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Enhancing Gender Equity in Academia: Lessons from the ADVANCE Program

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Abstract

Women are underrepresented in U.S. tenure-track faculty positions, and institutional interventions are key to creating greater gender equality and accessing women's potential. This study examines the effectiveness of one "transformational" intervention, the ADVANCE Institutional Transformation initiative, implemented at the University of California, Irvine (UCI), in 2001. We compare data on women's representation in faculty positions before and during the UCI ADVANCE Program (1993–2009) to that of seven other campuses in the University of California system, where no initiatives of this scale were implemented. Using descriptive figures, *T* tests, and regression analyses, we find that UCI had a higher percentage of women faculty and hired a greater percentage of women during ADVANCE years, but did not retain women at a greater rate. We describe the UCI ADVANCE program and its structure, including its "Equity Advisors," who we suggest have been important in improving women's representation among faculty at UCI.

Introduction

Gender equality in the workplace in general and within academia in particular has improved in many ways in the last several decades. Along with the spread of more egalitarian gender views, we have witnessed an increase in women's rates of college attendance, the passage of antidiscrimination laws, and greater representation of women in the labor force (Reskin and Padavic 2002; Volti 2008). At the same time, rigid occupational gender segregation and a greater concentration of women in lower-status positions within occupational hierarchies persist (Charles and Grusky 2004), and women continue to be differentially distributed across academic departments in academia. This project examines one occupation that continues to have systematic underrepresentation of women: university tenure-track faculty positions in the United States. In particular, we examine the effectiveness of an "institutional transformation" effort to improve women's representation at the University of California, Irvine (UCI).

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In 2001, UCI received a National Science Foundation (NSF) Institutional Transformation grant, aimed at increasing women's representation among tenure-track faculty in the STEM disciplines (sciences, technology, engineering, and math). Upon receipt of the grant, the UCI administration extended its coverage beyond the STEM disciplines to the entire campus.

Our goal is to assess the effectiveness of this particular program in improving women's representation in faculty positions. Because UCI is embedded in the 10-campus University of California (UC) system, and was the only UC campus to receive the intervention during this period, the case of UCI gives us unique leverage in understanding how a major institutional intervention impacts women's faculty representation. Comparing women faculty representation over time (prior and during ADVANCE periods) and across the UC campuses, we seek to identify how the presence of the UCI ADVANCE Program relates to changes in women's faculty representation, hiring, and retention.

Other studies have found that ADVANCE awards correlate with an increase in women faculty (Bilimoria and Liang 2012). However, these studies are limited because most universities have increased women's representation in recent years. This study is unique in that it compares a university with the ADVANCE award to similarly situated universities without the award. Although our study is limited to an assessment of this one program, it is relevant to the broader effort to improve women's representation in higher education in that it identifies how and why the program enacted change.

Institutional interventions are designed to reduce inequalities (Kalev, Dobbin, and Kelly 2006). The ADVANCE project aims to introduce "alterations in the core elements of the institution: authority, goals, practices, and policies" (Fox 2008:83), thereby fortifying women's presence and advancement in the higher-paying STEM disciplines, and because UCI extended the program to the entire campus, we expect its effect to be campus-wide.

We identify the *Equity Advisor* program as a key mechanism for accomplishing greater gender equality at UCI. Equity Advisors (EAs; described in detail below) are appointed in each school. They are respected senior faculty members, selected for their commitment to gender equity, strong interpersonal skills, ability to collaborate with the dean's leadership team, and ability to devote 10 percent of their time to the ADVANCE effort. EAs are intricately involved in the hiring process and work on pay equality, women's advancement, mentoring programs, climate issues, award nominations, and workshops aimed at supporting faculty and graduate students.

We focus on three specific outcomes to assess the effectiveness of this program in improving women's representation in faculty positions: the percent women faculty on campus, the percent women of new faculty hires, and the percent women separations. We propose three hypotheses. Due to their efforts in hiring and retention, as well as in advancement, and the implementation of other aspects of the EA program, we propose that the initiation of the ADVANCE system is positively related to the percent women faculty on campus. Second, we hypothesize that because the Equity Advisor program reduces bias by formalizing the hiring process through EA review at three separate stages, we propose that the initiation of the ADVANCE system results in an increased percentage of women hired. And third, because some of the work that EAs complete is focused on improving the work environment for women and participating in retention cases, they may improve women faculty's retention (reduce separations). However, we note that EA participation in the retention process was not formalized (unlike the hiring process), and it was not fully implemented; thus, it may not have contributed to substantial change.

We include two control variables. Due to enhanced opportunity to hire and therefore to address the gender imbalance of faculty, institutions with higher faculty growth rates may be associated with higher percent women faculty. And due to the larger social climate favoring equality and inclusion during the Civil Rights Era, campuses formed during 1964–1980 may have higher percent women faculty, higher percent women hired, and lower percent women separated.

To test our hypotheses, we use balanced panel data by year and UC campus. These yearly data include percent women faculty, new hires, and separations, 1993 to 2009. We begin by presenting descriptive figures that compare UCI to the other campuses. *T* tests help assess whether gender equality in women's representation is different at UCI during the ADVANCE program. We then employ random effects models (REM) to examine these same dependent variables while controlling for other factors that may change the gender composition of faculties, including percent change in faculty size and founding during the Civil Rights era. Descriptive figures, *T* tests, and REM all provide evidence that the ADVANCE program is associated with an increase in women faculty representation. Our analysis of hiring and separations finds that faculty hiring, but not retention, accounts for UCI's improvement over and above its sister campuses.

Theories and Mechanisms that Perpetuate Gender Inequality: Toward a Model for Change

Increasing women's representation on university campuses requires job openings, women in the pipeline, women's inclination to apply for jobs, the absence of gender bias in the hiring process, and retaining women at least as well as retaining men faculty members. Campus interventions tend to focus on the factors within their immediate control: creating jobs ads that are welcoming to women, eliminating gender bias in the hiring process, and developing a climate that supports (and therefore retains) the women that they hire.

Given the traditionally masculine nature of higher education (especially in STEM fields), job ads often invoke masculine terms. Danielle Gaucher, Juston Friesen, and Aaron C. Kay (2011:1) report that women applicants rated jobs as less appealing when job advertisements contained more masculine wording. In effect, "perceptions of belongingness (but not perceived skills) mediated the effect of gendered wording on job appeal." We expect that when faculty members trained in identifying bias monitor job ads prior to their release, ads will be more welcoming to women applicants.

Once women apply for academic jobs, their materials are subjected to a review by the search committee and then by the entire department. Studies have confirmed the importance of the criteria used in candidate selection. Elizabeth H. Gorman (2005:703) analyzed gendered hiring using a national sample of large law firms, and found that when selection criteria include "more stereotypically masculine characteristics, women constitute a smaller proportion of new hires, and that conversely, when criteria include more stereotypically feminine traits, women are better represented among new hires." This research points to the importance of gender-neutral selection criteria. These findings highlight the extent to which men and women decision makers' gender stereotypes continue to distort their perceptions of job candidates and the need for progressive measures such as education, collective action, and interventions to move toward change (see also England 2010; Sturm 2006).

Eliminating such bias requires an understanding of how and why they initially develop. Feminist social psychologists argue that women are disadvantaged in systematic, deep-seated ways in the workplace. According to Cecilia L. Ridgeway and Shelley J. Correll (2004:519), in contexts where women perform in men-dominant arenas, hegemonic cultural beliefs about gender

> bias the extent to which a woman, compared to a similar man, asserts herself in the situation, the attention she receives, her influence, the quality of her performances, the way she is evaluated, and her own and others' inferences about her abilities at the tasks that are central to the context.

This suggests that especially in men-dominant fields, women's job interview performances may be evaluated as inferior to those of equally qualified and performing men. Ridgeway and

Correll (2004:534) identify two distinct sources of disadvantage. The first is when hegemonic cultural beliefs about gender "become embedded in the organizational structures, authority lines, job classifications, institutional rules, and administrative procedures of employment firms." Changing organizational procedures (e.g., formalizing practices) allows for improvement here. Yet several studies demonstrate that formalization may not be effective unless it is accompanied by bureaucratic accountability (Castilla 2008; Hirsh and Cha 2008; Stainback, Tomaskovic-Devey, and Skaggs 2010). Having an individual who is accountable for equitable outcomes is key here. The second source of disadvantage (Ridgeway and Correll 2004:534), "social relational sites in work processes . . . [like] interviews in the hiring process, decision making in staff meetings, and the evaluation of performances or resumes on the basis of individual judgment," are less scripted and more open to subjectivity, and therefore relatively shielded from impact by such ameliorative procedures (see Steinpreis, Anders, and Ritzke 1999 on the impact of gender on the review of CV's). Removing biases from these more subjective social relational sites requires raising consciousness about biases and monitoring and/or challenging biased outcomes.

The particular characteristics of the faculty hiring process (decisions made in recruitment committees) may be especially vulnerable to gender bias. The peer review process has been criticized for its lack of objectivity and poor inter-rater reliability. Rhea E. Steinpreis et al. (1999:522) found that "both male and female academics were significantly more likely to hire a potential male colleague than an equally qualified potential female colleague." And D. Randall Smith et al. (2002) found favoritism toward in-groups in performance ratings of scientists and engineers. Gorman (2005:706), using Swidler's notion of "schemas," found that when hiring decisions involve multiple decision makers, they "operate as intersubjective points of reference that facilitate the coordination of behavior. Rejecting the culturally dominant schema becomes more difficult and costly to the extent that an actor must interact with others." In other words, it is easier for recruitment committee members to apply the prevalent (perhaps gender biased) standard of excellence in any given hiring decision than to challenge it. In the academic setting, openly challenging peers with charges of gender bias risks damage to department collegiality and possible collaboration efforts. This makes gender equity an unlikely topic in typical faculty recruitment committees, especially when men dominate the field. Yet when a proximate and high-status monitor (such as an EA) intervenes in cases of presumed inequitable outcomes, search committees and/or departments may be required to address their gender biases.

In terms of retaining women faculty members, developing support systems and favorable climates may enhance their proclivity to stay. Mentoring programs, workshops, work/family support systems, and work environments that are free from discrimination and bias are crucial here. When women receive offers of employment from other campuses, a gender-equitable system of developing counteroffers is expected to improve retention.

If we agree that "the presence and form of organizational practices that require, permit, or forestall differential treatment are the proximate causes of varying levels of ascriptive inequality in places of work" (Reskin 2003:14), then reducing inequality requires interventions that identify and eliminate practices that produce inequality as well as the fortification of those that reduce inequality. Concrete measures like education, collective action, and targeted interventions to improve gender inequities have been implemented in various settings (England 2010; Sturm 2006), and universities are beginning to arrive at a set of "best practices" (Marschke et al. 2007).

Institutional Interventions to Enact Change

Although scholars have dedicated much research to the causes of gender inequality (e.g., Becker 1964; Charles and Grusky 2004; Reskin 1993), far fewer studies empirically examine how interventions may matter. Mary Frank Fox, Gerhard Sonnert, and Irina Nikiforova (2011) report that while programs for undergraduate women in science and engineering tend to identify structural

problems, they often miss the mark because they more often implement activities that are oriented toward individuals. Alexandra Kalev et al. (2006) make an important step in addressing how interventions matter by examining the efficacy of efforts to reduce management-level inequality in private sector establishments. They examine three broad approaches to reducing inequality: (1) the development of programs that establish responsibility for diversity in a staff member or department (these must have authority, resources, support, and access to top management), (2) programs that alter managers' behaviors through education and feedback, and (3) programs that eliminate social isolation through networking and mentoring. They found that the programs that established organizational responsibility for change were most effective at fostering changes in gender and racial diversity in private sector managerial positions.

Kalev et al.'s finding is enormously helpful for efforts to transform private sector establishments. We are interested here in identifying the mechanisms that foster greater gender equality in the university, and we look for such mechanisms among the U.S. universities that received NSF grants to improve gender equality. Through 2008, NSF funded 37 university campuses with ADVANCE IT awards. Several academic articles report on the accomplishments of various ADVANCE programs (e.g., Bilimoria and Liang 2012; Marschke et al. 2007; Meyerson and Tompkins 2007; Nielsen et al. 2005; Sturm 2006). In a broad study of the accomplishments of ADVANCE, Diana Bilimoria and Xiangfen Liang (2012) find that 19 campuses with ADVANCE programs in science and engineering increased women's representation over the period of the award. This study and others have begun to identify mechanisms that have aided women faculty. As mentioned above, Debra Meyerson and Megan Tompkins' (2007:316, 318) analysis of the University of Michigan case attributes that campuses' success in hiring women in STEM fields to the grant's principal investigator, a tempered radical. It was her "embeddedness in multiple institutions, *combined* with her institutional legitimacy, that enabled her to act as an effective institutional entrepreneur in this effort." Relatedly, Janet E. Malley, Keith Rainwater, and Abigail Stewart (2005) report that the implementation of the ADVANCE program at the University of Michigan was successful because it created a more collegial climate for women.

Yet we still know relatively little about the actual mechanisms that improved gender equality over the longer term and how demographic pressures might be involved. According to the theories reviewed above, inserting an EA, who is a proximate and well-respected monitor trained to intervene when inequities arise, into search committees and/or departments, should reduce gender biases. Here, we attempt to assess the efficacy of the mechanisms put in place by the early ADVANCE program at UCI.

The Intervention: UCI Advance Program

The NSF initiated its ADVANCE effort to reduce gender inequality in universities' STEM fields by improving the hiring, retention, and advancement of women faculty in those fields. Note that the ADVANCE program does not challenge the inequality across disciplines, the fact that disciplines dominated by men tend to earn higher wages, or the "comparable worth" issue (England 1992). Its main strategy is to reduce gender segregation within men-dominated disciplines by increasing women hires and retention, although it also addresses the advancement and status of women across university campuses generally. Although we do not have the data to perform a definitive causal analysis of the UCI program's efficacy, we can identify differing patterns in women faculty recruitment, separations and overall percentages before and after the intervention, and compare these trajectories across sister campuses that did not receive an ADVANCE IT grant during this period. We aim to provide some evidence regarding whether or not and how the program impacted the trajectory of change in the percent faculty on campus, the percent women hired, and the percent of women separated. We also present some information on how the ADVANCE program impacted gender segregation in disciplines across campus. We do not have

the data to assess the program's impact on the advancement of women within the professorate, so we reserve that for future study.

UCI is part of the 10-campus system that is governed by a system-wide administration and subject to the same legal environment. All 10 UC campuses share a common goal to improve gender equality, and most campuses have initiated some form of gender equity programs during the last 10 years. Our search of the UC diversity website, each campus's diversity website, and the Report of the UC System-wide Advisory Committee on the Status of Women (Williams, Ho, and Levine 2010:30) revealed the main gender equity efforts of each campus. The systemwide report concluded that,

> All ten UC campuses now have a position dedicated to faculty diversity and equity. These positions are gradually making a difference in the hiring and retention of qualified women.

UCI was the only UC campus to receive an NSF Institutional Transformation grant during our period. Although the other campuses had initiatives dedicated to gender equity, none were as comprehensive, well-funded, or as long-standing as UCI's, which was adopted in 2001. While UC-Davis received a more targeted IT ADVANCE grant in 2012, this was after our period of investigation. This allows us to use the campuses in the UC system as a rough control group to which we contrast improvement at UCI. We expect that UCI will show enhanced movement toward gender equality upon initiation of ADVANCE, over and above the improvement experienced at other UC campuses.

Although the NSF ADVANCE program seeks to rectify structural problems that hinder gender equality, it leaves the design of particular programs up to individual universities. Despite NSF's funding restriction of ADVANCE to the STEM schools, the UCI administration supplemented it to cover all disciplines. This drastically changed the scope of the project and its potential to make accelerated improvement in women's presence among UCI's faculty. By expanding the effort to all hiring and advancement, especially in schools with larger women applicant pools, UCI multiplied the program's possible overall impact. Given this strategy, one might wonder if the gain in women faculty came mainly in the disciplines that initially had higher proportions of women, thereby increasing gender segregation. This is an important consideration because women-dominated and men-dominated fields may not be equally burdened (with teaching and service duties vs. time to develop more highly valued research efforts) and may not be equally compensated. Because skills that many women are good at and selectively develop tend to be undervalued in the marketplace, efforts that address these inequities are crucial to eliminating gender inequality. Therefore, programs that address the specific complex and difficult problems associated with gender segregation should be the next step in bringing universities closer to true equality.

The essence of the UCI ADVANCE Program is the Equity Advisor system. As is stated on the UCI ADVANCE (2009) website, "The mission of UCI ADVANCE is to promote an inclusive culture for faculty and graduate student excellence. A dedicated team of faculty Equity Advisors and graduate program mentors carry out this mission in the 11 general campus schools" (Advance.uci.edu/about.html, 2013; graduate mentors were added in 2012 and therefore do not come into play in our analysis). EAs are respected senior faculty members, selected for their commitment to gender equity, strong interpersonal skills, ability to collaborate with the dean's leadership team, and ability to devote 10 percent of their time to the ADVANCE effort. The ADVANCE director (who serves on campus-wide academic planning and budgeting groups), trains them; they participate in the annual ADVANCE Institute, monthly two-hour EA meetings, quarterly meetings, and ADVANCE-sponsored seminars. They are given enhanced authority by means of their appointments as "Faculty Assistants to the Dean" in their respective schools and are currently compensated with a $15,000 yearly stipend.

EAs systematically monitor hiring practices in their schools and intervene when necessary to ensure that women candidates receive fair consideration. They work on pay equity, women's advancement, mentoring programs, climate issues, award nominations, and workshops aimed at supporting faculty and graduate students. One or two EAs (depending on school workload) are appointed to each school for two-to-three year staggered terms.

A few interventions operated outside of the EA system: a handful of workshops (most workshops were organized by the EAs, but a few were created by the central ADVANCE office), a lecture series (seven lectures during this period), two 5-year ADVANCE Term Chairs to honor distinguished scholars who have demonstrated a commitment to gender equity, and the Dependent Care Travel Awards (2008-present, evaluated by EAs). None of these is directly related to recruitment (which is the main job of EAs), but they generally relate to retention in that they aim to create a better campus climate (UCI ADVANCE 2009).

The ADVANCE program increases transparency and establishes accountability of the search process by developing three forms tailored to UCI's hiring process. Search chairs are required to complete these forms at three stages, and EAs must sign them in order for searches to proceed. This process increases transparency in the nuts and bolts of the hiring process and allows for intervention when problems arise. Departments are required to justify their decisions and are held accountable for them at each stage of the process.

The first form involves the initial advertisement. When departments develop their search plans and job advertisements, EAs review them and may either suggest changes or sign them. This addresses Gorman's (2005) finding that selecting criteria that includes more stereotypically male characteristics results in more men hires. When they identify searches that target subfields with particularly low women applicant pools, they may assist by suggesting ways to bring applicant pools in line with availability statistics. Increasing the pool of women applicants increases the chances of hiring a woman.

Second, search committees are required to complete an Interim Search Activities Statement, where they compare the availability pool to the search pool and report on the gender and race/ethnic characteristics of short-listed candidates. Again, because the EAs signature is required, they have an opportunity to intervene to ensure equal representation in the pool and on the short list, given the characteristics of the applicant pool.

Third, search committees must complete and EAs must sign the Final Search Activities Statement where they report the final rank-order of the short-listed candidates, the characteristics of the final candidate, and the department's rationale for the final selection. These required forms formalize the more resistant subjective areas of decision making (Ridgeway and Correll 2004) and hold departments accountable for their decisions. In addition, they provide an external and powerful overseer who seeks to constrain the use of gender-associated schemas (Kalev et al. 2006; Perry, Davis-Blake, and Kulik 1994). In Gorman's (2005) terms, EAs are tasked with subjecting the "prevalent standards" of all faculty searches to a test of gender equity so that the work of challenging biases in the status quo is the job of trained and respected (local) faculty member overseers, rather than (perhaps less willing and less powerful) faculty recruitment committee members.

To establish that the EA Program was operational throughout the ADVANCE period and in which ways, we report on EAs' actual experiences in implementing these changes, what they had to say about their participation in recruitment, how they felt the deans and faculty received their efforts, and the difficulties they encountered in their roles. We draw upon data and conclusions reported in the ADVANCE Program 2006–2007 Equity Advisor Report Analysis (Stepan-Norris and Lind 2007), which is based on reports written by all 10 EAs during 2006–2007.

EAs report heavy involvement in hiring procedures. Whereas before the ADVANCE grant, there were no EAs to oversee the hiring process, by the end of the grant period, EAs were highly integrated into the hiring process. Specifically, they signed "Plan and Advertisement Forms" for

96 percent of all searches, met with 92 percent of all search committees, distributed pamphlets and/or described best practices to 92 percent of all search committees, reviewed 86 percent of all applicant pool lists, and reviewed 92 percent of the Search Activity Statements. EAs met with the Dean's Council an average of four times a year and held an average of four individual meetings with the dean. Other new practices were less common (meetings with candidates, requesting additional information, adding additional candidates). Together, this level of activity indicates that the new procedures were fully integrated into the UCI hiring process.

EAs reported that, in general, they felt that they were well received by faculty and deans and that they were effective. However, they felt that their effectiveness varied depending on the situation, and some reported that they could have been more effective in certain situations.

Most EAs also analyzed and addressed pay equality throughout the ADVANCE period. They investigated and acted upon information regarding gender equality in the rate at which faculty moved up the UC merit-based step system. In the early years of the ADVANCE Program, EAs were asked to develop mentor programs specifically suited to the needs of their schools. The mentor programs they developed differ considerably in both content and form. Some programs are entirely voluntary, some have required participation, and others have both voluntary and required components. When asked about the success of their school's mentor program in 2006–2007, all but one EA reported that they thought their programs were successful.

EAs also promoted women's achievements. The data from department chairs suggest that women tend to self-nominate for promotions less often than men (UCI ADVANCE (2009) website, appendix in Yearly Report to NSF). This indicates that women may be less inclined to seek recognition for their accomplishments, including honors and awards. When EAs initiated nominations, they reported that this led to more women winning honors and awards.

EA involvement in retention efforts occurred but was more limited: 44 percent reported some activity during 2006–2007. The report (Stepan-Norris and Lind 2007:8) states, "Equity Advisors have been involved in some retention efforts, but many continue to be out of the loop. In one school, the Equity Advisor was told that confidentiality issues prevent participation in retention efforts."

These EA sentiments provide a glimpse into the program and its considerable and successful activity around recruitment and monitoring pay. UCI ADVANCE policies aimed at retention appear to be less cohesive and successful than those aimed at hiring. Yet overall, EAs viewed their activities as enhancing gender equality on campus.

In sum, UCI's EA system creates a staff responsible for diversity, which has authority, resources, support, and access to top management (Kalev et al. 2006), and it also incorporates programs aimed at junior faculty networking and mentoring. Still, it has not eradicated gender inequality at UCI. Kristen Monroe et al. (2008) describe some of these gender issues in their study (2002–2006) in which, under the auspices of ADVANCE, they conducted 80 in-depth interviews with UCI women faculty members regarding all their years at UCI. They reported that some women experienced overt and/or subtle gender discrimination. This study is important in its ability to uncover women faculty members' nuanced views about the university's gender climate and their thoughts about possible remedies. However, it does not address the potential *change* in gender equality resulting from the ADVANCE program, which is our concern here.

Based upon the literature and the activities of the EAs, we propose three main hypotheses. We hypothesize that the UCI ADVANCE Program contributed to the increasing percentage of women in faculty positions because it placed a senior faculty member with authority and access to top management in each school to oversee all faculty hiring (Kalev et al. 2006) and to improve the climate. Because the ADVANCE Program addressed bias in job ads (Gorman 2005), as well as in committee deliberations and decisions (Gorman 2005; Ridgeway and Correll 2004; Steinpreis et al. 1999), we expect it to increase the percent women faculty hired.

Because the EA system aimed at improving the equality of faculty experience across gender and addressed issues that tend to disadvantage women faculty, we expect that it is associated with a higher proportion of women faculty retained (lower percentage separated). Yet because these efforts were not as extensive as efforts surrounding hiring, we expect this effect to be smaller than that for hiring.

Context: Organizational Demographics and Founding Era

Although we argue that institutional interventions, like the ADVANCE program at UCI, may create greater gender equality, we also recognize that changing women's faculty representation may be constrained or escalated by other organizational factors. Organizational demographics play an important role in determining the possibility for organizational change. Within academia, the slow pace of desegregation is partially due to demographic constraints (Hargens and Long 2002; Marschke et al. 2007). Namely, the low availability of new faculty positions and the gender composition of new PhD earners in some fields impact the possible increase in women's representation. In addition, most research finds that within academia, demographic inertia (the tendency for organizational practices to resist change over time) prevents speedy change (Hargens and Long 2002; Marschke et al. 2007; Tolbert and Oberfield 1991). Robyn Marschke et al. explore the role of demographic inertia in explaining the "excruciatingly slow" increase of women in faculty positions in research universities. They note that while women constituted about 46 percent of all PhD recipients at the time of their study, they rarely exceed 30 percent of faculty at research-extensive universities. This is due to demographic constraints such as "faculty age structures (and retirement patterns), gender composition among Ph.D. earners, faculty attrition rates, and the availability (or lack thereof) of new faculty positions" (Marschke et al. (2007:1; 4).

Marschke et al. (2007:17–19) estimate that given the current demographic trends and hiring practices at the research-intensive university they examine, it would take 18 years for women to move from constituting 21 percent to 30 percent of the faculty, and the proportion of women would stabilize at 34 percent (we calculate the beginning proportion of women faculty from Marschke et al. 2007, Table 5, and the yearly rates from the discussion in their text).

Thus, without intervention, the proportion of women is estimated to increase an average of 0.5 percent per year. With gender-equitable recruitment policies and practices, they estimate that women would constitute 40 percent of the faculty in 28 years, with an estimated average increase of 0.68 percent women faculty per year. With both equitable recruitment and retention policies, the percent women would raise to 30 percent in 9 years and 40 percent in 20 years, for an average yearly increase of approximately 1 percent per year.

Organizations that are growing have a higher potential for change since their new hires constitute a larger percentage of all employees. We expect that growth campuses have greater opportunity given the larger availability of qualified women and, given the will to change, should exhibit higher percentages of women faculty and women hires. The UC system had four growth campuses during this period: UCI, UC Riverside (UCR), UC San Diego (UCSD), and UC Santa Cruz (UCSC), which we discuss further below.

The extent to which institutional barriers to gender equality are integrated into an organization's structure may also be influenced by its founding era. Studies have found that young organizations (Baron, Mittman, and Newman 1991) or those established in the 1970s (Tomaskovic-Devey and Skaggs 1999) tend to be more gender integrated than others. Kevin Stainback et al. (2010:232) suggest that, because organizations are imprinted with the technology and culture of their founding periods (Stinchcombe 1965), "it might be expected that organizations founded after the Civil Rights Act, but particularly during the 1964-1980 period of peak organizational uncertainty and regulatory enforcement . . . show the least status and power inequalities." Campuses founded later also had the benefit of a more equitable applicant pool upon initial staffing, which should increase

the percent women faculty. The UC system has two campuses that were founded in the 1964–1980 period: UCI (1965) and UCSC (1965). (The other UC campuses were founded on the following dates: UC Berkeley (UCB) 1868, UC San Francisco (UCSF) 1873, UC Davis (UCD) 1905 [1959 as a general campus], UC Los Angeles (UCLA) 1919, UC Santa Barbara (UCSB) 1944, UCR 1954, UCSD 1960, UC Merced (UCM) 2005.) Following Stainback et al. (2010), we expect that campuses founded during the Civil Rights era will have the fewest institutional barriers and therefore the highest proportion women tenure-track faculty, higher percent women hires, and a lower percentage of women separations.

Data and Method

This is a case study of change in response to a particular intervention. While case studies usually do not demonstrate causal mechanisms, Barbara Reskin (2003:15) argues that they are "excellent sources for identifying possible causal mechanism . . . . studies of organizations' attempts to reduce ascriptive inequality (e.g., Sturm 2001) are especially likely to be useful" (also see Gorman 2005; Kalev et al. 2006; Stainback et al. 2010). We identify the ADVANCE initiative at UCI as important to increasing women's representation among professors. We leverage data from each UC campus to better assess the relative impact of the ADVANCE program, which was only implemented at UCI.

We collected yearly data from the UCI ADVANCE (2009) website and the University of California Office of the President (2009) on the total faculty, new hires, and separations for each campus. Data cover eight campuses: Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, Santa Barbara, and Santa Cruz. We omit UC Merced, which was founded in 2005 and therefore has too few years to be included in the analyses of this study, and UC San Francisco, which is not directly comparable because it is a medical campus with few undergraduate students. Years of available data vary slightly: total faculty (1993–2009) and new hires and separations (1994–2008). This time range allows us to identify pre-ADVANCE (1993–2001) and ADVANCE (2002–2009) periods.

First, we present descriptive statistics, *T* tests, and regression analyses. The descriptive figures plot women's faculty representation, hires, and separation at UCI and the other UC campuses to illustrate the impact of the ADVANCE program. We conduct *T* tests (using *T* distributions) for examining the differences between UCI and the other UC campuses.

Because *T* tests cannot control for factors that may also impact women's representation—such as growth campuses that have the opportunity to hire more faculty—we also conduct regression analyses. The data are balanced panel data, with yearly observations for each campus. Ordinary Least Squares (OLS) is inappropriate for this type of data, as basic assumptions about uncorrelated errors are likely violated (Raudenbush and Bryk 2002). REMs allow us to examine the differences between campuses. Random effects models (REM) address the issue of clustering produced by data structures where observations may be correlated. This technique captures the differences between UC campuses. With REM, the error term includes a unit-specific component that varies across units but is constant over time. An alternative approach could be fixed effects models (FEM), which examines changes within campuses over time. However, as we are interested in dynamics that are time invariant (e.g., founding during the Civil Rights era), FEM is not appropriate for these analyses.

We examine three dependent variables: the percent women faculty, the percent women hires, and the percent women separations. The key independent variable of interest is the presence of the ADVANCE program, which existed at UCI beginning in 2001 (0 represents *no ADVANCE program*, 1 represents *ADVANCE program*). We create a dummy variable for campuses that were founded during the Civil Rights era (1 represents *UCSC and UCI*, which were founded during this era). To account for demographic issues in the regression models, we control for the percent
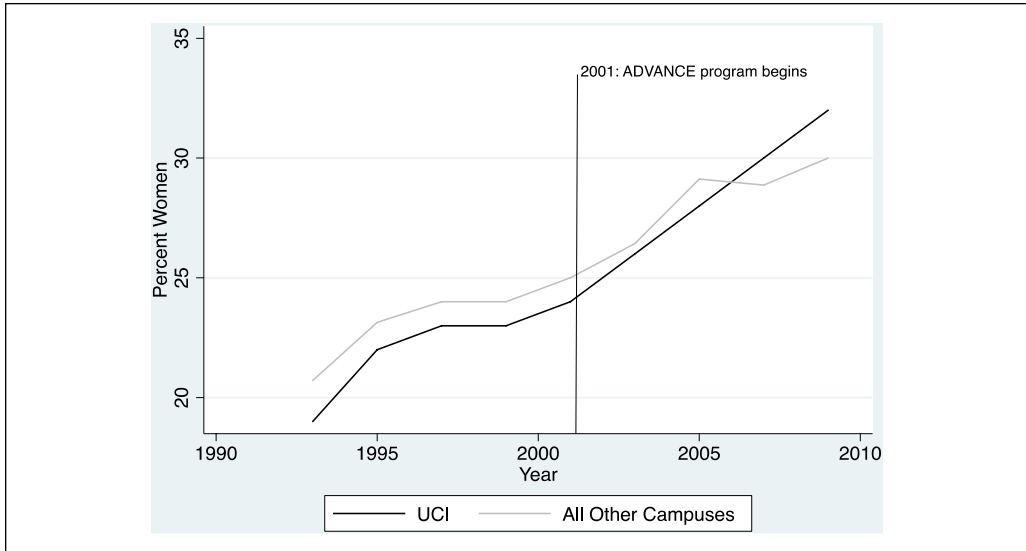
Figure 1. Percent women faculty, 1993–2009.
Note. UCI = University of California, Irvine.

change in faculty size and for the percent women faculty in the prior year. Correlation tables, available in the appendix, indicate that correlations between key variables are low.

There are benefits and drawbacks to using regression analyses for these data. One benefit is that they allow for control variables. A drawback is that the population is small—8 campuses over 16 years—which means that standard errors might be biased. Scholars caution that models perform better with higher numbers of level 2 predictors (Maas and Hox 2005; Snijders 2005). However, because we include all relevant campuses in our analyses (i.e., the sample size cannot increase) and OLS is inappropriate for this type of panel data, we opt to present the REM models. We interpret the models with caution, noting that standard errors may be biased. To account for this possibility, we illustrate the main findings with a series of descriptive graphs, and we conduct *T* tests for examining the difference between UCI and the other UC campuses. Figures and *T* tests are consistent with findings from regression models.

Results

How did the ADVANCE program impact women's faculty representation at UCI? Figure 1 illustrates the percent women faculty at UCI compared with the other UC campuses over time. The figure captures several dynamics. First, it shows that the percent women faculty increases substantially over time across the UC system. As discussed above, there has been systemwide concern over the low levels of women faculty. All campuses have made some efforts to increase gender equity, though none have had the resources or depth of the ADVANCE initiative at UCI. These efforts have translated into more women faculty across *all* campuses: In 1993, roughly 20 percent of faculty members were women. By 2009, that percentage had risen to over 30 percent. Second, Figure 1 illustrates that women's faculty representation grew particularly quickly at UCI after the implementation of the ADVANCE program. In the pre-ADVANCE years—before 2001—UCI had a lower percentage of women faculty members than the other UC campuses. However, after the ADVANCE program was implemented, the percentage of women faculty began to quickly grow at UCI. Although women's representation increased at the other

Table 1. Percent Change in Women Faculty by Campus, 1993–2009.

Percent change	UCI	UCR	UCSD	UCSC	UCB	UCD	UCLA	UCSB	T tests: UCI compared with all other campuses
pre-ADVANCE (1993–2001)	5	4	3	7	4	5	3	4	Not significant (*p* = .22)
ADVANCE (2002–2009)	8	7	5	0	6	6	5	6	Significant (*p* = .014)

Note. Percent average change of UCI compared with all other campuses (except UCM and UCSF). *T* tests use *T* distributions and are two-tailed. UCI = University of California, Irvine; UCR = University of California, Riverside; UCSD = University of California, San Diego; UCSC = University of California, Santa Cruz; UCB = University of California, Berkeley; UCD = University of California, Davis; UCLA = University of California, Los Angeles; UCSB = University of California, Santa Barbara.

campuses, it grew at a more moderate rate. By 2006, the percentage of women faculty at UCI surpasses the mean percent women of the other campuses combined.

Table 1 disaggregates the percent change of women faculty by campus, at two time periods: prior to ADVANCE and during ADVANCE. As the grant came in September 2001 when that year's faculty was already in place, we consider pre-ADVANCE to be 2001 and earlier. Compared to the other UC campuses, UCI was middle of the pack in the pre-ADVANCE years, with women's representation growing by 5 percent between 1993 and 2001. Some schools had larger increases in their change of women faculty, such as UCSC, which increased by 7 percent. Other schools had more moderate change, such as UCLA and UCSD, where women's representation only increased by 3 percent.

Although UCI was only average prior to the ADVANCE years, it increased women's faculty representation remarkably well during the ADVANCE years. Of all the campuses in this time period, UCI had the largest increase in women's representation: 8 percent. With the exception of UCSC, the other UC campuses all increased women's representation, but none changed as much as UCI. When considering UC campuses by percentage women faculty in 2001 and 2009, UCI moved on the ranking of women faculty representation from 4th of 8 (it shared that position with two other campuses) in 2001 to 2nd of 8 (sharing its rank with one other campus) in 2009.

T tests assess whether UCI's rate of change is significantly different from the other campuses. In the pre-ADVANCE years, *T* tests report that UCI did *not* significantly increase its percent women faculty at a quicker pace than other campuses. However, after the implementation of the ADVANCE program, UCI increased women faculty representation significantly faster than the other campuses (*p* =.014). In accordance with our expectations, Table 1 demonstrates that the ADVANCE intervention was associated with a higher percent women faculty at UCI. These findings support Hypotheses 1—the implementation of the ADVANCE system is positively related to a higher percentage of women faculty—which we return to test below with regression analyses.

Was the increase in women's faculty representation at UCI during ADVANCE a result of improved hiring, retention, or both? The major component of the ADVANCE program was the development of EAs, whose main task was to improve gendered hiring procedures. Therefore, we expect more women to be hired during the ADVANCE initiative.

We do not expect ADVANCE to have affected women's retention as much as it affected hiring. To consider retention, we examine the percentage of faculty members that leave each year who are women (separations). Retention efforts aim to improve the environment for women on campus and/or to improve the campus's responses to women faculty members' offers for employment elsewhere. EAs participated in the former but only selectively participated in the latter. In the early years of the ADVANCE program, EAs were not able to provide a direct and systematic
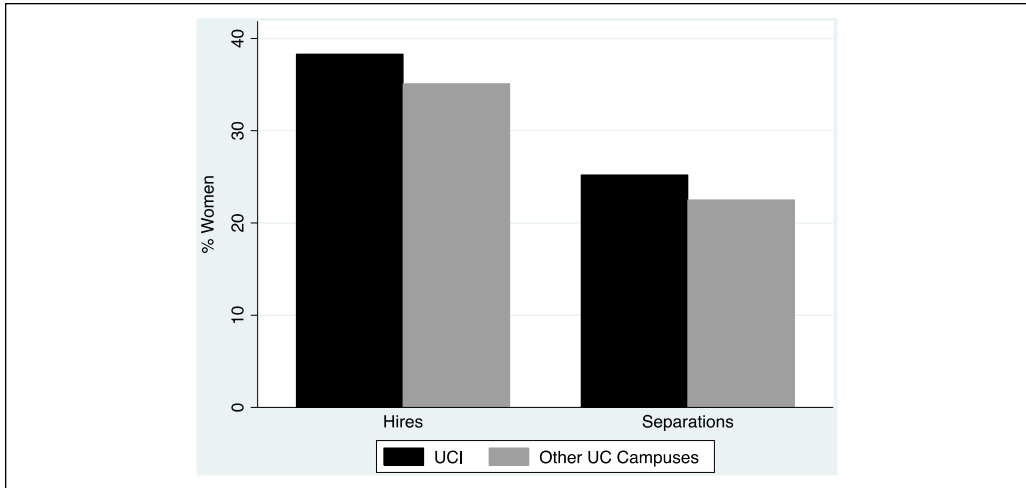
**Figure 2.** Percent women hires and separations during ADVANCE.
Note. UCI = University of California, Irvine.

presence in retention efforts like they did in the hiring process because confidentiality issues often prevented them from participating in retention cases. By the later years, almost half of the EAs had been involved in some yearly retention efforts, but many continued to be excluded.

Figure 2, which reports hiring and separation patterns during the ADVANCE years, reflects the relative emphasis of the ADVANCE program on hiring over retention. UCI hired a greater percentage of women compared with the other campuses during the ADVANCE years, with an average of over 38 percent of its positions filled by women. However, UCI was *not* particularly effective at retaining women: UCI had a higher percentage of women separations compared with the other campuses. Thus, Figure 2 offers evidence that ADVANCE primarily worked through improved hiring practices.

Next, we examine women's hiring across disciplines. The ADVANCE initiative covered all schools within UCI. Thus, we expect UCI to have better hiring records than the other campuses in *all* disciplines during the ADVANCE period. Figure 3 reports the percent women of new tenured appointments at UCI and other UC campuses between 2006 and 2010.[1] It also reports the candidate pool or the national availabilities of women PhDs by discipline (the percent women who received PhDs in that discipline between 1990 and 2004, which would make them tenurable by the time period studied). In some schools, UCI was able to recruit women at higher rates than their national availabilities, including Computer Science, Math, and Engineering, the Physical Sciences, Education, and Professional Fields. In all schools, UCI hired a greater percentage of tenure track women than the other UC campuses. This suggests that the ADVANCE program affected hiring practices across disciplines, especially compared with the other campuses in the UC system.

The descriptive figures presented above show that UCI had a higher percentage of women faculty after the implementation of ADVANCE than the other UC campuses, and that this representation stemmed from hiring more women, rather than limiting separations. Because these descriptive figures cannot account for other factors that may influence women's representation, we conduct a series of regression analyses. We expect regression results to support our earlier findings. Recall, we use panel data, which include yearly observations for eight campuses from 1994 through 2008–2009. Descriptive statistics are presented in Table 2. Table 3 reports models for three dependent variables: percent women faculty (Model 1), percent women faculty hired
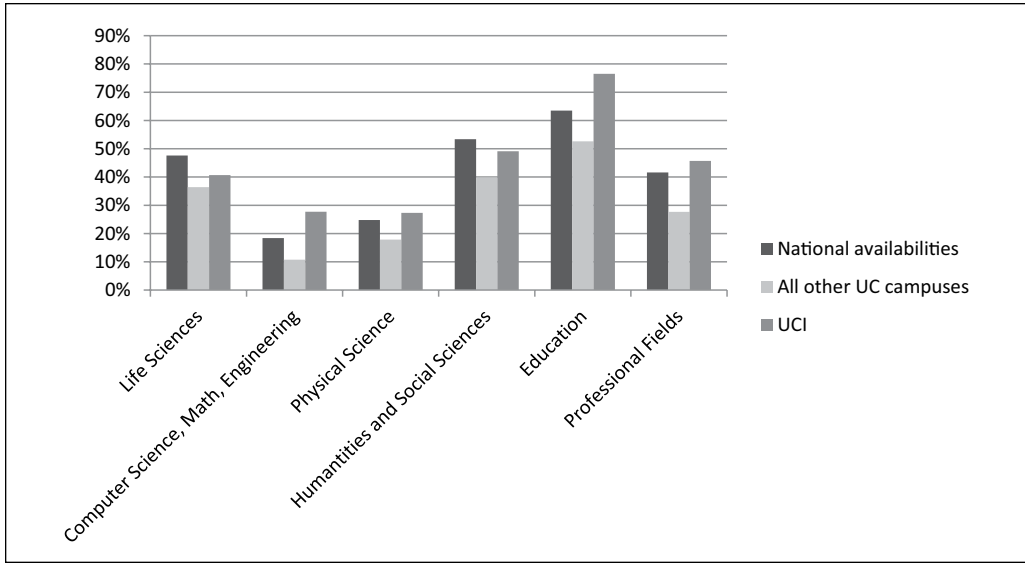
Figure 3. PhD availabilities and percent women of new tenure track appointments to UCI and other UC campuses by school: 2006–2010.
Note. UC = University of California; UCI = University of California, Irvine.

Table 2. Descriptive Statistics for All UC Campuses.

Campus Characteristics	M	SD	Minimum	Maximum
Percent women faculty	25.91	4.78	16	36
Percent women new hires	32.73	7.55	13	50
Percent women separations	25.09	10.31	7	57
ADVANCE program	0.06	0.24	0	1
Civil rights campus	0.25	0.44	0	1
Percent change in campus size from prior year	0.0160075	0.03	−0.05	0.12

Note. UC = University of California.

(Model 2), and percent women separations (Model 3). Each model includes three independent variables: the presence of the ADVANCE program, the percent change in faculty size, and whether the campus was founded during the Civil Rights era.

Model 1 examines the factors that impact the percent women faculty. Figure 1 and Table 1, presented above, demonstrate that the percentage of women faculty increased when ADVANCE was implemented. Does this relationship hold while controlling for other institutional factors? Indeed, we observe that the ADVANCE coefficient is positive and significant. This suggests that the presence of the ADVANCE program was associated with a larger percentage of women faculty, net of controls. This finding echoes the raw data we discussed earlier: During the ADVANCE years, UCI was more successful than its sister campuses in securing high levels of women faculty members.

Model 1 includes two control variables that prior scholarship identifies as important to understanding women's representation: change in faculty size and campus foundation during the Civil Rights era. Change in faculty size reflects the extent of demographic inertia; campuses targeted

Table 3. Random Effects: The Effects of the ADVANCE Program on the Percent Women Faculty, Hires, and Separations.

Campus Characteristics	Model 1: Percent women faculty 1994–2009	Model 2: Percent women new hires 1994–2008	Model 3: Percent women separations 1994–2008
ADVANCE campus	4.976**	7.765*	−5.896
	(1.252)	(3.031)	(4.197)
Civil Rights era campus	4.313†	−1.167	6.343*
	(2.400)	(1.910)	(2.644)
Percent change in faculty size	19.62*	−34.24	−18.67
	(8.624)	(23.44)	(32.45)
Percent women in prior year		0.668**	0.542*
		(0.163)	(0.225)
Constant	24.20**	16.38**	10.54*
	(1.196)	(3.865)	(5.351)
Observations	126	118	118
Number of campuses	8	8	8

Note. Robust standard errors in parentheses.
†$p < .10$. *$p < .05$. **$p < .01$. Two-tailed tests.

for growth have greater opportunities to increase the hiring and representation of women. Some UC campuses have grown at a quicker pace than others, including UCI. Indeed, Model 1 suggests that growth campuses had a higher percent women faculty: The coefficient for change in faculty size is positive and significant. Greater percent change in the faculty size corresponded to higher percentages of women faculty. Yet even when controlling for changes in faculty size, the presence of the ADVANCE program still positively and significantly impacted percent women in faculty positions and percent women hired.

The literature also suggests that campuses founded during the peak Civil Rights era would have a higher percent women faculty. This fits UCSC, which exhibited the highest percentage of women faculty of all of the UC campuses in 1993 and 2009. The other campus founded during the Civil Rights era is UCI. UCI's percent women faculty was below the UC mean in 1993 and improved dramatically only after the initiation of ADVANCE. Although UCI's founding era did not initially produce a more equitable faculty gender distribution, it may have made the campus more susceptible to change once the intervention was introduced. Model 1 reports a positive relationship between the percent women faculty and campus's founding era. This suggests that, in general, campuses that were founded during the Civil Rights era had higher percent women faculties, though we note that this finding is only marginally significant.

Next, we examine the relationship between the percent of new hires that are women and the ADVANCE program. These models also include a control for percent women faculty in the prior year, which captures the existing gender distribution of campus. All UC campuses made considerable efforts to hire women; however, the ADVANCE program was the largest and most systematic effort of all. Model 2 shows that the ADVANCE program is significantly and positively correlated with hiring higher percentages of women faculty, net of controls. We did not find evidence that change in faculty size was significantly related to percent women hired. We also found no evidence that Civil Rights era campuses were significantly associated with the percentage of women new hires.

Finally, we consider the relationship between percentage of women separations and the ADVANCE program. Recall, the ADVANCE program at UCI was primarily designed to improve hiring procedures. Figure 2, shows that UCI was not particularly effective at reducing women's separations during the ADVANCE period. Model 3 lends further support to these patterns: The

presence of the ADVANCE program is not significantly associated with the percent women separations. Similarly, we find no evidence that change in faculty size is related to women's separations. However, we do observe that campuses founded during the Civil Rights era have a significantly lower percent of women separations.

In sum, we find that the ADVANCE program is associated with increased overall representation and hiring of women. Growth campuses and founding era had less consistent effects. We stress the role of institutional intervention because unlike campuses' growth and founding date, interventions are more within the control of actors to implement change.

Discussion and Conclusion

We began by discussing how institutional interventions, founding era, and organizational demographics might impact changes in women's access to desirable positions within the university. Using data collected by the UC Office of the President and the UCI ADVANCE program, we examine the program's activities and how the EAs report that they mattered.

We compared the extent of change in the percent women faculty, new hires, and attrition at the UC campuses since the early 1990s, using both descriptive figures and regression analyses. The equalizing hiring effects of the ADVANCE program at UCI cut across all disciplines and, in some cases, translated into hiring more women than national availabilities would have predicted. We found that the implementation of the ADVANCE program is associated with higher percentages of women faculty, even when controlling for demographic issues, and founding eras. We also observe that the percent new women hires was greater under the ADVANCE program but that the ADVANCE program did not affect women faculty's separations.

Importantly, our evidence is consistent with the contention that ADVANCE led to improvement in gender equality. Recent studies have found that women's representation increases at universities with ADVANCE awards (Bilimoria and Liang 2012). However, in the case of the UC system, all campuses including those without ADVANCE IT awards increased women's representation. This study shows that ADVANCE awards have the potential to increase women's representation over and above what may occur otherwise. We find that although all the UC campuses increased women's representation, UCI under the ADVANCE program made the biggest gains. Although the amount of improvement at UCI was indistinguishable from that of other UC campuses in the pre-grant period, it improved both its percent women hires and women faculty relative to other campuses during the ADVANCE grant and into its institutionalized phase. The overall amount of change in the percent women faculty at UCI (1 percent per year during ADVANCE) was almost double the amount of change predicted by Marschke et al. (2007) for a similar institution without gender equity policies (0.5 percent per year), higher than their predicted amount for recruitment policies only (0.68 percent per year), and the same as their predicted amount for both recruitment and retention policies. Its change was also higher than in the UCI pre-ADVANCE period (0.62 percent per year) and that of the UC system average (0.54 percent per year for pre-ADVANCE and 0.62 percent per year during ADVANCE).

What accounts for these gains? Ridgeway and Correll (2004:528) state that the "gender system will only be undermined through the long-term, persistent accumulation of everyday challenges to the system resulting from socioeconomic change and individual resistance." The ADVANCE EA system set a group of high-status faculty to work on the project of making persistent challenges to "social relational sites" of the faculty recruitment process. This system inserted high-level faculty monitors in place to educate faculty in charge of hiring decisions, to multiply the potential of "individual resistance," and to hold departments accountable for their hiring decisions. This, in combination with a campus growth trajectory, a founding period during

the peak Civil Rights era, and supportive upper administration, created an environment conducive to improvement in gender equality.

Susan Sturm (2006:4–5) makes the point eloquently:

> Full participation in the academy requires a process of institutional attentiveness across the spectrum of decisions that ultimately determine whether women and men of all races will have the opportunity to thrive, succeed, and advance. This institutional attentiveness can be developed by building the organizational catalyst role into the architecture of a change initiative. This is achieved by creating institutional roles that place people with knowledge, influence, and credibility in positions to influence practice at pivotal locations where gender and racial biases operate.

When EAs who have knowledge, influence, and credibility put their energies into systematically overseeing and, when necessary, challenging recruitment committee deliberations, they made an impact. In effect, EAs' participation in the hiring process tended to prevent search committees from applying gender biased "prevalent standards" and thereby enhanced gender equity in hiring outcomes (see Gorman 2005). Their discussions and interactions with search committees made gender equity a requirement that rivaled the ordinary practices of previous searches, some of which presumably applied prevalent gender biased standards unreflectively.

Gorman (2005) finds that women tend to hire more women as long as they perceive a gender imbalance. Yet when participants are not apprised of the gender balance of the current availability pool, their assumptions about balance may be outdated. Participants can be expected to fail to restore gender balance when imbalance is unperceived. This provides additional incentives to make sure that all decision makers (including rank and file faculty who vote on hires) know the gender distribution in availability pools.

Yet because detailed procedures and accountability measures were not implemented in the retention process, we see only progress on par with that of the other UC campuses there. Given this lack of significant improvement, it is worth exploring how EAs can be more systematically integrated into the retention process. It is likely that more extensive and systematic involvement of EAs in the actual practices of the retention process and inclusion of accountability measures may help to retain women faculty. Such involvement would require developing a set of guidelines for chairs, deans, and upper administrators who are the major actors in retention, along with EA oversight of the processes. Whereas the EAs made the day-to-day hiring practices formalized and accountable, their efforts in the retention process did neither, and therefore, separation rates were not affected by ADVANCE.

We find mixed evidence on the role of demographics and women's faculty representation. Although being a growth campus is positively associated with percent women faculty, it did not affect percent women hired or separations. The availability of more positions alone might lead to only gradual improvement due to increases in the women availability pools, but when combined with a program focused on gender equity in hiring, change may accelerate.

We find that the campuses founded during the most active period of the Civil Rights era were positively associated with a higher percent women faculty. The two campuses founded during the Civil Rights era, UCSC and UCI, had a slightly higher average percent women faculty than the other campuses.

The years in which institutional intervention occurred were associated with greater incorporation of women into the academy, in terms of both overall faculty representation and new hires. We attribute much of this rapid positive change to the ADVANCE program, and specifically, the EA system, which was the heart of the program. Our results suggest that the ADVANCE intervention, which closely follows the type of program that Kalev et al. (2006)

found to be the most effective in the private sector, has produced meaningful improvement in a public university setting where state laws prohibit affirmative action and change has been difficult to accomplish. Our findings give credence to the idea that interventions are crucial components of any plan to increase women's access to jobs that historically have been dominated by men.

Although inequalities have been more comprehensively addressed in the European Union, where "gender mainstreaming"[2] is the official policy (Rees 2005:555), we are optimistic that programs like UCI ADVANCE, with adaptation to particular contexts and cultures, have the potential to improve gender inequity wherever it exists. Still, developing such programs takes initiative, dedicated and highly trained personnel, funding, and a friendly administration. Institutions where these factors are present and especially where accelerated growth is possible have opportunities to make meaningful change. Those institutions that find themselves in less favorable situations may work toward developing these stepping stones before they launch such an initiative.

Epilogue

UCI continues to feature the ADVANCE Program, and its director now has expanded oversight as Vice Provost for Academic Equity, Diversity, and Inclusion. In 2009–2010, the UC system experienced a severe budget constriction that caused the UCI campus to initiate a hiring freeze on most faculty hiring. Hiring under such constrained and unusual circumstances most likely introduced additional factors that impact women's hiring and representation. Although this issue is outside the scope of this article, we note that the gender composition of hiring during the two peak crisis years increased the degree to which males were favored (whereas UCI had been hiring an average of 42 percent females in the five years prior to the crisis, it hired only 36 percent during these two years). Nevertheless, as regular faculty hiring began to recover, so did the gender composition of new hires, such that in 2014–2015, 50 percent of all new hires were female. And while the overall percent female faculty remained constant at 32 percent for several years, the 2014–2015 hiring cycle brought the overall percentage to 34.

Appendix

Correlation Table.

Campus Characteristics	% women faculty	% women new hires	% women separations	Advance campus	Civil rights era	% change faculty size	% women prior year
% women faculty	1.00						
% women new hires	.37	1.00					
% women separations	.11	.08	1.00				
Advance campus	.06	.19	.02	1.00			
Civil Rights era	.35	.17	.31	.44	1.00		
% change faculty size	.15	−.08	.02	.05	.01	1.00	
% women prior year	.98	.29	.10	.04	.33	.26	1.00

Declaration of Conflicting Interests

Funding

Notes

1. We extend this time period to 2010 because data on availabilities are available in aggregate form between 2006 and 2010.
2. Gender mainstreaming is defined as "the promotion of gender equality through its systematic integration into all systems and structures, into all policies, processes and procedures, into the organization and its culture, into ways of seeing and doing" (Rees 2005:560).

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