doing social sciences

Conducting research in social sciences can often involve a computer, the Internet, and software, and it can be done either independently or collaboratively. This way of doing their work gives social science faculty the liberty to arrange their research time based on family obligations and members' needs, and they enjoy more latitude in terms of where they do research. Not being seen physically in the office is not usually considered to be a sign of less commitment to their professional work.

I only go to the office on Tuesday, Wednesday and Thursday; there is no need to be there every day. ...Doing research is not limited by my location, and I usually arrange meetings and teachings during the three days [that I am in the office].

That gives me more time to manage family needs (Ruth, Political Science).

Respondents in the social science category constantly mentioned that they bring work home, and they often continued their work after their children have gone to bed. Unlike many women faculty in bench-science STEM fields whose workload differs significantly between the workplace and home, women faculty in social sciences usually see less variation.

I work all the time. Although I don't go to the office five days a week, my work hours are unbelievable long. Like, reading is a very important part when we do research, right? So, when I with my son, I read journal articles to him (laugh). In that way, I can do my research while spending time with him. (Naomi, Psychology)

As the above example implies, because social science faculty's work usually is not bound to location and time, women of this category in this study often mentioned that they are expected to react family members' needs. This is apparent in situations like the previous example when their workplace and home locations coincide. But in addition, they also interrupt their work when at the office:

We had a job talk a few days ago, and I was supposed to have a meeting with that job candidate. Everything was fine in the morning; but around 11 am, it began to snow, and then, the daycare called because they would be closing within two hours. My husband was not able to pick up the children because he had a lab meeting. I thought that I probably could pick up my children and then bring them to the meeting too. But, the traffic was so bad that I got stuck on the other side of campus, and never made it to the lunch. (Lydia, Sociology)

Lydia and her husband both worked at the same university as assistant professors, and her husband was in a bench-science STEM field. Although their duties as faculty are similar, Lydia's work seems to be more interruptible and so when the family needs as such happens, she is the one who responds, while her husband is able to stay in the office.

Due to the differences in how they conduct research, women faculty in different fields have diverse understandings concerning flexible work arrangements. As the case in social sciences shows, faculty may work irregularly in terms of hours and location, but rather than facilitating their productivity, such flexibility can potentially increase the total amount of work hours they log and interrupt their family lives.

In sum, although the purpose of flexible work arrangements, such as being able to work from home, is to help employees manage work and family needs, social science women faculty

may end up spending more time in finishing their work, or they are seen to allow their professional work to interfere with family life. In this sense, having flexible rather than rigid work schedules and locations is more harmful than helpful for women social science faculty, while being able to clearly delineate work and family time benefits women faculty in bench-science STEM fields.

### ***Maternity leave and flexibility stigma***

Previous research indicates that professional women may delay marriage or childbirth for their career advancement. This study shows a somehow different situation: these women do not say that they are necessarily delaying marriage or childbearing, but they are very likely to have only one child before passing the tenure review. All women faculty in this study said that there is never a perfect time to have a child for women in academia. However, based on their general fields, women faculty may have different attitudes toward the timing of children and using maternity leave.

### **Women in bench-science STEM**

All women in this category have at least one child, except two respondents who are planning to get married within several years. Some of them have elder children who are in high school or are about to go to college; they have “*passed the stage of worrying about my kids*” (Eliza, Biology). The number of children is positively related to these women’s career stage: among 12 respondents who are assistant professors, three of them have 2 children (25%), compared to 54% at associate professor rank, or 80% at full professor rank. Women in this category expressed stronger feelings about the interrelation between marriage and childbearing, and they feel that if they get married at an early stage of their career, it is very likely that they will be overwhelmed by childbearing and the tenure review process.

Because I wanted to have a child and I didn't want to wait until it was too late, we got married right after graduation and I got pregnant during my post-doc... We are not sure if we will have a second child, it depends; but if we want to, that will be later, maybe after the (tenure) review. (Adele, Food Science)

People say that it is best to have your children before you turn 35 (years old), or it will be too late and too risky. ... So, my parents-in-law talked this way since we got married a few years ago. Now, they have their grandchild and can leave me alone (laugh). (Melissa, Mechanical Engineering)

Some of them have mentioned that if given options, they would consider having the first child before her career even starts. Because “things keep coming up after you have a tenure-track job.” (Jewel, Biology), it will never be a good time for women faculty who want to have children.

Most disciplines in bench-science STEM fields are male-dominated, and until recently, the number of women faculty has slowly increased. Except for health sciences, most women faculty in bench-science STEM fields occupy positions of lower rank – as lecturers or assistant professors. Under this circumstance, junior faculty have had few role models or examples at which to look for suggestions on managing work and family conflicts. Rosalie, now a senior faculty member in Computer Science, explains how this influenced her concerns about using maternity leave when she was more junior:

In my previous school, I was the first one asking for maternity leave in my department. No one knew how to do that. We had another female faculty member, but she never made this request. The head of my department asked me to figure that out; he wanted me to bring the rule to him, and he would follow it. We knew

that the university provided some kind of policies that I could use, I just needed to figure that out, and the department would act accordingly (Rosalie, Computer Science).

Like Rosalie, some respondents in this study are among the first faculty to request maternity leave, or to adjust their work schedule during their postnatal months. Other than not knowing how this policy works, junior faculty, especially junior women faculty who use maternity leave in bench-science STEM, have the additional concern of falling behind. Some respondents mentioned that biological limitations may prevent mothers from doing anything resting and taking care of the newborn baby during the maternity leave; while other respondents were concerned that if they took too long of the maternity leave, they would be twelve weeks behind male colleagues who joined the department same year as she did. However, this did not prevent them from using these family-friendly policies: when I asked them if they had ever considered of taking only one or two weeks leave for the childbirth so that they could catch up very soon, they normally expressed that they didn't consider this option, because: "Maternity leave was my right; I was entitled to take that." (Rose, Mechanical Engineering). Still, the competition among colleagues, especially those within the same cohort, and concerns about perceptions, prevented some respondents from taking full maternity leave, and many took four to six weeks leave instead. By doing so, they were able to enjoy their right to a certain degree without too damaging their reputation and productivity in the department.

### Women in social sciences

Compared to women in the bench-science STEM fields, women faculty in social sciences seemed to have a looser attitude toward marriage and the timing of children. Unlike women faculty in bench-science STEM whose marriage is often associated with motherhood, of the

eleven respondents in social sciences category who are currently married or used to be married, three are childless. Furthermore, job opportunity for immigrant women faculty in social sciences is more limited than for the bench-science STEM fields. Thus, compared to immigrant women faculty in bench-science STEM, they are more likely to end up living apart from their spouses.

I am not considering having a child, at least for now. We [my husband and I] are living in two different cities because it is hard to find a job in his city... So, unless he is around and willing to take his share of work with the family, like changing diapers, or...that's [having a child] not the most important thing for me.

(Georgina, Communication)

Other than recognizing that it requires dual labor to take care of a newborn child, Georgina's remarks also show her belief in egalitarianism in that she does not consider childcare as only her own responsibility.

However, women in this category seem to have fewer concerns about taking maternity leave for a newborn child, and may even strategically make the maternity leave longer by combining other breaks.

Amy (Public Relations): I didn't really think about that when I took the leave. I remembered I took the full 3-months leave, and then was summer break, so I had about six months with no teaching, or other service.

I: Were you ever worry about leaving too long?

Amy: Not really. I mean, there are many women faculty in my department, and they know what it is like to have a newborn child because a lot of them have children too. Everyone is pretty understanding.

“Many women faculty in my department” is an important part of Amy’s statement. Other women in her department have done this, or have had newborn babies; hence, the need of maternity leave is acknowledged and widely accepted. At the same time, men in this department have the same recognition; although they are not the ones giving birth to babies, by seeing other women faculty’s or their own spouses’ experiences, they have come to realize, or are expected to realize the importance of having maternity leave.

In sum, data presented above shows that the availability of maternity leave may ease women faculty’s concern of having children and the work and family conflicts caused by childrearing. Although in both categories, women faculty hold a positive attitude toward the maternity leave, bench-science STEM women faculty still have concerns of bearing a flexibility stigma: being seen as less productive or committed than their male colleagues. For social science women faculty, the concern of taking maternity leave seems to be less, and hence respondents with children in social sciences all have taken full, if not longer, maternity leaves during their postnatal period.

### ***Managing family demands***

In addition to formal policies, such as maternity leaves, women faculty’s familial support systems play significant roles in helping them manage work and family demands. A critical source of support for the majority of my sample was the help of grandparents. When bench-science STEM women faculty returned to their workplace, childcare responsibilities usually were delegated to other family members, normally grandparents. These grandparents not only take care of the children, but they also help to share domestic tasks, such as cleaning and cooking. Social sciences women faculty who have children also received support from grandparents, but less frequently: only half of them (four out of eight) had grandparents coming to the U.S. to

provide assistance, compared to twenty-two out of twenty-six bench-science STEM women faculty with. One possible explanation for grandparents' less involvement in these instances might be that their husbands were able to take on these responsibilities: among the four women faculty who don't have grandparents' help, two of them had stay-at-home husbands when their children are toddlers. The sample size of social science women faculty is relatively small, and findings are thus suggestive only; but given the overall patterns taking both groups into account, it is safe to say that under normal circumstance (e.g., both members of couples are employed full-time, with a young age child), assistance from grandparents is expected.

While it is possible that parents of non-immigrant women faculty might also help out, the immigration context makes the situations of these Chinese and Taiwanese women quite different. First, when they come to provide care, they stay with the faculty women; they have no residence of their own and are thus available full-time. This provides a level of help that is only available with co-residence. In addition, because of immigration restrictions, these women faculty's parents and parents-in-law can only stay for six months on the travel visa, unless they have become permanent residents. This does not prevent them from visiting these immigrant families frequently; rather, under this circumstance, grandparents and grandparents-in-law usually take turns so that they can cover the childcare for at least one year.

Lola: So far everything is fine. The grandparents come here from time to time; this helps a lot.

I: How often do they come here?

Lola: Actually, my mom is coming next week. My husband's mom just left last month.

I: How long do they usually stay?

Lola: usually between four to six months. They have been doing so since I was pregnant with my first child.

Some of these grandparents are eligible to become permanent residents based on family unity, but they are inclined not to do so mainly because they have no other friends or relatives in the U.S. From these women faculty's perspectives, they also do not see an immediate need for grandparents to stay in the U.S. permanently; for the grandparents, migrating to a foreign country would mean losing their social networks, culture, and life. But the difficulty of travel makes staying for a longer period of time reasonable. Hence, instead of making a short trip to celebrate a newborn baby, these grandparents are willing to stay longer to help these women faculty and their husbands.

Other than this celebratory meaning, immigrant women faculty in this study also mentioned that physically being there shows the interdependence among family members and the reciprocal expectations between two generations. They also rely on their cultural understanding concerning grandparents' expectations of having a grandchild to make arrangements prior to pregnancy, to ensure that they are able to have the most support they can. For example, when Lily from Earth Science told me her preparation of having her first child several years ago:

Lilly (Earth Science): This is kind of without saying it. We had known that the grandparents would be here for the grandchild.

Me: So, you or your husband didn't need to ask for help from them?

Lilly: It's more like, they had always asked if there was anything happening? Or like, "When do you want to have a baby?" "We need to plan ahead because we

want to be there when the baby comes.” Something like that. Not that we needed to make THE request, but we just knew that they would be here.

Note that Lilly did not really make the request; through their daily conversations, the mutual expectations were recognized by both parties. Lilly’s description of her conversation with the (grand)parents exemplifies the parental expectation to the adult, married children that is embedded in Chinese tradition. This is not to say that having offspring occurs only to please the elderly; rather, in some cases, these Chinese and Taiwanese women express that having a child can help compensate for being absent from their parents’ lives:

“Living with us for a short period of time was good for them (the grandparents) because it was like they got to have the chance to know what our life is like in the U.S.” (Evelyn, Computer Engineering)

Reciprocally, these grandparents provide childcare and household management to show their support for their adult children’s family. With these grandparents’ help, these women faculty not only have less childcare responsibility but to some degree, they also enjoy a sense of being taken care of by having the (grand)parents cook for them. Economically speaking, this is also beneficial to the women faculty’s families: other than covering their flight and all expenses in the U.S., only a few women faculty pay their parents by giving them the cash gift, the red envelope, to show their gratitude.

Although women faculty in this study describe having grandparents there to help out as a blessing and essential for them to balance work and family demands, from time to time, conflicts do emerge between the generations. These mainly come from different attitudes or beliefs about parenting. When such conflicts happen, women faculty tend to focus on “the bigger picture”: since grandparents are here to help and they are only here for a short period of time, these

women faculty tend to consider these disagreements as somewhat trivial and the price of receiving the support.

That being said, grandparents are not able always to travel to the U.S. to help to their adult children. Normally, financial considerations are not the issue; women faculty in this study all come from middle or higher income level families. Rather, other family members' health issues or (grand)parents' own jobs might keep them from staying in the U.S. and providing help. But even if they are not able to stay for months, grandparents usually manage to come for several weeks, or at least have other family members (e.g., siblings) visit; in either case, the presence of close family members is expected in the Chinese and Taiwanese families, and hence, those who don't have relatives during the initial years of childcare are often considered as "less lucky" or "abnormal," and they must struggle to address family needs in the context of their work:

We had to find the babysitters all the time, especially for my first child. It was very difficult for us because neither of our parents were able to be here. It was very hard to find a long-term babysitter here, so we usually ended up having one babysitter for two or three months, and then next one, until she (the child) was old enough for daycare. (Lydia, Sociology)

Lydia's statement shows that the presence of grandparents also means a sense of stability: when grandparents are around, young parents of immigrant families do not need to worry about constantly making childcare arrangements, which in itself detracts from paid work.

When support from grandparents is not available, having a husband who is willing to share childcare and domestic work is essential for women faculty across disciplines. Because faculty jobs are scarce, and immigrant women faculty find it especially hard to gain positions in prestigious universities, husbands usually need to make some compromises and prioritize women

faculty's career. With some exceptions, most immigrant women faculty in this study have supportive husbands who are willing to work remotely or find new employers in the same city where their wives have jobs. Working from home can potentially hamper the husbands' career advancement, like Julia's husband, who gave up an opportunity of being promoted to a managerial position; or it can lead to more business trips, like Lola's husband, who can work from home every other week, or Samantha's husband, who goes to the office once or twice a month. Those who are lucky enough to have jobs in the same city, or in nearby cities, are able to live together, and make various arrangements to handle family responsibilities, such as strategically locating the children's daycare (for the convenience of picking up the children), or work arrangement:

He (the husband) works at this university too, and we usually arrange our course schedule accordingly. We both come to the university every day, but when I teach, he usually does not. So, if any emergency happens to my child, one of us can respond very quickly (Evelyn, Computer Engineering).

Balancing work responsibilities and domestic tasks require more than support from formal institutional policies; informal support systems are even more essential. These immigrant women faculty's experiences show that different ethnic and cultural backgrounds, and their associated traditional familial expectations and relations, is not necessarily a disadvantage, or at least not merely so. In the case of these Chinese and Taiwanese immigrant women faculty, traditional parent-child reciprocal expectations were assets for women with newborn children when they try to manage work and family demands. At the same time, however, traditional gender roles could be problematic. These data show that a supportive husband who is willing to

accommodate the wife's work location and time is even more important for these immigrant women faculty's abilities to juggle work and family obligations.

### **Discussion**

The immigrant women faculty in this study face similar workplace demands that also vary based on their work processes, and their strategies to deal with these in the context of family needs also vary accordingly. I found that they deploy multiple strategies to manage demands from both workplace and family.

First, unlike some professional occupations with strict work schedule and locations, faculty may appear to have more flexibility. Teaching is bound to location and time, and meetings may be as well. Beyond this, faculty might allocate research time based on needs. And here, we see important differences in work processes that can have unexpected outcomes. Collaborative work in science and technology fields often leads to a greater number of publications and grant possibilities and thus, higher research productivity. Faculty in these fields are more likely to spend time working with other colleagues or graduate students in their immediate work group or laboratory. The characteristics of equipment-dependent and project-based associated with STEM fields simply make it impossible for faculty in these fields to conduct research alone. Moreover, even when they do not personally perform these experiments, staying in the office helps to meet expectations of frequent face time (Shockley and Allen 2010), and it also reduces the likelihood or necessity of interactions with colleagues or students when not at work; they generally can respond to problems or questions when they occur. The inability of conducting research at home may be beneficial for women faculty trying to manage work and family demands. Because their work is restricted by time and location, when women in bench-science STEM disciplines leave the workplace, they are more likely and able to pay attention to

other non-work responsibilities. This does not mean that they are strictly limited by their work schedule and location; they still had the flexibility to react to family emergencies. But regular office hours and work days enabled getting most research work done during that time, thereby inadvertently reducing work and family conflicts. Delineating work and family spheres, and keeping these separate, becomes easier for them. Even if they want to do some work-related tasks, they often can do so without paying full attention.

Faculty in social sciences do not necessarily have these limitations on location and time: conducting research in these fields is less dependent on experimental equipment, and collaborative work, if any, often can be done through email or virtual meetings. The work processes involved in social sciences allow women faculty in these fields to have more flexible work arrangements; as a result, however, the boundary between work and family often blurs, making it more difficult to accomplish their research. Because they can be physically present to families, they are expected to respond more immediately to needs, and finding focused work time can become more challenging.

Aside from the ways that different work processes impact flexibility and outcomes, to better managing work and family demands, these women faculty may deploy multiple strategies from available formal resources, that is, workplace policies. Taking maternity leave usually is not considered an inappropriate action for these women faculty. However, at the same time, the ideal worker expectation is still prevalent and thus some women, especially those in bench-science STEM fields, express concerns in relation to flexibility stigma (Blair-Loy and Cech 2014, Stone and Hernandez 2013) and worry that they may be perceived as less committed to their professions. Moreover, competition among the same cohort and the pressure of not falling behind prevent these women from taking regular, three-month long maternity leaves, and push

them to return to the workplace sooner than they might prefer. By doing so, women faculty are able to approximate the ideal worker image (Acker 1990) and work devotion schema (Blair-Loy 2003).

Other than available formal policies, having grandparents at home to provide childcare allowed these immigrant women faculty to concentrate their minds on their work, a finding that dovetails with Vega's (2016) study. Although traditional Confucianism puts the pressure of procreation onto adult, married children and women are especially impelled to prioritize their reproductive work over their own professions, these immigrant women also benefit from cultural mandates in terms of managing their family lives and domestic labor. Most of the women faculty in this study married to husbands of same ethnicity; in other words, the couples are from China or Taiwan and share similar cultural bindings. Married to co-ethnicity men means that normally the women faculty can receive grandparents' assistance from both sides. Knowing that the grandparents are able to provide care and housework, immigrant women faculty are more willing to have children while still earning tenure. Such provision is not based on monetary exchange and not purchasable; rather, it is based on the reciprocal expectation between parents and children that is rooted in Chinese and Taiwanese culture. While fulfilling women's responsibility of having offspring for the family that is rooted in Chinese and Taiwanese culture, these women are also challenging the gendered nature of this traditional culture. Many women in this study pointed to the importance of having husbands willing not only to share domestic labor but also to prioritize wives' employment situation. This is especially emphasized by immigrant women who married to co-ethnic men since in the traditional Chinese and Taiwanese culture, men's privileges are rarely challenged. Immigrant women faculty's husbands in this study are willing to

make compromises in terms of occupations. Such husbands have done so by working remotely, making frequent trips between workplace and home, or giving up promotion opportunities.

In this sense, although the traditional culture and associated ideologies may migrate with these immigrant families, some immigrant women are able to strategically manipulate some and challenge others in order to fit their needs.

### **Conclusion**

Previous research (Blair-Loy 2003, Blair-Loy and Cech 2014, Chronister et al. 2001, Misra et al. 2012) has found that women's career development is often hindered by family responsibilities, especially childcare. Still, other studies (Cooke 2007, Ho 2006, Liversage 2009) have indicated that professional women are more likely to prioritize their husbands' career development over their own, resulting in women's unemployment or underemployment after migration. This study shows a different picture of immigrant women who have successfully developed their career in a host country, and how they manage demands from both workplace and family. In U.S. universities, flexible work arrangements may provide space for faculty to meet family members' or personal emergent needs; however, disciplinary differences in work processes can result in women faculty in some disciplines, such as bench-science STEM fields, having rigid time and location schedules. At first glance, this rigidity would seem to limit women faculty's ability to balance demands from both family and workplace. But in fact, for the women in my study, the restrictions on work location and time may help them manage work and family conflicts because it prevents the blurring of lines between the two spheres that can often plague professional women (Sayer 2007). In fact, the women in social sciences made clear that being able to work at home, or not being tied to offices to complete research increased their expected responsiveness to family needs. As a result, finding focused research time was more difficult for

them. Moreover, traditional culture shapes an individual's ideology of gender and family and workplace responsibilities, as well as how s/he responds to these demands. However, immigrant women faculty in this study show that they are able to take advantage of the traditions strategically, counting on grandparents for childcare and domestic labor, while challenging simultaneously part of these gender expectations via husbands who moderate their work schedules, jobs, or locations in order to better prioritize wives' obligations.

However, this study only represents a small portion of immigrant women, those who are relatively successful and capable of garnering support based on their type of employment, socioeconomic class, and social networks. Compared to other migrant women who have less human and social capital, women in this study are able to balance better their work and family conflicts and advance professionally. Future research should investigate the intersections of class and gender in terms of how these influence women's strategies for meeting family and workplace. As well, it is worthwhile to investigate whether and how women immigrant from other cultures may deal with work and family demands differently. But the present study makes clear that we should not simply use occupations as a homogenous category in such studies; understanding the work processes themselves, regardless of occupation, may be most illuminating.

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## CHAPTER 6: DISCUSSION AND CONCLUSION

Numerous studies have examined the demands women face between paid work and family (Acker 1990, Kmec 2013, Maume, Sebastian and Bardo 2010, Misra, Lundquist and Templer 2012), and have pointed to the ways in which gendered organizations, work processes, and the gendered division of domestic labor influence women's disadvantaged position in the workplace and overall inequality therein. However, relatively few consider the interwoven relations between immigrant ethnicity and gender in relation to work processes involved in fulfilling duties in the workplace. Although women in elite occupations may possess more resources for managing demands from work and family, their intense professional responsibilities can result in even more obstacles for them to overcome in managing work and family balance issues. As one type of elite occupations, women faculty face very difficult and particular work and family conflicts, as showed by previous studies (Blair-Loy and Cech 2014, Ward and Wolf-Wendel 2012, Wolf-Wendel and Ward 2006); and one can only imagine that the situation for immigrant women faculty, who have additional obstacles in terms of teaching, doing research and interacting with colleagues and students (Kim, Hogge, Mok et al. 2014, Mamiseishvili 2010), might only be worse. Still, the number of immigrant women faculty, especially from some Asian countries with more traditional gender ideology, have increased their presence in U.S. universities. As well, they are succeeding in some male-dominated disciplines. To date, previous studies have not explored how gendered work processes involved in conducting research in different disciplines affect immigrant women's abilities to manage work and family conflicts.

This study investigated first-generation Chinese and Taiwanese immigrant women faculty's workplace experiences and their strategies of managing work and family demands. By

looking at how ethnicity, gender, and work processes shape these women's ideology and practices, I addressed the following questions: How do married Chinese and Taiwanese immigrant women in research-intensive universities handle work and family conflicts? How do they negotiate their gender-role expectations and actual practices at work and at home? And, finally, do their practices vary by these set of academic disciplines based on the work processes?

## **Discussion**

### ***Chinese and Taiwanese first-generation immigrant women faculty managing work and family obligations***

The immigrant women in my study deployed multiple strategies to respond to demands from workplace and family. From a micro, individual level, planning ahead to prevent potential conflicts was one strategy many women faculty commonly used, and it included: delaying childbearing until after securing a tenured position; and assuring that there would be family members, including the husband or grandparents, or, if feasible, paid nannies available to share childcare responsibilities. From a macro level, these Chinese and Taiwanese women used family-friendly policies and flexible work arrangement provided by the universities strategically, that was, in ways that did not violate ideal worker expectations. This meant that they might shorten maternity leave from twelve weeks to five weeks, or regularly stay in the office during weekdays and only be absent for emergencies. Both micro-level and macro-level strategies pointed to the importance of time management to managing work and family conflicts.

Women faculty still had concerns about the motherhood penalty (Blair-Loy and Cech 2014, Ward and Wolf-Wendel 2012) and how their career advancement might be delayed due to childbirth. By arranging with their husband to postpone childbirth, they sought to prioritize their profession without worrying that their career might be compromised. That said, the availability

of help increased many women's willingness to have a child at early stages of their careers. Grandparents' presence was significant for Chinese and Taiwanese immigrant families when they had newborn children: they not only provided substantial assistance in taking care of the children physically, they also helped to take care of the women as they recovered from childbirth. Their presence for the newborn children had both a celebratory meaning and a financial dimension. Providing help with childcare rarely originates from the monetary exchange; rather, it demonstrates the interdependence between parents and their adult children, a cultural tradition that is rooted in Confucianism (Park and Chesla 2007). Moreover, compared to paid nannies, grandparents represented a more stable source of assistance, for their visits usually lasted for several months to one year, if both grandparents and grandparents-in-law come to help. Hence, it was important for immigrant families to figure out the time availability of the grandparents so that they would not be impeded by other issues, such as grandparents' employment or their responsibilities to other family members.

My respondents employed other strategies related to the workplace and their statuses as faculty members. Family-friendly policies have been implemented for years (Shockley and Allen 2010), and it provides mandatory unpaid maternity leave for eligible workers for up to twelve weeks. U.S. universities, especially research-intensive ones, normally provide additional flexible work arrangements for faculty for childcare or other family responsibilities, such as an adjusted workload and stopping the tenure clock (Blair-Loy and Cech 2014). However, flexibility stigma has often prevented women faculty from using these additional benefits, for fear of violating the work devotion schema (Blair-Loy 2003). My respondents thus expressed different perceptions as to how flexible women could be in terms of using family-friendly policies. On the one hand, women faculty had gradually come to acknowledge that they were entitled to maternity leave and

willing to take at least four weeks leave for herself and the newborn baby. However, they were less likely to avail themselves of additional policies, like postponing tenure review for one year, or a teaching load release. This was especially true for the women in the bench-science STEM fields in this study. Research finds that, unlike men faculty in STEM fields who become fathers, STEM mothers feel that they must work harder to get noticed and prove abilities (Kmec, 2013). So too, the women faculty in these male-dominated, bench-science STEM fields in my study still had concerns of being seen as less committed to their job than their male counterparts because of the family responsibilities. As one of my respondents, Annalise from Physics, mentioned: “We are not like them (the men in the department) because we don’t have wives at home taking care of everything.” Knowing that the organization rewards certain a type of workers, employees strive to live up to the ideal worker expectation(Acker 1990) and self-regulate not to take advantage of these additional benefits. However, there are also exceptions. In some universities, when women assistant professors are pregnant, they automatically receive one more year for tenure review. By doing so, these universities may lessen the pressure when women faculty deal with work and family conflicts.

### ***Gender ideology and family practices***

Although grandparents’ presence shared some childcare responsibility and household tasks, women in this study were still predominately responsible for domestic responsibilities. For Chinese and Taiwanese immigrant women faculty, to some degree, Confucianism shaped norms for women’s priorities and how they should behave at home. Confucianism defines spousal relations by a clear role division: the husband is breadwinner, who supports his family by stable employment and income, and the wife is homemaker, whose primary responsibilities include taking care of family members (including children and elder parents) and maintaining these

members' wellbeing (e.g., cooking or cleaning)(Park and Chesla 2007). In contemporary society, expecting married couples, especially highly-educated married couples, to strictly follow Confucian tradition is not practical or suitable, since both the wife and the husband are normally full-time employed, and they are more likely to adopt a more egalitarian ideology (Raley, Bianchi and Wang 2012). In my study, the husband's willingness to share domestic tasks showed that couples challenged traditional gender role expectations to a degree; it also indicated the husband's support of his wife's career.

Still, the division of domestic tasks was unequal and gendered (Maume et al. 2010). Ideologically, the women in my study expressed that the couple held relatively egalitarian attitudes as to sharing domestic tasks, or "whose job should be prioritized." In practice, however, the wives bore responsibility for most of the routinized tasks and spent more time on meeting family members' needs, similar to what had been found in previous research (Bianchi 2011, England and Srivastava 2013). This discrepancy between ideology and actual practice shows that gender relations still prevail in these women's families. Often, these women naturalize their behaviors, seeing them as a part of inherent femininity: "Women are more attentive and caring" (Mary, Earth Science), or of gendered ethnicity, "Taking care of the family is the tradition, even though we are here (in the United States), we still are Chinese" (Courtney, Chemistry).

Even if the couple had gradually become more consistent in terms of egalitarian ideology and practice, traditional gender relations might be imposed by the couple's parents, leading conflicts between parents and adult children. These foreseeable conflicts did not prevent immigrant families from accepting grandparents' support with childcare responsibilities and other domestic tasks. Instead, these women tended not to challenge their parent's views.

Accepting the differences in exchange for support, immigrant women were able to better balance work and family demands.

### ***The impact of work processes on barriers and strategies***

Professional occupations, such as university faculty, expect employees to devote their time and energy to their profession and minimize or ignore other unrelated demands(Blair-Loy 2003, Coser 1974). However, as the previous discussion regarding formal policies and maternity made clear, particular work contexts influenced the precise barriers experiences and possible strategies that the respondents in my study could employ to avoid or resolve work and family conflicts.

In the case of STEM fields, the focus of this study, the work processes involved in conducting research vary based on disciplinary differences(Lee and Bozeman 2005, Parker and Welch 2013). Although receiving a grant is significant for faculty promotion and tenure review, regardless of their disciplines(Polster 2007), what counts as productivity can vary. Many bench-science STEM disciplines provide multiple grant opportunities for scholars, and these disciplines tend to emphasize grant-winning when they evaluate faculty's performance. In order to increase their chance of receiving such external funds, faculty in these bench-science STEM fields tend to work collaboratively; the equipment-dependent lab work format further encourages collaboration among faculty, lab staff, and students. By contrast, conducting research in social sciences involve less equipment and research work often can be done individually.

These different work processes had implications for how faculty arrange their work schedules and could also influence how they are perceived as a committed employee. First, collaborative work in bench-science STEM fields might restrict faculty's work time because they needed to coordinate with others; this led to the tendency of work being done during standard

office hours, for this caused few adjustments to collaborators' work schedules. Second, equipment dependency resulted in location restriction. Large and expensive lab equipment normally belonged to university or the research institute; it was unmovable and often one must request an appointment to use the equipment. Such faculty thus were limited as to location and time for conducting research. For social science faculty, much of their research work involved reading and writing in addition to data analysis (often of secondary data). Such tasks often could occur without being bound to the location, time, or collaborators' schedules.

The rigidity of location and time thus made faculty in bench-science STEM fields stay in the office or lab during standard work hours and they were expected to do so. Since the ideal worker image is associated with face time: being seen at the workplace (Acker 1990), staying in the office or lab meets this expectation. Moreover, when the work is not movable, the line between the work sphere and the family sphere is less permeable. Faculty in these fields still brought work home, but the work they were able to do at home is limited. However, this also meant that faculty in these fields were not expected to respond their family members' needs constantly and immediately; rather, they only left their workplace when an emergency happened. Social sciences faculty, who were able to work flexibly and remotely, were expected to respond family members' needs in a relatively quicker manner. Further, it seemed to be less problematic for them to be absent from their office; the association between the ideal worker and face time was weaker for them. At the same time, being able to accomplish work in different locations and times blurred the line between the two spheres and might lead to adverse effects for these faculty, as had been shown in previous research, especially women professionals (Sayer 2007, Schieman and Glavin 2008). They were more likely to have longer work hours, for they were

able to work even after meeting family members' needs at home, and they were more likely to engage in multitasking – spending time with children while reading research-related literature.

Hence, when we considered the relation of work processes and women's domestic tasks, flexible work arrangements that might be assumed to mitigate women's work and family conflicts, might instead cause more work (and less productivity) for women.

### ***Gender ideology and practice in the workplace***

In Acker's theory of gendered organizations (Acker 1990), among the gendering processes that she discusses is the fact that employees are expected to behave according to their biological sex and demonstrate "femininity" or "masculinity." Thus, interactions between men and women enact gender relations, including patterns of dominance and submission. As well, the kinds of work that are most valued would also reflect gender differences. Within universities, then, we might anticipate that "conducting research" is not gender neutral, and men and women faculty bear different responsibilities when they work together.

Research finds that gender ideology plays out in the workplace in the demand that women faculty be the "wife," doing administrative housekeeping (Bird, Litt and Wang 2004). In my study, I found that when Chinese and Taiwanese women in bench-science STEM fields worked in collaborative teams, they were often assigned to coordinate meeting times or take care of the budget. Such tasks were important but only indirectly related to actually conducting research. In social sciences, women faculty were expected to spend more time on mentoring students or teaching, tasks that involved more interpersonal interactions (Jacobs 2004). For the immigrant women faculty in both categories in my study, the intersection of gender and ethnicity sometimes meant extra work in service, mentoring and consulting with co-ethnic men and women. Sharing the same cultural and linguistic background encouraged these non-white or

women students to look for advices from “people like me” (Mahtani 2004). In male-dominated bench-science STEM fields, my respondents were asked to participate in many committees and symposiums, more than their white male counterparts. From the university standpoint, the inclusion of immigrant women faculty showed the university’s emphasis on campus diversity, and hence non-white immigrant women faculty constantly received such invitations. At the same time, participating in symposiums or luncheons, and sharing their experiences as minorities in a male-dominated discipline allowed them to be the role model for other women scholars, especially women scientists of younger generations. As a result, some senior immigrant women faculty said they were willing to take on the responsibility of mentoring junior immigrant women faculty at these unofficial occasions, even if it impeded their productivity.

***Minority in question – work processes shaping minority status experiences and understandings***

Since U.S. academy is still controlled predominately by White men, I expected that Chinese and Taiwanese immigrant women faculty would be a minority, especially in male-dominated bench-science STEM fields. However, respondents’ understandings of “minority” status, as well as their experiences, showed a somewhat different situation, even if it did not actually challenge those power relations.

As I mentioned above, collaborative work was prevalent in bench-science STEM fields, and the ability to acquire social and human capital in these disciplines became essential for faculty to be intellectually productive. Chinese and Taiwanese immigrant women faculty, because of the co-ethnic network existing in universities worldwide, were able to pull resources together from different universities in China, Taiwan or U.S.; they had greater opportunities to work with other international scholars given their background as first-generation immigrants.

The immigrant women faculty in my study benefited from these co-ethnic networks: their previous professors back in China or Taiwan connected them to U.S. scholars or their co-ethnic colleague from other universities. Previous studies (McGuire 2002, Parker and Welch 2013) argued that immigrants were often isolated from mainstream, white social network, and they received less information useful for career advancement. However, the experiences of the immigrant women faculty in bench-science STEM in this study showed that, without fully incorporating into the mainstream network, their strong connections with co-ethnic scholars enabled them to be productive in their research.

However, close association with one's ethnic group did not provide the same degree of benefit for faculty in social science disciplines. The relatively isolated work style in these disciplines made co-ethnic networks less helpful. As well, subjects in the social sciences contained cultural specificities; faculty in these fields were expected to be able to comprehend cultural background and knowledge thoroughly. Even if these immigrant faculty were equipped with these qualifications, their outsider status caused other U.S.-born colleagues and students concerns and doubts about their authority. Some Chinese and Taiwanese women faculty whose research interests were associated with their ethnic background felt they were marginalized because their topics were less valued in the U.S. At the same time, intensive writing in social sciences placed another obstacle for these immigrant faculty: although they had been in the U.S. for quite some time and typically fluent in English, occasionally they needed native speakers to edit their manuscripts, thus prolonging their time in preparing publications. Compared to those in bench-science STEM fields, and contrary to the notion that it was more difficult for women to success in bench-science STEM fields, the Chinese and Taiwanese immigrant faculty in social sciences faced more difficulties in achieving academic success.

The respondents' different workplace experiences in their respective fields caused them to have varying perceptions as to their minority status. The resource availability in bench-science STEM fields, as well as their interpretation that "minority" referred to racial or ethnic minority status, led the Chinese and Taiwanese immigrant women faculty to not considered themselves as a minority, even though they recognized that women had less power in these male-dominated disciplines. The situation in the social sciences was the opposite: the immigrant women faculty in these fields felt marginalized because of their ethnicity, but they didn't feel that women as a group were a minority in the social sciences. Based on disciplinary differences, the intersection of gender and ethnicity caused conflicting perceptions as to immigrant women faculty's minority status. Bench-science STEM women faculty in this study, however, were able to make good use of Chinese and Taiwanese co-ethnic networks for their academic reputation, compensating somewhat for the possible disadvantages due to their gender.

### **Limitations**

This study investigated first-generation Chinese and Taiwanese immigrant women's strategies for managing work and family conflicts as these are informed by their workplace experiences. The scope of this study limited its generalizability while providing suggestions for future research.

This study included a highly selective group of women, and their experiences might not be applicable to immigrant women from other countries and ethnicities. Because Asian immigrants, especially those from China, Taiwan, South Korea or India, are stereotyped as model minority(Chinn 2002, Wong and Halgin 2006), they may find more acceptance in U.S. society; even if they are culturally different, frequent information exchanges between these Asian countries and the U.S. make this host country less intimidating. Hence, Asian immigrants'

experiences of living in the U.S. may be smoother than those from the Middle East or African countries. Investigating immigrant women's experiences from countries that are culturally distant from U.S. is one promising direction for future research.

Secondly, being able to receive education in the U.S. universities and staying afterward indicates that these immigrant women are doing relatively well, in terms of social status and financial situation. Although this study had shown how gender and work processes had shaped immigrant women's experiences at home and at the workplace, class differences were not explored in this study. Monetary support and labor were significant for the family to manage work and family conflicts. Being able to make transoceanic travel periodically indicated these immigrant families' class status, and hence they were able to arrange multiple resources helping them to meet family and work demands. Future research should take class into account and see how class differences affect immigrant families' strategies for managing work and family conflicts.

Third, this study only looked at immigrant women faculty. Although some respondents in this study mentioned that immigrant men do not need to face work and family conflicts, it was unclear whether these immigrant men's higher educational level encouraged them to enact egalitarian relations with their wives, as indicated in previous research(Yogev 1981); it would be interesting to study the discrepancy between these immigrant men's actual practice and gender ideology.

Finally, my study was limited by the very fact that I only interviewed Chinese and Taiwanese immigrant women faculty who were successful: they held tenure-track positions. Those who did not succeed—who did not get such positions or did not receive tenure—might

have very different stories to tell. A longitudinal study that could follow such women as they begin their academic careers would be most revealing.

### **Conclusion**

In this study, I investigated how work processes set the context in which first-generation Chinese and Taiwanese immigrant women faculty's gender and ethnicity shaped the demands of both workplace and family, and how they manage to mitigate these work and family conflicts. Like U.S.-born women faculty, Chinese and Taiwanese immigrant women faculty in this study expressed that sometimes they felt overwhelmed by the stress coming from both spheres, and they acknowledged that lives of academic mothers were challenging, even though many of them enjoy assistance from grandparents, a resource that was less common for U.S.-born women faculty.

This study resonated with previous studies of women faculty's work and family conflicts that show that in U.S. universities, childcare responsibilities place women faculty at a disadvantageous position in terms of job evaluation and career advancement (Misra et al. 2012, Ward and Wolf-Wendel 2012, Wolf-Wendel and Ward 2006). In addition, this study contributed to existing literature in the following ways. First, it highlighted how the work processes involved in conducting research in different disciplines shaped women faculty's capability of arranging work schedule flexibly. In this regard, it made clear that flexible work arrangements that were designed to mitigate women faculty's work and family conflicts might result in blurring boundary between work and family spheres such that women faculty faced greater stress (as they are more frequently asked to respond to family needs) and longer work hours. Results of this study thus suggested two things. First, that future research on women and minorities in STEM fields not homogenize the fields but instead attend to important differences, as each may present

particular barriers and policy responses; this suggests that researchers view work and family flexibility in a more nuanced manner, one that recognizes that again, based on different work processes, what might seem to be flexible can, in fact, impede workplace performance.

Second, traditional cultures like Confucianism, with particular gender relations, are often viewed as disadvantaging women as they assign primary responsibility for domestic labor to women. Although the women in this study did retain such responsibilities, for the most part, this study also pointed to the dynamic nature of cultures, and some couples were challenging aspects of these relations by husbands taking on more responsibilities or making paid work decisions that prioritize women's jobs. As well, it showed women's strategic use of close parent-child relations, whereby they were able to receive support from grandparents to share childcare and other household tasks.

Originally, this study was designed to focus on how immigrant women faculty's strategies of managing work and family conflicts are shaped by gender and work processes. During the interviews, discussion about ethnicity in the workplace emerged, and I explored this further. My study showed that co-ethnic network could go beyond the geographic limitation of ethnic enclaves, and provided more resources for immigrants who remained close connection with their co-ethnic peoples. For Chinese and Taiwanese first-generation immigrant women faculty in bench-science STEM fields, being women might place obstacles for their career advancement; but co-ethnic networks provided alternative opportunities to grants and collaborations, and led to greater research productivity.

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## APPENDIX A: PARTICIPANT CHARACTERISTICS

Bench-science STEM respondents				
Name (pseudonym)	Department	Marital status	# of children	Academic rank
Grace	Biology	Married	1	Assistant professor
Lily	Earth Science	Married	1	Assistant professor
Katherine	Electrical Computer and Engineering	Married	1	Assistant professor
Kelly	Food Science	Married	2	Assistant professor
Bella	Geoscience	Married	1	Assistant professor
Courtney	Chemistry	Partner	0	Assistant professor
Melissa	Mechanical Engineering	Married	1	Assistant professor
Amber	Chemistry	Married	2	Assistant professor
Julia	Food Economics	Married	1	Assistant professor
Sophia	Engineering	Partner	0	Assistant professor
Lola	Mechanical Engineering	Married	2	Assistant professor
Adele	Food Science	Married	1	Assistant professor
Mia	Mathematics	Single	0	Assistant professor

Mary	Earth Science	Married	1	Associate professor
Sadie	Biochemistry	Married	2	Associate professor
Dorothy	Mechanical Engineering	Married	2	Associate professor
Samantha	Computer Science	Married	2	Associate professor
Brenda	Computer Science	Married	2	Associate professor
Evelyn	Computer Engineering	Married	1	Associate professor
Eliza	Biology	Married	1	Associate professor
Annalise	Physics	Married	1	Associate professor
Abbie	Geoscience	Married	1	Associate professor
Rose	Mechanical Engineering	Married	2	Associate professor
Jewel	Biology	Married	2	Associate professor
Demi	Electrical and Computer Engineering	Married	2	Professor
Kaylyn	Animal Science	Widow	1	Professor
Kristina	Civil Engineering	Married	2	Professor
Rosalie	Computer Science	Married	2	Professor
Ayana	Food Science	Married	2	Professor

Social sciences respondents				
Name (pseudonym)	Department	Marital status	# of children	Academic rank
Naomi	Psychology	Married	1	Assistant professor
Amy	Public Relations	Married	2	Assistant professor
Georgina	Communication	Married	0	Assistant professor
Gianna	Anthropology	Married	1	Assistant professor
Lydia	Sociology	Married	2	Assistant professor
Kaia	Sociology	Divorce	1	Associate professor
Phoebe	Communication	Separate	0	Associate professor
Maya	Demography	Partner	0	Associate professor
Ruth	Political Science	Married	2	Associate professor
Britney	Sociology	Single	0	Assistant professor
Emma	Political Science	Married	2	Professor
Chelsea	Economics	Married	2	Professor
Sarah	Economics	Single	0	Assistant professor

## **APPENDIX B: INTERVIEW GUIDE**

(The following questions are a partial of topics and questions, and the order listed does not imply the order of questions in the interview.)

### **1) Demographic information**

- a) What country are you from? How long have you been in the U.S.? What is your current residency status?
- b) Are you currently married?
- c) What is your husband's (ex-husband's) highest degree and current occupation?
- d) Do you have children? If so, how many and what are their ages and educational level?
- e) How long have you been employed at this university? Before this university, have you ever employed at other universities or research institutions?
  - i) What is your current position (rank) at this university? Are you tenured? If so, when did you receive tenure? If promoted to professor, when were you promoted?

### **2) Daily routine**

- a) Please describe your typical day. (What time do you wake up? What do you do before coming to the campus? What time do you usually leave the campus? Are there any places you go to before coming home at night, such as gym or elsewhere?) What is your usual routine from the time you come home until the time you go to bed for the night?
- b) Are there other things you do on different days, but not every day?
- c) (If the respondent's children have grown up) The typical day you describe earlier, is that different from the days when your children are still young? If so, how is that different?
- d) (If the respondent is tenured) Is your day now different from those when you have not been tenured? If so, please describe the differences.
- e) Do you come to the campus on a daily basis? If not, please estimate the numbers of days you come to the campus in a week.
  - i) What does your typical day look like when you do not come to the campus? (Probe: what do you usually do and where do you usually go, if not at home, when you do not need to be at campus?)

### **3) Professional aspects**

- a) Please describe a typical day on campus. What tasks do you usually engage in? If you are teaching this semester, can you describe what your teaching day is like? Repeat for a day that is not teaching.
- b) What kinds of service do you engage in at the department, college, and university levels?
- c) In your department, how long does it usually take to be tenured? Then how long did you take to have your tenured position? During this process, which requirement/s do you think are most important? How will you/did you weigh each of the requirements? (probe - )
  - i) About publications, what, if any, expectations are there concerning quantity? Quality/placement? Order of authorship?
  - ii) Are you required to bring funds to the department in your tenure review?
  - iii) Other than publications and funds, what are the other requirements?
  - iv) [Interview reminder: I will start by asking my respondent years of getting tenure, in order to know whether she had used stop-the-clock or other tenure process related family-friendly policies. Then I will ask the requirements of tenure review (the i, ii, iii, and iv questions). Then I go back to ask them to weigh the importance.]
- d) Please tell me about your research. (Probe - )
  - i) Where do you usually do your research? How do you conduct it? What are the steps?
  - ii) What resources (supplies, computers, space, etc.), people, etc. might you need in order to get your research done?
  - iii) When you do your research, do you need to work with or rely upon others? Who are they, and what kinds of tasks do you work individually and collaboratively?
  - iv) How many hours per week do you usually spend on doing your research? What motivates you to do research?
  - v) Do you agree or disagree the following statement: “the specific research I engage in is an important part of my identity”. (prompt - Why?)
- e) Have you ever encountered any difficulties in conducting your research? If so, can you describe them? (Probe - )
  - i) About the necessities for conducting your research you mentioned earlier, do you always have them when you need them?

- ii) Can you speculate on the reasons why you don't receive (or get delayed receipt of) the resources you need?
- f) Do you expect to go further in your current position? That is, what are your future career goals?
  - i) What would it take to achieve your career goals? Do you foresee any barriers?
- g) Some areas in academia are more male-dominated than others. How would you describe your area/discipline? To what extent do you think it is male dominated? Why? How about your department? Do you think it is male dominated? To what extent has this shaped your experiences in this field?
  - i) (prompts, for those do not consider their discipline as male-dominated) In your opinion, what does male-dominated mean to you? (Under what circumstance you will think a discipline as male-dominated?)
- h) In your department, have you ever felt that you were asked to perform certain tasks due to your gender, race, or both? (prompts - )
  - i) Do you think you are more likely to be assigned to teach particular classes, perform certain service tasks etc.? How so and why?
- i) Can you describe to me your daily interactions with your colleagues and students? (prompts - )
  - i) How would you describe your interactions with your colleagues in the workplace/on campus? Would you say that you are friends? Do you and your colleagues interact outside of work? With whom and what kinds of activities? Do you have mentors or are you someone's mentor in your department? How would you describe your relations with them? What is the frequency of your interaction with them and under what circumstances?
  - ii) How about your relations with your students? How would you describe your interactions? Do you feel you are respected by graduate students? What is the racial and gender composition of your graduate students (and other members in your lab)? Can you describe your interactions with grad students? Is it the same or different when they interact with your other colleagues? If so, what are the differences?
- j) How many Asian faculty members are there in your department? How many men and how many women?

- k) Is your race or ethnicity ever mentioned or emphasized? Can you give me an example?  
Are there particular circumstances in which you have found this more likely to be mentioned or emphasized? How often would you say that this occurs?
- l) Have you experienced any unique or particular expectations from other colleagues regarding your research and teaching that you feel your white or male colleagues do not experience? If so, where do you think these expectations come from?
  - i) In your workplace, have you ever felt that you need to out-perform your colleagues? If so, can you give me an example of such situations?
  - ii) How do you feel about these expectations? Do you think that others at the same rank as you are have these experiences (face similar expectations)?
- m) How likely is it that you will leave your job at this university?
  - i) Where will you go?
- n) Overall, how satisfied or dissatisfied are you with your experience in this university?

#### **4) Work/Family process**

- a) Can you explain the timing of these events? (Get married, have children, start your tenured-track employment, how many years to take to get your tenured position)
  - i) (prompt: what things did you consider when the above events happen?)
  - ii) (prompt: did professional work consideration play any role? Did family considerations play a role??)
- b) Do you feel that your family situation or consideration have ever interfered with your career? If so, please describe how (prompts: delayed, rearrange or changes?)
- c) You mention that you spend X amount of time on your research, does this affect your home life or other aspects of your life? If so, how?? (prompts: do you have time to hang out with friends? Do you have time to travel? In what occasions do you usually meet new friends?)
- d) Here are some statements, please tell me if you strongly agree, agree, disagree, or strongly disagree with each:
  - i) Female faculty with young or school-aged children are less committed to their careers,
  - ii) Male faculty with younger or school-aged children are less committed to their careers

iii) For those in my department who choose to use formal or informal arrangements for work-life balance, the use of such arrangements often has negative consequences for their careers.

5) Family aspects

- a) How would you describe a good mother? A good wife?
- b) Where do you think your ideas of what constitutes being a good wife have come from? Of being a good mother?
- c) As a Taiwanese/Chinese woman, how do you feel that you should prioritize your work versus that of your husband? For instance, if there were a conflict between what he needed to do and what you needed to do, whose work would take priority? Why do think you feel this way? (prompts: give some examples to the respondents)
- d) Has anyone ever expressed an opinion to you regarding how you should allocate your time between work and family? Who are they and what were their opinions? How do you handle their opinions?
- e) Do you need to bring your work home? To what extent is it possible for you to get work done at home? If there are difficulties, what are these?
- f) Do you feel that domestic tasks or family obligations ever cause you to limit your time at campus or your time spent in research? Can you give me an example of such as situation?
- g) Next, I will list some domestic tasks. Can you tell me how much time do you or your husband spend on these tasks?
  - i) Housecleaning
  - ii) Meal preparation or cooking
  - iii) Shopping for groceries and household goods
  - iv) Washing dishes or cleaning up after meals
  - v) Laundry, including washing, ironing, and mending
  - vi) Gardening
  - vii) (For those who have children) Who drives children to the school? Who picks them up from school? Who is children's emergency contact at school?
  - viii) (For those who have children) Who takes care of children's homework (help them to do the homework)?

- h) How did you and your husband decide on these arrangements? (prompt: how did you decide who would do what, or whom to hire?)
- i) Have you ever asked others for help? If so, whom do you turn to for help?
- j) Have you ever hired someone to help with your domestic tasks? If so, what are his/her tasks, other than the ones I mentioned earlier?
- k) When there is a conflict between work and family tasks, how do you deal with these situations? (prompts - )
  - i) When your children ill while you are working, what do you do? Who goes to parent-teacher or other school meetings? Who helps with preparations for children's school events? Under what circumstances you would leave campus and handle such children's issues?
- l) Do you spend time with members of your ethnic community? How much time would you say you spend (per week, per month)? If so, in what kinds of activities do you usually participate?
- m) How important is it to you to participate in such activities?
- n) How satisfied are you with the way you balance your work and family responsibilities? Would you say that you are very satisfied, satisfied, dissatisfied, or very dissatisfied? Why?
- o) How do you feel about the following statement: I feel overloaded with all of the roles I play in my life. Do you strongly agree, agree, disagree, or strongly disagree? Why?