

Work–Family Conflict in Academic Science: Differential Experiences of Foreign-Born and U.S.-Born Faculty

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Abstract

Foreign-born faculty comprise a significant percentage of science, technology, engineering, and mathematics faculty in U.S. higher education. Aside from cultural and regional diversity, they also bring other demographic diversity to the professoriate. Yet, little is understood of how these faculty navigate their work–home life demands. This article aims to contribute to the understanding and study of work–family conflict (WFC) by exploring the experiences of foreign-born faculty in the context of U.S. academic science. Using data from a national survey of faculty in doctoral-serving institutions, the study examines the WFC challenges faced by foreign-born faculty, especially women, as compared to their U.S.-born counterparts. Contrary to the initial hypothesis, we found that both foreign-born and U.S.-born faculty experience similar levels of WFC. Drawing from the job demands–resources theory, the study identifies distinct drivers of WFC for each group, highlighting the importance of workload distribution, caregiving responsibilities, and organizational culture. The intersectionality approach further uncovers the complexity of WFC experiences concerning multiple demographic and cultural dimensions, illustrating the compounded challenges faced by foreign-born women faculty. By offering insights into how foreign-born status and gender interact to impact WFC, this study emphasizes the importance of organizational support systems to recognize the diverse needs of faculty, thereby enhancing the competitiveness of U.S. research institutions.

Keywords: work–family conflict; foreign-born faculty; gender; intersectionality; science, technology, engineering, and mathematics

This article has been accepted by the Journal of Diversity in Higher Education in December 2024, forthcoming in 2025.

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INTRODUCTION

Foreign-born scientists and engineers have been described as crucial to bolstering U.S. global scientific competitiveness (National Science Board [NSB], 2022). This is especially apparent in science, technology, engineering, and mathematics (STEM) disciplines where more than half of full-time faculty in some science, engineering, and computing disciplines are foreign-born, marking a significant surge recorded from prior decades (NSB, 2022; National Center for Science and Engineering Statistics, 2021). The internationalization of U.S. higher education is not only an issue of representation; foreign-born STEM faculty are markedly more productive than their U.S.-born counterparts in publications, citations, and funded research (Mamiseishvili & Rosser, 2010; Webber, 2012). Despite these successes, they, perhaps paradoxically, report lower work satisfaction than U.S.-born faculty (Corley & Sabharwal, 2007; Mamiseishvili & Lee, 2018). Explanations for this mismatch of experiences have been mostly attributed to the challenges that foreign-born academics face in cultural adaptation and inclusion into the U.S. academic workplace (Cruz et al., 2020), along with the potential strain of adjusting to a new environment with family or being temporarily away from family (Foote et al., 2008). Yet, little is known about the work–family challenges that foreign-born faculty face. In a globalized academic job market where the most prolific scientists are highly mobile (Verginer & Riccaboni, 2021), addressing factors that may risk the attraction and retention of this distinctly productive talent pool in the United States is highly salient.

As immigrants, foreign-born faculty may encounter multiple challenges in adapting professionally and personally to a new cultural setting (Kim et al., 2020). One such challenge may be found in how these faculty navigate conflict between their home and work lives. Work–family conflict (WFC) arises when the demands of these two domains of life interfere with one another, creating negative outcomes in both settings (Molina, 2021; Schiebinger & Gilmartin, 2010). In the competitive academic environment, the incompatibility of faculty career norms coupled with time and emotional requirements relevant to family care are central to these conflicts (Feeney et al., 2014). Most of the existing literature on faculty work–family balance and conflict has primarily focused on the disadvantaged experiences of women academics (Fox et al., 2011; Gordon & Presseau, 2023; Misra et al., 2012). More recently,

attention to the intersectional effects of gender and race/ethnicity (Denson et al., 2018), marital (and even unmarried) status (Culpepper et al., 2020), and other family characteristics have underscored the variation in work–family experiences among faculty in U.S. institutions. Nevertheless, studies of work–family balance and conflict have not addressed the intersectionality of nativity, despite the increasingly internationalized nature of U.S. academia and the inexorable implications of WFC on faculty careers.

Given the high productivity of foreign-born faculty, coupled with the known challenges that immigrants face in new environments, we ask: Do women and men foreign-born faculty experience WFC differently than those of U.S.-born faculty? In addressing this question, we contextualize the experiences of foreign-born faculty to what we know about WFC in the academic setting. Our work is based on national survey data from a National Science Foundation (NSF)-funded study including 4,196 tenured and tenure-track faculty in four STEM disciplines (biology, biochemistry, civil engineering, and mathematics) in over 500 U.S. higher education institutions. Specifically, this study focuses on academic scientists at U.S. Carnegie-classified research-extensive and research-intensive universities. This work contributes to the literature on academic WFC by uncovering the unique challenges faced by foreign-born faculty in U.S. academic institutions.

The article is organized as follows. We first review the existing literature and discuss the ways in which nativity and gender affect perceived WFC. We then present our data and methodology, and test hypotheses. Finally, we discuss our findings, limitations, and implications of this study.

Literature Review and Hypotheses

Work-Family Conflict in Academia

WFC inherently develops through mismatches between the two settings of work and family and is driven by stresses in one or both environments. Greenhaus and Beutell (1985) defined WFC as an “inter-role conflict,” where an individual’s roles stemming from their work and personal life domains are mutually incompatible, leading to tensions when fulfilling one role impedes the other. While COVID further exacerbated and highlighted WFC difficulties recently experienced by faculty (Caldarulo et al.,

2022; Derrick et al., 2022), especially for academic couples (Culpepper & Blake, 2022), these challenges have been a long-standing and prominent issue in studies of academic professions.

Previous studies have highlighted how the norms of academic work significantly contribute to WFC, with substantial and often inflexible work demands and high job pressures for promotion and tenure despite (or as a result of) the relative autonomy that faculty possess (Feeney et al., 2014). Research across a range of professions has shown that individuals with higher levels of job autonomy tend to experience greater WFC than those with less autonomy, which is largely attributable to work-related demands not home-based demands (DiRenzo et al., 2011; Shockley, Shen, et al., 2017). This is notable in the examination of work–family dynamics given that faculty are highly drawn to academic careers for the autonomy these positions offer (Badri & Panatik, 2020; Gappa & Austin, 2010). The central value of academic freedom provides faculty with agency to pursue different research interests (Aberbach & Christensen, 2018). Similarly, autonomy in teaching is also observable, with some faculty pursuing innovative pedagogical and high-intensity mentoring, while other colleagues may not (Yasué et al., 2019).

But it is not only what to pursue, but how much to pursue, and the breadth and complexity of collaborative relationships that faculty cultivate in their work. As a result, autonomy could work as a resource or create burdens relevant to WFC. Academics, like any working professional, tend to engage in multiple work and family roles, but they also face added pressure from ideal worker norms and tenure progression mechanisms that compel them to prioritize work over family (Denson & Szelényi, 2022; Wilton & Ross, 2017). This situation can pose significant levels of WFC for faculty members as they struggle with the intricate demands of research, teaching, service, and family responsibilities (Lester, 2015; Miller & Riley, 2022). That being said, some aspects of faculty work life are not so autonomous.

Understanding how WFC operates is a relevant matter, as imbalances in these two aspects of the life of academics can negatively affect scientists' career experiences and outcomes, including productivity, career advancement, turnover intentions, and psychological well-being such as burnout and work satisfaction (Boamah et al., 2022; Derrick et al., 2022; Singh et al., 2018; Watanabe & Falci, 2016). Studies of WFC in immigrant populations have shown their unique challenges stemming from a

wide range of factors: the stress of socialization and language acculturation (Olson et al., 2013; Shang et al., 2023), significant loss of social support networks due to migration (Robles-Saenz et al., 2021; Rudolph et al., 2014), cross-cultural differences such as collectivism versus individualism (Shockley, Douek, et al., 2017), high job intensity (Gopalan et al., 2023), and gendered and unequal division of domestic labor (Rodriguez et al., 2016). These factors collectively shape immigrants' work–family experiences, suggesting that their strategies for navigating these conflicts are embedded within a complex interplay of social and cultural adaptation, workplace demands, as well as family responsibilities (Lin & Lin, 2021). Despite the contributions of these studies on understanding WFC in foreign-born populations, their focus spans various professions (including management, sales, service, construction, and transportation) and education levels (ranging from below high school to postgraduate levels). This makes it unclear the extent to which these factors relevant to WFC among highly educated populations, including faculty, are similar. Thus, the extent to which WFC exists for foreign-born faculty and how it matters for their careers needs to be better understood. In the next subsections, we review the existing literature on the work and family roles of foreign-born faculty, especially foreign-born women, as a foundation for the hypotheses of this study.

Foreign-Born Faculty in U.S. Academic Science

Within the context of high-autonomy professional positions, it is the work-related demands that drive WFC (DiRenzo et al., 2011). Given this, two key areas of distinction between U.S.-born and foreign-born faculty are relevant to examining this conflict in academic science. First, foreign-born faculty are consistently more productive than their domestic counterparts, as evidenced by their higher number of publications, citations, successful grants, and patent applications than their U.S.-born peers (Corley & Sabharwal, 2007; Kim et al., 2011). Consistent with this productivity, studies show that foreign-born faculty spend more time on research than teaching or service (Mamiseishvili & Rosser, 2010; Webber, 2012). This productivity and function portfolio pattern suggests that foreign-born faculty may enjoy advantages over their U.S.-born colleagues. However, the key point concerns more than just

work outcomes but also the underlying processes of such achievements. When navigating the U.S. academic setting, foreign-born faculty have distinct work experiences compared to their U.S.-born counterparts (T. Lee, 2021; Perera & Greenidge, 2021). As such, their decisions on work allocation may be the result of multiple factors, such as individual intentions and preferences, learned practices, and cultural differences. Organizational factors can also enable or hinder the participation of international faculty in service and leadership roles and further elicit distinctive work patterns across faculty groups (Mamiseishvili & Stuckey, 2022).

Second, and highly related, while higher academic productivity has been shown to have positive impacts on workplace satisfaction (Albert et al., 2018), foreign-born faculty have lower work and career satisfaction relative to their U.S.-born counterparts (Mamiseishvili, 2011). The reasons behind this lower work satisfaction may be attributed to several interconnected factors, particularly marginalization and lack of belonging as important factors underlying their experiences in the U.S. academic setting (Lawless & Chen, 2015; Kim et al., 2011). These feelings of marginalization and isolation are strongly linked to personal attributes, such as gender and nativity, creating a form of social identity, distinguishing individuals, and reinforcing boundaries, thereby leading to in-groups and out-groups in the workplace setting (Ashforth & Mael, 1989; Gheorghiu, 2017; Ramarajan & Reid, 2020). Under the framework of social identity, studies of belongingness and fit highlight the experiences of foreign-born faculty: They often find themselves as out-group members among their U.S.-born colleagues, given the inclination for individuals to interact more closely with those who share common social identities (Jung & Welch, 2022; Munene, 2014; Wells et al., 2015). These experiences of disadvantage contribute to a lower sense of belonging and perceptions of unfair treatment among foreign-born faculty as they struggle to belong and be recognized in the U.S. academic workplace (Mamiseishvili, 2011; Stebleton et al., 2017).

Considering that work and home domains are closely interconnected, the added challenges foreign-born faculty encounter in their workplaces can spill over into their family lives, giving rise to WFC. Drawing upon job demands–resources (JD-R) theory (Bakker & Demerouti, 2007), recent research finds that WFC highlights faculty work demands, whether physical or psychological, as contributing

factors (Sarwar et al., 2021; Zábrodská et al., 2018). This body of work also illustrates how the work environment can minimize WFC. For example, job resources such as perceived collegial support are crucial in helping faculty members navigate and manage challenges related to WFC (Fox et al., 2011; Nasurdin & O’Driscoll, 2011).

Despite extensive documentation regarding the impact of job demands and resources on WFC among academic scientists, a significant gap remains in understanding the specific mechanisms through which job characteristics affect foreign-born faculty and how they differ from their U.S.-born counterparts in light of their different job demands and resources. Foreign-born faculty commonly resort to intensifying research efforts as a coping strategy to offset their perceived disadvantages (Kim et al., 2011; Perera & Greenidge, 2021). While this strategy helps their academic competitiveness and productivity, it endangers their ability to maintain work–family balance, potentially leading to burnout issues (Philipsen, 2010). Dealing with these complex demands daily proves highly stressful, as the pursuit of research competitiveness demands unwavering dedication, constraining the time available for personal pursuits (Wilton & Ross, 2017). For instance, as Anwer (2020) states in her article, “As a foreign-born faculty member, I have to confess that achieving even a modicum of a work–life balance has been cruelly impossible for me ...” (p. 11).

In sum, existing research shows that foreign-born faculty have different work experiences and pressures from U.S.-born faculty. In addition to the academic norms of being faculty members, foreign-born faculty experience additional challenges that come in tandem with their experience as immigrants. Since one’s work and family domains are closely related, it is reasonable to expect that the intensified work demands of foreign-born faculty would affect their personal lives and lead to WFC. Given the documented faculty job demands and workplace disparities encountered by foreign-born faculty in U.S. academic settings, we anticipate that they will experience greater WFC compared to their U.S.-born colleagues.

Hypothesis 1: Foreign-born faculty will experience a higher level of WFC than their U.S.-born counterparts.

Cumulative Challenges: Intersection of Gender and Foreignness

Considerable attention has been given to the stress of family and home responsibilities and their conflict with work for women faculty. Similar to professional women across different sectors (e.g., physicians, Tawfik et al., 2021), women faculty can face notable challenges in balancing work and family due to their dual expectations of ideal academic roles and gender norms (Miller & Riley, 2022; Sallee et al., 2016; Wilton & Ross, 2017). Studies on the WFC in academia indicate that high job demands significantly contribute to this tension for both men and women faculty (Fox et al., 2011; Radico et al., 2021). Nevertheless, the expectation for research productivity, which is crucial for faculty promotion and tenure, disproportionately disadvantages women faculty, who are often burdened with heavier service and teaching loads than men (Babcock et al., 2017; Guarino & Borden, 2017).

In addition to these professional pressures, women faculty have to navigate traditional gender norms related to household labor and caregiving roles. While both men and women faculty may struggle with this tension (Reddick et al., 2012; Sallee & Hart, 2015), especially for academic parents (Wilton & Ross, 2017), women faculty tend to report a higher level of WFC. This disparity is partly due to women assuming a larger share of family and caregiving duties than men (Derrick et al., 2022; Misra et al., 2012; Winslow & Davis, 2016). Research has also shown that the disproportionate share of family and caregiving responsibilities disadvantage women's career progression compared to men (Gordon & Presseau, 2023; Martinez et al., 2017). Although these gendered challenges have been well studied in academic science, a meta-analysis by Shockley, Shen, et al. (2017) suggests that gender differences in WFC might be minimal in the broader population, highlighting a shared struggle in this issue among all professional men and women.

In the highly competitive STEM academic science, foreign-born women faculty can face compounded challenges in balancing their academic career aspirations and family responsibilities. Like all other faculty, both foreign-born men and women faculty can experience WFC due to their demanding work roles in academia. However, the nuances of these cross-cultural work-family experiences are deeply influenced by gendered expectations and cultural values (Shockley, Douek, et al., 2017). A study by

Sallee and Hart (2015) reveals that foreign-born men, especially academic fathers, are willing to modify their work schedules for more family engagement than they might have in their countries of origin. Despite this adaptation, traditional gender roles persistently shape their domestic labor division, with women predominantly managing household chores and childcare. This finding also reflects a broader trend observed among Asian and Hispanic immigrant families in the United States, where cultural expectations and norms lead to gender differences in work–family balance (Rodriguez et al., 2016). Additionally, studies on immigrant men find that they often view their fulfillment of work demands as adequately supporting their family, thus perceiving less WFC. In contrast, immigrant women report higher levels of work-to-family conflict, anxiety, and depressive symptoms, exacerbated by unequal divisions of household labor (Grzywacz et al., 2005, 2007). Given the complexity of migration factors among the immigrant population (Glick, 2010), there is still room for further exploration of potential gender differences in WFC among foreign-born faculty.

While much of the existing literature on this subject leans toward qualitative insights, the lived experiences of foreign-born women faculty and/or women faculty of color have emphasized the need to explore the dynamics of work–family relationships for a better understanding of gender disparities in career trajectories and well-being (Settles et al., 2022). Kachchaf et al. (2015) conducted a qualitative study shedding light on “underrepresented minority women in STEM experience cumulative disadvantage because of having multiple identities that deviate from the ideal worker norm” (p. 188). Through in-depth interviews with three women faculty of color, Kachchaf et al. (2015, p. 176) pointed out that the deviations from expected norms of consistent job commitment—marked by prolonged working hours, uninterrupted career progression, and constant presence at work—can result in discrimination from White men colleagues. Such experiences often engender feelings of vulnerability among women faculty and create pressures to prioritize work over family, prompting career decisions that frequently involve substantial personal sacrifices (Denson & Szelényi, 2022; Kachchaf et al., 2015). Similar findings emerge in Skachkova’s (2007) qualitative study involving 34 immigrant women

professors at U.S. research universities, underscoring the absence of a support system for balancing academic careers and family commitments.

Foreign-born women have been described as “strangers” in academia, where they are members but do not fully belong (Strauß & Boncori, 2020). In a similar vein, Yakaboski’s (2016) qualitative study (p. 87) focusing on 21 Asian-born women faculty at U.S. universities highlights their “on the outside of culture” within the predominantly masculine STEM academic sphere. The study shows the considerable challenges these women face in acclimating to the less hospitable atmosphere of STEM work environments and navigating career-life negotiations, particularly when experiencing important life transitions like marriage or childcare during the early career stages of their careers (Yakaboski, 2016). Notably, 18 of the 21 women in this study married men with STEM doctoral degrees, entailing demanding professional roles. As such, the study results reveal that foreign-born women faculty relocating to the United States due to spousal migration often encounter particular obstacles impeding career advancement. One Asian women professor in STEM illustrated this challenge, stating, “A lot of women marry people senior to them. So, if he’s more advanced in his career than she is, then she falls farther and farther behind because his professorship is always more important than her assistant professor- ship” (Yakaboski, 2016, p. 76).

In light of the extensive literature on gender disparities in science, coupled with evidence that foreign-born women faculty encounter specific barriers to inclusion and career advancement, we expect that these intersectional factors will result in distinct experiences between foreign-born men and women faculty. Therefore, we propose the following hypothesis:

Hypothesis 2: Foreign-born women faculty will experience a higher level of WFC than foreign-born men faculty.

Beyond the potential gender variations in WFC, foreign-born women faculty diverge from their U.S.-born counterparts in their academic work experiences. Mamiseishvili’s (2010) study reveals that, compared to U.S.-born women faculty, foreign-born women exhibit higher research productivity patterns,

dedicating more time to research and less to teaching and service activities, in line with the general men faculty tendencies. As for this surprising finding, Mamiseishvili (2010) asserted that foreign-born women faculty form a unique group that challenges the traditional gendered division of labor in academia with “patterns of engagement in work activities contradict the traditional gendered division of labor in academia” (p. 139). This contrasts with prior research suggesting that women typically spend more time on teaching and service tasks that involve “nurturing, caring for others, and being good departmental citizens,” while men focus on research “culturally defined as masculine” (Mamiseishvili, 2010, p. 152). Furthermore, Skachkova’s (2007) narratives of immigrant women scholars highlight the compounded challenges faced by foreign-born women faculty due to the intersection of national origin, race/ethnicity, and gender. These faculty members often struggle to balance work and family, confronting added obstacles in research, teaching, service duties, and collegial interactions compared to both their U.S.-born men and women colleagues.

Given the distinctive social and cultural backgrounds of foreign-born faculty, as well as the compounded challenges that foreign-born women faculty face in confronting traditional gendered roles within academia, we anticipate that they will experience more exacerbated complexities in managing work and home responsibilities. Accordingly, we hypothesize that:

Hypothesis 3: Foreign-born women faculty will have a higher level of WFC than U.S.-born women faculty.

Taken collectively, while existing literature offers valuable insights into how gender and family responsibilities interact with the faculty perception of WFC, further research is needed specifically on foreign-born faculty experiences within the U.S. academic context (e.g., Kim et al., 2020). As demonstrated through the growing body of work on foreign-born professoriate, together with research on immigrant populations, it is clear that other dynamics specific to the experiences of these mobile populations are not well understood. Therefore, drawing upon the job demands–resources theory, the

purpose of the present study is to investigate the different mechanisms affecting the perceived WFC between foreign-born and U.S.-born faculty, focusing on relevant gender disparities.

Data and Method

Sampling

We used data from the 2011 NSF-funded NETWISE II national survey of tenure and tenure-track faculty in four STEM disciplines: biology, biochemistry, mathematics, and civil engineering, selected based on the high (biology and biochemistry), medium (mathematics), and low (civil engineering) representations of women in faculty ranks (National Center for Education Statistics [NCES], 2015). Our population frame included 25,928 faculty members from various types of U.S. higher education institutions: all Carnegie-classified research-extensive and intensive institutions, historically Black colleges and universities, Hispanic-serving institutions, liberal arts colleges, women's colleges, and selective master's I and II institutions (The Carnegie Classification of Institutions of Higher Education, 2021). Our stratified sample, drawn from this diverse population, included 9,925 faculty members of all ranks (assistant, associate, and full professors) in 521 U.S. academic institutions. Notably, while the sample was designed to be representative, we oversampled women to have sufficient numbers for intergroup comparisons by gender. Foreign-born faculty were sampled randomly, given their high representation in STEM fields at U.S. universities (National Science Foundation [NSF], 2022).

Administered online using the Sawtooth software, participants were contacted through their university email accounts and followed up by emails sent at regular intervals. Respondents were asked about their perceptions of WFC, work activities and environments, as well as career and family characteristics. They were also given the opportunity to self-identify their demographic backgrounds, such as gender and race/ethnicity. Each survey took around 40 min to complete and resulted in 4,196 valid responses (40.4% response rate). Given the heterogeneity of faculty work across the broad range of colleges and universities in the United States, and the known differences in research productivity between U.S.- and foreign-born faculty, we limit the data to the 1,763 responses from 259 doctoral-serving

research-extensive and research-intensive institutions. The final sample size used for this study includes 1,541 individuals who completed the survey. Notably, the large sample size increases the statistical power of our analyses with valid effects, which is an advantage over studies with smaller sample sizes (Norton & Strube, 2001).

Measurement

Dependent Variable

We assess faculty members' WFC using a five-item scale measure developed by Netemeyer et al. (1996). Participants were asked about their perceptions of work–family balance on a 4-point Likert-type scale (1 = strongly agree; 4 = strongly disagree) with the following statements: (a) The demands of my work interfere with my home and family life; (b) the amount of time my job takes up makes it difficult to fulfill family responsibilities; (c) things I want to do at home do not get done because of the demands my job puts on me; (d) my job produces strain that makes it difficult to fulfill family duties; (e) due to work-related duties, I have to make changes to my plans for family activities. Individuals' responses across items were reverse-coded and averaged to create a scale ranging from 1 to 4, in which a higher value indicates a higher level of WFC (Cronbach's $\alpha = .93$). The measurement invariance tests suggest that, in general, the foreign-born and U.S.-born faculty in our sample perceive the WFC survey question similarly and the factor loadings of the construct are equivalent across groups (Appendix A).

Independent Variables

In this study, we examine two demographic characteristics, including foreign-born status and gender, to investigate how these factors matter in faculty members' WFC experiences. Foreign-born status is a dummy variable indicating whether the respondent is a foreign-born (=1) or a native-born U.S. citizen (=0). Gender is a dummy variable to identify women (=1) and men (=0) respondents.

Control Variables: JD-R

We include control variables aligned with the JD-R framework, as job demands and resources are known to be important factors shaping faculty members' experiences of WFC (Sarwar et al., 2021; Zábrodská et al., 2018). Specifically, individuals' job demands include both physical and psychological demands stemming from their work (Bakker & Demerouti, 2007). Physical job demands are assessed through three indicators: self-reported weekly working hours and the percentage of time devoted to research and teaching. This approach acknowledges the different time allocations of foreign-born and U.S.-born faculty (Mamiseishvili & Rosser, 2010). As to psychological job demands, we asked respondents to what extent they felt stressed about (a) publishing demands, (b) teaching responsibilities, and (c) demands for obtaining external research grants on a 4-point Likert scale (1 = to a great extent; 4 = none). As needed, each work stress item was reverse-coded to make a higher score indicate a higher stress level.

In terms of job resources, a supportive work climate is essential to help faculty members deal with WFC issues (Fox et al., 2011). Respondents were asked to rate on a 4-point Likert-type scale (1 = strongly agree; 4 = strongly disagree) about their work environment concerning the following statements: (a) faculty care about each other, (b) faculty treat each other with respect, (c) faculty know each other well, (d) faculty are accessible to each other, (e) faculty put their own interests first (reversed). Items were reverse-coded, and an average scale was created based on responses across items (ranging from 1 to 4), with a higher score indicating a more supportive work climate (Cronbach's $\alpha = .83$).

Control Variables: Family Demands/Characteristics

Family demands are well-studied determinants of WFC (Denson & Szelényi, 2022). Hence, our study controls for four dummy variables: marital status (1 = being married or in a marriage-like relationship), the presence of preschool children (<6 years old) and school-age children (6–18 years old) in the households, as well as elderly care provision (1 = yes). It is important to note that eldercare

responsibilities can also be burdensome for faculty members, yet this remains less understood in the existing literature (Leibnitz & Morrison, 2023).

Control Variables: Career and Institutional Characteristics

Career characteristics include two dummy variables of academic ranks (1 = yes) for assistant and associate professors, with full professors serving as the reference group to account for the different work patterns between senior and junior faculty members (e.g., job autonomy). We also control for discipline with three dummy variables (1 = yes): biochemistry, civil engineering, and mathematics. Biology is the reference category, given the differences in proportions of foreign-born and U.S.-born faculty within this field (see Table 1). Furthermore, to deal with the potential variances in WFC across institutional types, a dummy variable is controlled for research-extensive institutions (1 = yes), taking research-intensive institutions as the reference group.

Control Variables: Race/Ethnicity

We control for respondent race and ethnicity through a series of dummy variables: Asian, Black, Hispanic, and White. Previous research has revealed a significantly higher level of WFC experienced by Asian professors than by other racial and ethnic groups, which is primarily attributed to cultural differences (Denson et al., 2018). In our sample, it is noteworthy that Asians also comprise the majority of the foreign-born faculty in comparison to Hispanics and Blacks.

Analytic Approach

Given the complex oversampling design, all analyses were weighted by the inverse of the probability of inclusion to account for different sampling probabilities, as recommended by Winship and Radbill (1994). We first conducted a descriptive summary and analysis of all our respondent groups and all variables in the model. We compared means and frequencies and provided a correlation of all study variables (Appendix B). Our analysis involved a series of regression models to investigate the relationships between perceived WFC and two key independent variables: foreign-born status and gender.

We opted for the ordinary least squares (OLS) regression model for all the analyses given that WFC is a continuous variable. This choice was further confirmed by the postestimation analysis, which indicated that the residuals of the regression equation were normally distributed. Specifically, we first employed a baseline model, examining the relationship of demographics and institutional setting to WFC and then introducing work/home requirements and/or resources. To further delve into the nuances of WFC between foreign-born and U.S.-born faculty, we separated the models by nativity (i.e., U.S.- and foreign-born). This allowed us to examine the factors influencing WFC variations between the two groups. Finally, we conducted an intersectional analysis to discern any significant variances in WFC between foreign-born women and U.S.-born women faculty.

Results

Descriptive Results

Table 1 shows the weighted descriptive statistics for all variables of this study. In our sample, 35% of respondents are foreign-born, aligning with the general representation of foreign-born faculty in U.S. academic institutions (NSF, 2022). Among our respondents, there is a higher proportion of Asian and Hispanic faculty among foreign-born academics and more White respondents among U.S.-born faculty. This indicates a sample representative of the overall STEM doctorate recipients and faculty members in U.S. academic science (NSF, 2022; NCES, 2023). Regarding gender, there is a somewhat lower representation of women within the foreign-born group compared to their U.S.-born counterparts.

For our key variable of interest (WFC), the overall mean response is in the mid-range of 2.64 (scale 1 = strongly agree; 4 = strongly disagree), with no significant difference found between foreign-born and U.S.-born faculty. Concerning homelife, foreign-born faculty have different family profiles compared to their U.S.-born colleagues. The vast majority (84%) of our sample are married or in a similar relationship, with little difference between the two groups. However, preschool children in the households are more prevalent among foreign-born faculty, where 22% report this family obligation compared to just 15% of U.S.-born faculty. Thirty-four percent of our respondents report having school-

aged children in their households, with foreign-born faculty slightly more likely to have school-aged children than their U.S.-born peers, though the difference is not statistically significant. In addition to childcare, another critical aspect of family responsibility is eldercare. Among the respondents, U.S.-born faculty are more likely to take on this role, with 26% involved in caring for older adults, in contrast to 16% of their foreign-born counterparts.

Regarding work-life, bivariate statistics of job demands and resources also illustrate variations in professional experiences between foreign-born and U.S.-born faculty. Although the overall workload is comparable for both groups, a significant difference emerges in the allocation of their time across two primary faculty responsibilities: research and teaching. Foreign-born faculty tend to spend a larger portion of their time on research activities, while U.S.-born faculty allocate more time to teaching responsibilities. This aligns with previous research highlighting similar patterns in time allocation among the two groups (Mamiseishvili & Rosser, 2011; Webber, 2012). Additionally, foreign-born faculty report having a less supportive work climate (mean = 2.65) than their U.S.-born counterparts (mean = 2.75). Overall, the variation in these key characteristics between the two groups necessitates a deeper exploration of how these different factors affect the WFC of foreign-born and U.S.-born faculty differently.

Table 1*Descriptive and Bivariate Statistics by Nativity (Weighted)*

Variables	All (N = 1,541)				U.S.-born (N = 877)		Foreign-born (N = 664)	
	Mean	SD	Min	Max	Mean	SD	Mean	SD
Work-family Conflict (Scale)	2.64	0.72	1	4	2.64	0.71	2.65	0.74
Demographic Characteristics								
Foreign-born	0.35	0.48	0	1	—	—	—	—
Woman	0.26	0.44	0	1	0.29	0.45	**	0.21 0.41
Asian	0.13	0.34	0	1	0.03	0.17	***	0.33 0.47
Black	0.03	0.18	0	1	0.03	0.17		0.04 0.19
Hispanic	0.05	0.22	0	1	0.03	0.17	**	0.09 0.29
White	0.82	0.38	0	1	0.93	0.26	***	0.63 0.48
Family Characteristics								
Marriage	0.84	0.36	0	1	0.82	0.38		0.88 0.33
Pre-school child	0.18	0.38	0	1	0.15	0.36	*	0.22 0.41
School-age child	0.34	0.47	0	1	0.33	0.47		0.35 0.48
Cared for the elderly	0.22	0.42	0	1	0.26	0.44	**	0.16 0.37
Job Demands								
Workload	54.61	11.64	4.5	120	54.35	10.26		55.10 13.86
% time on research	44.09	22.42	0	100	41.22	22.80	***	49.49 20.63
% time on teaching	34.91	19.64	0	100	36.36	20.42	*	32.18 17.79
Stress about publishing	2.44	1.02	1	4	2.42	0.99		2.46 1.08
Stress about teaching	2.37	0.95	1	4	2.38	0.94		2.36 0.98
Stress about external grants	2.79	1.08	1	4	2.72	1.08		2.93 1.05
Job Resources								
Supportive climate (scale)	2.71	0.51	1	4	2.75	0.51	*	2.65 0.52
Career Characteristics								
Assistant Professor	0.21	0.41	0	1	0.16	0.37	***	0.31 0.46
Associate Professor	0.28	0.45	0	1	0.30	0.46		0.26 0.44
Professor	0.49	0.50	0	1	0.53	0.50		0.43 0.50
Biology	0.43	0.49	0	1	0.51	0.50	***	0.27 0.45
Biochemistry	0.11	0.31	0	1	0.12	0.32		0.09 0.29
Civil Engineering	0.20	0.40	0	1	0.16	0.37	**	0.26 0.44
Mathematics	0.26	0.44	0	1	0.21	0.41	***	0.37 0.48
Institutional Types								
Research extensive	0.75	0.44	0	1	0.73	0.44		0.77 0.42
Research intensive	0.25	0.44	0	1	0.27	0.44		0.23 0.42

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Regression Results

To test our first hypothesis that foreign-born faculty will experience higher levels of WFC, we examine the direct effects of nativity using OLS regression and report standardized coefficients in the baseline model (Table 2). Our results show that contrary to Hypothesis 1, being foreign-born is not significantly related to WFC ($\beta = -.02, p > .05$). Moreover, recognizing that foreign-born faculty can have different immigration timing and experiences, we conducted a sensitivity analysis to examine the effects of naturalization status and timing. While not present here, our results remain the same. Consistent with prior studies, gender disparity remains essential to the WFC issue among faculty members: Being women is positively associated with a higher level of WFC ($\beta = .13, p < .001$). Differences by race and ethnicity are also evident, with White professors ($\beta = -.08, p < .05$) reporting a significantly lower level of WFC as compared to Hispanic and Black professors.

WFC occurs when the needs and support structures of the work and home environment are not aligned. Here, we differentiate between the physical demands of work (overall workload and time spent working) and responsibilities at home (children, marriage, and eldercare). As expected, we find that faculty members' job demands and resources are significant predictors of WFC. Results show that an increased workload is associated with a higher level of WFC ($\beta = .25, p < .001$). Further, the composition of this work also matters. Faculty who spend more time on research ($\beta = -.16, p < .01$) and teaching ($\beta = -.15, p < .01$) relative to time spent on service activities have a significantly lower perceived level of WFC. While the physical time spent on research and teaching may reduce WFC, the stress that faculty experience specific to production increases WFC. We find that faculty members' stress about publishing significantly increases their perceived level of WFC ($\beta = .14, p < .01$), and stress about teaching exerts an even stronger influence ($\beta = .27, p < .001$). Nevertheless, the stress associated with the pressure of grant-getting does not significantly affect WFC. In addition, we examined the role of work-related support resources in helping faculty deal with WFC. We find that the extent to which faculty perceive a supportive work climate significantly decreases the level of WFC ($\beta = -.17, p < .01$).

Family demands also play an important role in affecting the WFC of faculty members. Results indicate that having preschool children ($\beta = .11, p < .001$) and school-aged children ($\beta = .09, p < .01$) are significantly associated with a higher level of WFC, demonstrating the notable impacts of parenting responsibilities on role balance issues. However, providing care for older adults has no significant effect on WFC nor does being in a partnered relationship (married or not). Other individual-level characteristics (faculty rank, discipline, or research-extensive vs. intensive universities) do not significantly impact faculty perceptions of WFC.

Overall, the regression model accounts for 35% of the variance in the perceived WFC, $R^2 = .35$, $F(21, 1427) = 20.14, p < .01$. A Ramsey Regression Equation Specification Error test also showed no evidence of omitted variable bias, $F(3, 1424) = .24, p = .87$. In addition, the mean variance inflation factor for all independent variables was 1.58, with all values below the threshold of 10, indicating no multicollinearity concerns.

Table 2*Linear Regression on WFC, Direct Effects (Weighted)*

Variables	Coefficient	Std. Coeff.	SE	p
Demographic Characteristics				
Foreign-born	-0.03	-0.02	0.06	0.67
Woman	0.21	0.13***	0.05	0.00
Asian (a)	-0.11	-0.05	0.08	0.16
White	-0.14	-0.08*	0.07	0.03
Job Demands				
Workload	0.02	0.25***	0.00	0.00
% time on research (b)	-0.01	-0.16**	0.00	0.01
% time on teaching	-0.01	-0.15**	0.00	0.01
Publishing stress	0.10	0.14**	0.04	0.00
Teaching stress	0.21	0.27***	0.03	0.00
Grant stress	0.04	0.07	0.04	0.24
Job Resources				
Supportive work climate	-0.24	-0.17***	0.05	0.00
Family Demands				
Marriage	0.07	0.04	0.08	0.37
Pre-school child(ren)	0.20	0.11***	0.06	0.00
School-age child(ren)	0.14	0.09**	0.05	0.00
Cared for the elderly	-0.02	-0.01	0.07	0.80
Career Characteristics				
Assistant professor (c)	-0.03	-0.02	0.06	0.68
Associate professor	-0.02	-0.01	0.06	0.78
Biochemistry (d)	0.02	0.01	0.06	0.72
Civil engineering	0.10	0.05	0.06	0.11
Mathematics	-0.04	-0.03	0.07	0.54
Institutional Types				
Research extensive (e)	-0.01	-0.01	0.04	0.77
Intercept	1.97	0.00**	0.25	0.00
N			1449	
Adj. R-square			0.35	

Note. SE = standard error. * $p < .05$, ** $p < .01$, *** $p < .001$. (a) Reference group: Hispanic and Black. (b) Reference group: percentage of time on service. (c) Reference group: full professor. (d) Reference group: Biology. (e) Reference group: research intensive institutions.

To test our second hypothesis that gender differences exist in WFC within the foreign-born academic community, we partition the data and run separate OLS regression analyses by nativity (Table 3). Comparing standardized coefficients between groups also enables us to examine whether work and family demands and other factors function differently by nativity, which our analysis shows is the case. As for demographic characteristics, a consistent finding across all models is the significant impact of gender (i.e., being women) on WFC regardless of nativity. This supports our Hypothesis 2 that foreign-born women faculty experience greater WFC than foreign-born men faculty ($\beta = .16, p < .001$).

Looking at standardized coefficients across the models in Table 3, workload is a consistent and significant predictor contributing to WFC for both foreign-born ($\beta = .29, p < .001$) and U.S.-born faculty ($\beta = .23, p < .001$). Other factors concerning specific demands present some complex findings. Different from their U.S.-born counterparts, foreign-born faculty experience a lower level of WFC when allocating more time toward research relative to service ($\beta = -.16, p < .05$). In contrast, a greater proportion of time allocated to teaching, as compared to service, is associated with a significant decrease in WFC exclusively for U.S.-born faculty ($\beta = -.17, p < .001$). Moreover, more stress about publishing will lead to more WFC for U.S.-born faculty ($\beta = .22, p < .01$) but not for foreign-born faculty. As to job resources, an inverse relationship is found between a supportive work climate and WFC for all faculty members, but such effects are somewhat stronger for U.S.-born faculty ($\beta = -.19, p < .001$) than foreign-born faculty ($\beta = -.13, p < .05$). Taken collectively, these findings indicate that in terms of the WFC issue, foreign-born and U.S.-born faculty are influenced by different factors related to their distinct job patterns and workplace environments.

Beyond our expected relationships, we also find variation in the WFC experiences of U.S.-born and foreign-born faculty by race and family structures. First, regarding race and ethnicity, Asian and White U.S.-born professors report significantly lower WFC levels compared to those underrepresented in STEM (Hispanic and Black). Notably, this trend is not observed for foreign-born faculty. Second, we find that family characteristics operate differently by nativity, with U.S.-born faculty mainly influenced by childcare responsibilities. Note that from our descriptive results in Table 1, there is no significant

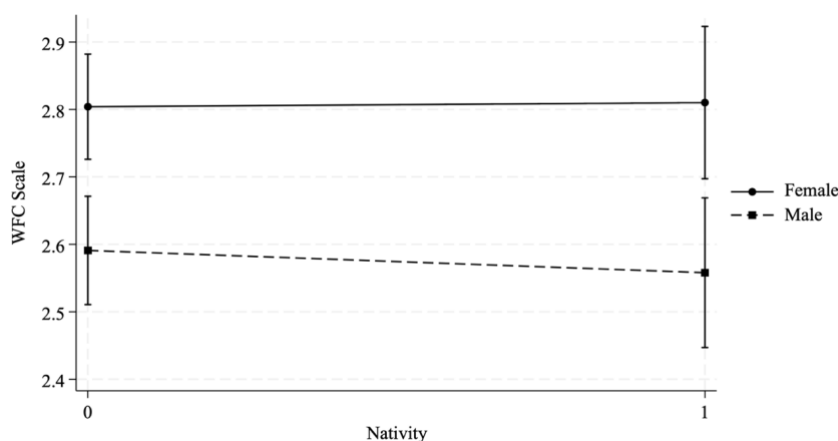
difference by nativity in having school-age children, but foreign-born faculty are more likely to have preschool children, while U.S.-born faculty are more likely to care for older relatives. Comparing standardized coefficients of family demands between the two groups, however, the presence of preschool children ($\beta = .12, p < .01$) and school-age children ($\beta = .09, p < .05$) significantly increase the level of WFC for U.S.-born faculty but not for foreign-born faculty. In addition, eldercare does not significantly impact the perceived WFC of both foreign-born and U.S.-born faculty.

-----Insert Table 3 about here-----

Finally, we hypothesized that the intersectional effects of gender and foreign-born factors would differentiate the WFC experiences of foreign-born women faculty from their domestic counterparts. For this analysis, we include an interaction variable between gender and nativity. Results shown in the final column of Table 3 indicate that this interaction term is not significant ($\beta = .02, p > .05$). Thus, our Hypothesis 3 is not supported. Descriptively, when this interaction variable is plotted (Figure 1), we see further evidence that supports Hypothesis 2. While foreign-born women and U.S.-born women faculty do not differ significantly in terms of WFC, the gap between foreign-born men and women is greater than is true of U.S.-born faculty.

Figure 1

Interaction Effects of Nativity and Gender on Work-Family Conflict



Note. Nativity: 1 = foreign-born, 0 = U.S.-born.

Discussion

As one scholar of international faculty careers noted in a study of career satisfaction: “Universal theories of job satisfaction might not be applicable in settings dominated by individuals who hail from diverse cultural, social, and linguistic backgrounds” (Sabharwal, 2011, p. 164). We agree and argue that the same is true for other aspects of foreign-born faculty experiences. The literature on work–family balance/conflict in higher education has long emphasized gender inequity but has overlooked the evolving demographic dynamics and heterogeneous experiences of the U.S. professoriate (Denson et al., 2018). Yet, the heavily internationalized nature of the U.S. professoriate, particularly in STEM disciplines, suggests that this ethnically, culturally, and often linguistically diverse population may have other factors that affect their experience as faculty in the U.S. setting. In this article, we address the impacts of the varied attributes of international faculty within the context of homework dynamics in U.S. universities.

Overall, we found similarities and differences across the U.S.- and foreign-born faculty populations regarding WFC. First and foremost, we find that STEM faculty members struggle with WFC, irrespective of their nativity. Given the paradox of high production yet low career satisfaction among foreign-born faculty, we expected that foreign-born faculty may have elevated WFC given the inherent stress of being a productive academic researcher, while balancing the needs of life outside of work. This was not the case. We find that they do not experience greater WFC than their U.S.-born counterparts.

But, consistent with Sabharwal’s (2011) point that the diverse backgrounds of our internationalized professoriate may introduce other dynamics not accounted for in prior studies (in this case, WFC), we find that the factors that drive WFC function differently for the two groups. Aligned with existing literature (e.g., Fox et al., 2011), we find that a heavier workload is linked to a higher level of WFC for both groups, though a closer comparison of standardized coefficients indicates that this effect is slightly stronger for foreign- born ($\beta = .29, p < .001$) than U.S.-born faculty ($\beta = .23, p < .001$). How the work is distributed, however, does reflect more differences between the two groups. Time on research matters for foreign-born faculty ($\beta = -.16, p < .05$), but not for U.S.-born faculty. Conversely, U.S.-born faculty tend to experience less WFC when they spend more time on teaching ($\beta = -.17, p < .05$), which is

not the case for foreign-born faculty. Given the documented high research productivity of foreign-born faculty (Corley & Sabharwal, 2007), this aspect of their professional life can be particularly important, potentially due to intrinsic motivations to establish and maintain a competitive edge in the U.S. academic workplace (Kim et al., 2011; Lawrence et al., 2014). On the other hand, U.S.-born faculty have long been shown to devote more time to teaching than their foreign-born peers, and they might have more effective coping mechanisms for dealing with teaching stress, thus alleviating its impact on WFC (Mamiseishvili, 2011).

Furthermore, publishing demands appear to be particularly stressful for U.S.-born faculty and significantly increase their level of WFC ($\beta = .22, p < .01$). One possible explanation may lie in the greater engagement of U.S.-born faculty in teaching than their foreign-born peers, which makes it challenging to balance publishing demands with teaching responsibilities, thereby affecting their perceived WFC. Perhaps not surprisingly, considering that many grant funding that is crucial to STEM research is only eligible for U.S. citizens, stress stemming from obtaining external grants is significantly related to WFC for foreign-born faculty ($\beta = .22, p < .001$) but not for U.S.-born faculty. In light of these complexities in how job demands differentially affect WFC for these two groups, future research is needed to unpack these intriguing puzzles.

In relation to job resources, our findings illustrate the consistent and significant effects of a supportive/uncompetitive work climate on reducing WFC for both foreign-born and U.S.-born faculty. In the climate of competitiveness within the research community in general, faculty members' perceptions of collegial support or lack of competition in the department may be associated with decreased tensions, which, in turn, might reduce their WFC (Fox et al., 2011; Zábrodská et al., 2018). Aligned with prior research, our finding also highlights the importance of a supportive culture in academic workplaces (Lester, 2015), which may act as a coping resource to mitigate the negative impacts of job demands on balancing work and family.

We also find a few intriguing findings when it comes to examining how family-related factors are associated with faculty members' perceived WFC. In terms of childcare, while a higher proportion of

foreign-born faculty have school-age children in their households than U.S.-born faculty, these childcare obligations do not translate into an increased level of WFC for them as they do for their U.S.-born counterparts. This may be attributed to cultural differences and/or different childcare support systems. For instance, a study by Sallee and Hart (2015) found that faculty members from collectivist cultures often bring their parents to the United States to assist in raising their children.

Relatedly, the underlying mechanisms regarding the impacts of eldercare on STEM academic faculty remain to be fully understood (Leibnitz & Morrison, 2023). Among our respondents, we found that providing care for older adults does not directly impact either domestic-born or foreign-born WFC experiences. This contrasts with a study by J. A. Lee et al. (2010), which reveals significant differences in WFC between eldercare providers and those without such responsibilities among university employees at a U.S. academic institution. Within a broader employee population, similar findings were found regarding the relationships between eldercare, anticipatory grief, and higher levels of WFC (e.g., Gaskins, 2018). Nonetheless, existing literature, including our study, all point to a gap in examining the variations of eldercare arrangements, particularly given how individuals' cultural values, family structures and expectations influence caregiving experiences (Kagitcibasi & Ataca, 2015; Zacher & Winter, 2011). Thus, another limitation of our research is the lack of data on whether respondents have access to the resources or support essential to eldercare and how this varies between foreign-born and U.S.-born faculty. Future research can contribute to this understanding by considering these factors.

As one of our study's central foci, intersectionality analyses demonstrate the complexity of WFC experiences among faculty members, especially when considering multiple demographic identity dimensions. Contrary to our initial hypothesis, the interaction between nativity and gender does not yield statistically significant effects, suggesting that foreign-born women and U.S.-born women faculty do not differ from each other in terms of their perceived WFC. In this regard, our analyses reveal a persistent disadvantage of academic women in balancing their professional and personal lives, no matter where they come from. Consistent with the depiction of foreign-born women academics as "strangers" in their own organizations (Strauß & Boncori, 2020), the pronounced WFC gender disparity within the foreign-born

group is notable. Foreign-born women faculty tend to face additional cumulative challenges in attaining work–family balance as compared to their men counterparts. More attention should be paid to the well-being of foreign-born women faculty who strive to survive in academic science, where they are often treated differently and situated vulnerable (Lawless & Chen, 2015; Yoon & Hong, 2021).

The findings of our study present an intricate landscape of work–family balance in academic science, in which foreign-born status adds critical yet previously unexamined nuances to our understanding of the WFC issues among faculty members. Given the substantial differences between the two groups in time spent on these activities and the importance of work–family balance for academic scientists, future studies should consider incorporating foreign-born status alongside other demographic identities. As shown, the results of our quantitative intersectional analysis are aligned with previous qualitative intersectional research revealing the lived experiences of foreign-born women faculty—who are particularly disadvantaged in balancing their academic and family roles within U.S. academic settings (Philipsen, 2010; Yakaboski, 2016).

Several limitations provide opportunities for future research. First, our key dependent variable, WFC, needs to fully capture the complexity of work–family interactions like work–family enhancement (e.g., childcare; Sarwar et al., 2021). The current findings indicate varying impacts of young children on WFC among foreign-born and U.S.-born faculty members. Nevertheless, our data limit us in understanding the specific reasons behind these findings, such as the availability of external support or differential engagement in childcare. Therefore, further qualitative and quantitative studies are needed to explore these factors that might shape the WFC perceptions differently for the two groups.

Second, given the gendered nature of caregiving, the extent of eldercare engagement can also unequally affect women and men in academic science (Leibnitz & Morrison, 2023; Rennels et al., 2023), yet our ability to address critical factors relevant to this care is not possible due to data limitations. For example, family and other support mechanisms may be highly relevant, given research on long-term family visits among foreign-born and the importance of familial and community networks in immigrant populations (Robles-Saenz et al., 2021; Rudolph et al., 2014). In particular, foreign-born women faculty often face cumulative barriers in

light of their double minority based on gender and race. Thus, the related institutional and cultural factors should be further investigated to offer a more nuanced understanding of their WFC challenges. Finally, the nature of cross-sectional data limits the study from examining the causal relationships between WFC and the key independent variables for foreign-born and U.S.-born faculty. Future research should consider using longitudinal surveys to confirm our findings. Scholars have argued that the integration of foreign-born faculty at U.S. academic workplaces has not yet been a success (Munene, 2014; Stebleton et al., 2017).

Despite its limitations, our study provides a clear implication: the underlying mechanisms of WFC are different for foreign-born and U.S.-born faculty at U.S. research universities. This indicates that one-size-fits-all approaches to university family-friendly policies may not be effective. As such, future research should reevaluate existing policies and practices to ensure they are equitable and do not unintentionally disadvantage certain groups, taking into account the diverse backgrounds and the unique needs of foreign-born faculty. Our findings also hold several important practical implications for U.S. higher education institutions to improve the experiences of foreign-born faculty and enhance success and retention. While foreign-born faculty are attracted by the research resources and opportunities that are available in the United States, they also need to deal with various hurdles in both professional and personal life domains in adapting to the new environment and culture (Kim et al., 2020; Cruz et al., 2020). In this context, the support provided by universities is essentially important to attract and retain foreign-born faculty. This can include providing more flexible work arrangements in terms of research and teaching and/or mentoring programs tailored to their specific challenges (Rosser, 2023). Finally, the results of our study point to the critical role of a collegial departmental climate that supports faculty members to balance work and family, particularly given consistent research results that show a lack of belonging, fit, and satisfaction among foreign-born faculty in their university environments (Kim et al., 2011; Mamiseishvili, 2011; Sabharwal, 2011).

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Table 3*Linear Regression on WFC by Nativity and Gender Interaction Effects (Weighted)*

Variable	Direct			FB			USB			Interaction		
	Coeff.	Std. coeff.	SE	Coeff.	Std. coeff.	SE	Coeff.	Std. coeff.	SE	Coeff.	Std. coeff.	SE
Demographic characteristics												
Foreign-born	-0.03	-0.02	0.06							-0.04	-0.03	0.07
Woman	0.21	0.13***	0.05	0.29	0.16***	0.08	0.21	0.13***	0.06	0.20	0.12***	0.06
Asian ^a	-0.11	-0.05	0.08	0.05	0.03	0.09	-0.42	-0.10***	0.10	-0.11	-0.05	0.08
White	-0.14	-0.08*	0.07	-0.04	-0.02	0.09	-0.14	-0.05*	0.07	-0.14	-0.07*	0.07
Interaction term												
FB × Woman ^b										0.05	0.02	0.09
Job demands												
Workload	0.02	0.25***	0.00	0.02	0.29***	0.00	0.02	0.23***	0.00	0.02	0.25***	0.00
% time research ^c	-0.01	-0.16**	0.00	-0.01	-0.16*	0.00	0.00	-0.15	0.00	-0.01	-0.16**	0.00
% time teaching	-0.01	-0.15**	0.00	-0.01	-0.13	0.00	-0.01	-0.17*	0.00	-0.01	-0.15**	0.00
Publishing stress	0.10	0.14**	0.04	0.01	0.01	0.05	0.15	0.22**	0.05	0.10	0.14**	0.04
Teaching stress	0.21	0.27***	0.03	0.19	0.25***	0.04	0.22	0.29***	0.04	0.21	0.27***	0.03
Grant stress	0.04	0.07	0.04	0.15	0.22***	0.05	-0.01	-0.02	0.05	0.04	0.07	0.04
Job resources												
Supportive climate	-0.24	-0.17***	0.05	-0.18	-0.13*	0.07	-0.26	-0.19***	0.06	-0.24	-0.17***	0.05
Family demands												
Marriage	0.07	0.04	0.08	0.15	0.07	0.10	0.03	0.02	0.10	0.07	0.04	0.08
Preschool child(ren)	0.20	0.11***	0.06	0.13	0.07	0.10	0.23	0.12**	0.07	0.20	0.10***	0.06
School-age child(ren)	0.14	0.09**	0.05	0.09	0.06	0.07	0.13	0.09*	0.06	0.14	0.09**	0.05
Cared for the elderly	-0.02	-0.01	0.07	0.09	0.05	0.08	-0.04	-0.02	0.08	-0.02	-0.01	0.07
Career characteristics												
Assistant professor ^d	-0.03	-0.02	0.06	0.02	0.01	0.10	-0.04	-0.02	0.08	-0.02	-0.01	0.06
Associate professor	-0.02	-0.01	0.06	0.06	0.03	0.09	-0.05	-0.03	0.06	-0.01	-0.01	0.06
Biochemistry ^e	0.02	0.01	0.06	-0.01	0.00	0.11	0.03	0.01	0.07	0.02	0.01	0.06
Civil engineering	0.10	0.05	0.06	0.08	0.05	0.10	0.07	0.04	0.08	0.10	0.06	0.06
Mathematics	-0.04	-0.03	0.07	-0.16	-0.11	0.12	0.05	0.03	0.09	-0.04	-0.03	0.07
Institutional types												
Research extensive ^f	-0.01	-0.01	0.04	-0.01	0.00	0.07	0.01	0.01	0.05	-0.01	-0.01	0.04
Intercept	1.97	0.00***	0.25	1.58	0.00***	0.38	2.04	0.00***	0.29	1.97	0.00***	0.25
<i>N</i>		1,449			612			837			1,449	
Adj. <i>R</i> ²		0.35			0.41			0.34			0.35	

Note. FB = foreign-born; USB = U.S.-born; Std. coeff. = standardized coefficient; SE = standard error.

^a Reference group: Hispanic and Black. ^b Reference group: foreign-born faculty who are not members of the focal group. ^c Reference group: percentage of time on service. ^d Reference group: full professor. ^e Reference group: biology. ^f Reference group: research-intensive institutions.

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

Appendix A

Tests of Work–Family Conflict Measurement Invariance by Nativity

Model	χ^2 (df)	CFI	RMSEA [90% CI]	SRMR	Model comp	$\Delta\chi^2$ (Δdf)	ΔCFI	$\Delta RMSEA$	$\Delta SRMR$	Decision
Configural invariance	88.76 (10)***	0.987	0.101 [0.082, 0.121]	0.016						
Metric invariance	98.34 (15)***	0.986	0.085 [0.069, 0.101]	0.034	Configural	9.58 (5)	0.001	-0.016	0.018	Accept
Scalar invariance	151.60 (20)***	0.979	0.092 [0.079, 0.106]	0.034	Metric	53.26 (5)***	0.007	0.007	0.000	Reject
Strict invariance	174.55 (25)***	0.976	0.088 [0.076, 0.101]	0.038	Scalar	22.95 (5)***	0.003	-0.004	0.004	Reject

Note. $N = 1,541$; foreign-born group $N = 664$, U.S.-born group $N = 877$. CFI = comparative fit index; CI = confidence interval; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

*** $p < .001$.

Appendix B

Correlation Matrix for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Work-family conflict	—										
2. Foreign-bom	0.00	—									
3. Woman	0.20***	-0.17***	—								
4. Asian	-0.01	0.55***	-0.12***	—							
5. White	0.03	-0.52***	0.16***	-0.80***	—						
6. Marriage	0.00	0.08***	-0.19***	0.12***	-0.05**	—					
7. Preschool child	0.12***	0.04*	0.10***	0.07***	-0.05*	0.18***	—				
8. School-age child	0.11***	0.08***	0.03	0.07***	-0.07***	0.20***	0.00	—			
9. Elderly care	0.01	-0.08***	-0.02	-0.03	-0.02	-0.04	-0.14***	0.02	—		
10. Workload	0.27***	-0.03	0.00	-0.02	-0.01	-0.08***	-0.05**	-0.07***	0.02	—	
11. % time research	0.06**	0.20***	-0.03	0.17***	-0.14***	0.00	0.14***	0.02	-0.08***	0.17***	—
12. % time teaching	-0.06**	-0.11***	0.06**	-0.11***	0.10***	-0.01	-0.02	-0.02	0.03	-0.22***	-0.63***
13. Stress publishing	0.35***	0.03	0.20***	0.03	-0.02	-0.08***	0.10***	0.05**	-0.04*	0.04*	0.14***
14. Stress teaching	0.34***	-0.04	0.15***	-0.06**	0.08***	-0.07***	0.07***	0.02	-0.02	0.02	-0.08***
15. Stress external grant	0.34***	0.12***	0.07***	0.12***	-0.12***	-0.02	0.09***	0.06**	-0.01	0.15***	0.33***
16. Support climate	-0.14***	-0.11***	-0.03	-0.08***	0.07***	0.04	0.01	-0.02	-0.07***	-0.02	-0.03
17. Assistant prof	0.10***	0.11***	0.16***	0.07***	-0.09***	-0.08***	0.31***	-0.09***	-0.15***	0.01	0.20***
18. Associate prof	0.07**	-0.02	0.05*	-0.02	0.02	-0.02	0.02	0.17***	-0.04	-0.03	-0.10***
19. Biochemistry	0.05**	-0.07***	-0.06**	-0.08***	0.10***	0.04*	-0.06**	0.02	0.01	0.12***	0.11***
20. Civil engineering	0.06**	0.07***	-0.05*	0.05*	-0.04	0.05*	0.05**	0.01	-0.02	0.04	0.00
21. Mathematics	-0.16***	0.12***	0.01	0.05*	-0.03	0.00	0.02	-0.04*	-0.04	-0.23***	-0.20***
22. Research extensive	0.08***	0.06**	0.09***	0.04	-0.04	0.01	0.03	-0.01	-0.07***	0.14***	0.30***

Variables	12	13	14	15	16	17	18	19	20	21	22
12. % time teaching	—										
13. Stress publishing	0.00	—									
14. Stress teaching	0.27***	0.45***	—								
15. Stress external grant	-0.20***	0.53***	0.30***	—							
16. Support climate	0.02	0.00	0.03	-0.06**	—						
17. Assistant prof	0.03	0.26***	0.17***	0.16***	0.06**	—					
18. Associate prof	0.12***	0.06**	0.07***	0.04	-0.07***	-0.43***	—				
19. Biochemistry	-0.12***	0.04*	-0.01	0.13***	-0.01	-0.06**	-0.03	—			
20. Civil engineering	-0.02	-0.05*	-0.03	0.11***	-0.03	0.02	-0.02	-0.28***	—		
21. Mathematics	0.20***	-0.09***	-0.05**	-0.36***	-0.02	0.00	-0.01	-0.25***	-0.30***	—	
22. Research extensive	-0.29***	0.08***	-0.04	0.19***	-0.06**	0.03	-0.06**	0.09***	0.06**	-0.10***	—

* $p < .1$. ** $p < .05$. *** $p < .01$.