

Climate Change at the University of Wisconsin-Madison: What changed, and did ADVANCE have an impact?

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Abstract—The University of Wisconsin-Madison received an NSF ADVANCE Institutional Transformation award in 2002. One goal of this grant was to improve departmental climate for women faculty in the sciences and engineering. Between 2003 and 2005, the ADVANCE program implemented a number of new initiatives on campus. In 2006, we repeated our faculty climate study, and can reassess the climate for women and faculty of color in science and engineering departments. Between 2003 and 2006, we have documented a change in the majority groups' perceptions of the climate experienced by underrepresented groups. Specifically, men faculty and white/majority faculty perceive the climate for women and faculty of color more similarly to the actual climate reported by the individuals in these underrepresented groups in 2006. The attitude shift is correlated with participation in ADVANCE activities, especially attendance at the *Searching for Excellence & Diversity* hiring workshops, where research on unconscious biases and assumptions is presented and discussed. These findings provide some evidence that the ADVANCE program at the UW-Madison has contributed to the climate change we are seeing on campus.

Introduction

Much of the literature surrounding the issues for women faculty in academic science and engineering contain some mention of a “chilly climate” for women in these disciplines (Aguirre, 2000; Bronstein, Drew & Work, 1998; Ginorio, 1995; Sandler & Hall, 1986.) According to this literature, the climate for women in academia is at least partially responsible for disadvantages for women in hiring, promotion, productivity, tenure, access to resources, salary and benefits, and other elements of the faculty job in which women are disadvantaged. Although very little evidence exists that directly links unfavorable outcomes to women in the academy (e.g., lower tenure rates, less lab space, higher attrition, lower salaries, etc.) with the particular “climate” they experience in their departments and universities, the preponderance of evidence—both qualitative and quantitative—that women do experience a more negative “climate” than their male peers has sufficed to generate concern about the climate in departments and universities, and prompt major efforts to improve that climate for women faculty.

For purposes of this paper, we define “climate” as follows:

The atmosphere or ambience of an organization as perceived by its members. An organization's climate is reflected in its structures, policies, and practices; the demographics of its membership; the attitudes and values of its members and leaders; and the quality of personal interactions. (UW-Madison, 2002).

Using this definition, we see that some elements of climate might be easier to change and improve than others. The “structures, policies, and practices” can be altered by institutional leaders to improve the working experiences of women faculty. Increasing the numbers of women faculty can address the “demographics of its membership.” However, it is the element of climate described as “attitudes and values of members” and the “quality of personal interactions” that is the commonly-understood meaning of “climate.” It is these vague, interpersonal elements of climate that may be the most difficult to change, because it requires the changing of individual attitudes and behaviors.

How might one think about improving climate in an academic setting? Carnes, Handelsman, Sheridan, and Fine (2005) proposed thinking about changes in attitude related to an increasing acceptance of diversity in the academic workplace as occurring in a series of stages. In the first stage (precontemplation), faculty members are unaware that a climate “problem” exists. They do not realize that women and other underrepresented groups in their departments do not feel welcome, and when presented with evidence of such differential experiences, they often blame the women or the underrepresented persons as simply “not fitting in.” In the second stage (contemplation), faculty members begin to understand that women and other underrepresented faculty members are experiencing a “chilly climate” and see this as problematic. The third stage (preparation) is a period when faculty prepare to make some change, such as taking a personal inventory of their own behaviors, or seeking out workshops, books, or references for advice. During the fourth stage (action), faculty members actually change their attitudes and behaviors, creating a warm and welcoming climate for all faculty. Finally, the fifth stage (maintenance) describes the process of examining behaviors and making adjustments to continually ensure that climate remains positive for all. Using this framework, Carnes and her colleagues theorized that improving campus climate means moving the attitudes and behaviors of faculty member from the “precontemplation” stage through to the “maintenance” stage, and they designed survey items to measure this change on one campus as part of a project funded by the National Science Foundation (NSF).

The NSF’s ADVANCE program was implemented in 2001 to address the institutional-level issues that are impeding women’s full participation and advancement in academic science and engineering (National Science Foundation, 2001). Previous years of funding individual women faculty had made very little impact on the percentages of women at the highest ranks of academia (Rosser, 2004); thus, a new program was designed to promote “institutional transformation” to create the change that NSF was hoping for in scientific and engineering leadership in the United States. By making awards at the institutional level, the ADVANCE program was attempting to affect all areas of climate noted above—policies and procedures, increases in women faculty, and changes in attitudes and behaviors—in order to ultimately increase the promotion and advancement of women in academic science and engineering. By making very large awards (\$3.75 million over 5 years) to campuses, the NSF hoped to generate a series of proven approaches to making our academic institutions more hospitable to women faculty. The University of Wisconsin-Madison was a first-round recipient of an ADVANCE Institutional

Transformation Award, naming its project the “Women in Science & Engineering Leadership Institute (WISELI).”

WISELI Interventions

To address the issues for women faculty in the biological and physical sciences at UW-Madison, WISELI addressed “climate” from all angles. University policies and procedures were examined, especially as they related to distribution of resources between women and men faculty. Emphasis was placed on the hiring of women faculty in biological and physical science departments, and a new workshop was developed to train chairs of faculty hiring committees to perform more broad and inclusive searches and more fairly evaluate each applicant for the position, especially those from underrepresented groups. Finally, the “chilly climate” at the departmental level was specifically addressed with the creation of the *Climate Workshops for Department Chairs*.

Each of the two main workshop series designed and implemented by WISELI attempted to alter the attitudes and behaviors of faculty. In the *Searching for Excellence & Diversity* hiring workshops (WISELI, 2002a), we work primarily with the chairs of faculty hiring committees in a workshop that lasts from two to four hours. In 2004 and 2005, around 100 faculty in biological and physical science departments participated in the training (some of them involuntarily, as one dean required attendance at the workshops before releasing a position to the department.) In these workshops, we use active learning and peer teaching techniques to teach search committee chairs about the “5 essential elements of a successful search” (WISELI, 2003a). We cover: running effective meetings; active recruitment; the effects of unconscious biases and assumptions on the search process; ensuring a fair and thorough review of candidates; and interviewing. The innovative element in this training is the approximately 25% of the workshop time devoted to a presentation and discussion of the research literature on the presence of unconscious biases and assumptions (WISELI, 2003b) and the specific ways that women and minorities are disadvantaged in the hiring process due to these unconscious tendencies. It is this element that we believe changes attitudes and behaviors with regard to departmental climate.

In the *Climate Workshops for Department Chairs* (WISELI, 2002b), we work with small (6-8) groups of department chairs to explore and change the climate in their departments. We work with the chairs in three, two-hour workshop meetings. As with the hiring workshops, the *Climate Workshops* are predicated on the concepts of active learning, and peer teaching; WISELI facilitators do very little talking in these sessions, they mostly facilitate discussion among the chairs. The first session (of three) is used to help chairs understand that the experiences of underrepresented groups in their departments might not be as positive as they might assume, and to convince the chairs that they have the power to improve the climate for those groups in the department. Between the first and second meetings, a small web-based climate survey is implemented within the chair’s department, and a confidential report of results is prepared for the chair. In the second session, the chair receives his/her report, and by the end of the session and with the assistance of the other chairs and the workshop facilitator, creates a plan for addressing

any issues that have arisen in their report. Between the second and third session the chair returns to his/her department to implement changes, and comes back for a third and final meeting where they discuss results and strategize about additional avenues for positive change. These workshops are designed to improve departmental climate through the concrete actions of chairs; however, only the attitudes of chairs (as opposed to other faculty in the department) can be directly affected through these workshops, as the chair is the only department member with which we meet.

Through these and several other interventions, WISELI hoped to create a positive climate change for women faculty in UW-Madison biological and physical science departments. The focus on departmental climate is important, for it is in these smaller units (the department) where feelings of disrespect, isolation, and lack of connectedness are felt most keenly. For the survey analyses that follow, we will focus exclusively on experiences of climate within a department (rather than on campus as a whole.)

Climate Survey Results

To measure change in the attitudes and perceptions of faculty surrounding their interpersonal interactions within their departments and on campus as a whole, WISELI designed a survey instrument, administered at the beginning of the ADVANCE project (2003), and again at the end (2006). In 2003, twenty-four different items were used to measure “climate” broadly (including within a department, and on campus as a whole), and in 2006 thirteen additional items were added. Some of these items measured climate as experienced by the individual (e.g., “I feel respected”, “I feel isolated”), and some of the items measured the respondent’s perceptions of climate overall for various groups (“Climate for women in my department is good”, “Climate for faculty of color in my department is good.”) Using a subset of these items that pertain directly to department climate, we investigated changes from 2003 to 2006 and correlated any observed changes with a number of variables, including participation in WISELI workshops and events.

The Study of Faculty Worklife at the University of Wisconsin-Madison

Development of the *Study of Faculty Worklife at UW-Madison* survey began in 2002 with in-depth interviews of 26 women faculty in the biological and physical sciences. Their comments and stories formed the basis of an instrument designed to investigate gender differences in workplace experiences of men and women faculty in biological and physical sciences. In late 2003, just before the instrument was to be fielded, the Office of the Provost requested that the survey be sent to all faculty in all divisions, and funded the additional costs associated with the expansion of the survey. This survey was implemented from February through June of 2003, and received a 60.2% response rate for all faculty, and a 59.1% response rate for biological and physical science faculty (WISELI, 2003c).

In 2006, WISELI re-surveyed the faculty in order to evaluate the impact of the ADVANCE grant on campus, and document any changes that occurred between 2003 and 2006. The survey was again extended to UW-Madison faculty in all divisions through the contributions of the Office of the Provost. It was in the field from February

through April of 2006, and received a 55.7% overall response rate, and a 54.4% response rate for biological and physical science faculty (WISELI, 2006).

The two surveys in 2003 and 2006 now provide the UW-Madison campus with a rich source of faculty attitude data. The datasets are reasonably representative of the faculty at large, with some exceptions. As is common in most surveys, women tended to respond at higher rates than men, and response rates also varied quite widely across schools and colleges, with the Law School and School of Business showing the lowest response. In the 2003 survey, women faculty of color¹ responded at the same or higher rates as majority faculty women, and men faculty of color tended to respond at lower rates, particularly Asian males. In 2006, all faculty of color (men and women, all racial/ethnic groups) tended to respond at lower rates than their majority counterparts, and in contrast to their high participation in the 2003 survey. Aside from these differences, response was quite consistent across measurable demographic characteristics of the faculty. Analysis of the 2003 and 2006 survey data in this study will be limited to the faculty whose primary departmental affiliation is a biological or physical science department (approximately 1,250 faculty in 70 departments comprise the population in which we are interested.)

Table 1. Response Rates* for Study of Faculty Worklife Surveys, 2003 and 2006

	2003			2006		
	Men	Women	Total***	Men	Women	Total
Surveys Mailed**	1,008	228	1,236	999	251	1,250
Completed Surveys Returned	576	152	730	511	167	680
Response Rate	57.1%	66.7%	59.1%	51.2%	66.5%	54.4%

* Biological and physical science departments only.

** Ineligible respondents removed from "surveys mailed" headcounts.

*** Total may be higher than the sum of men and women headcounts due to missing data on gender.

Baseline Data: Results from 2003

As is found in most climate surveys, women faculty report more negative departmental climate on almost all of the 11 departmental climate indicators we selected in the 2003 survey. They feel less respected, more isolated, less "fit", more exclusion from informal networks, and report feeling less involved with departmental decision-making processes. Most of the differences between women and men faculty were statistically significant at the $p < .05$ level. The results for faculty of color were not significant; however many of the indicators are in the direction of a worse departmental climate experience.

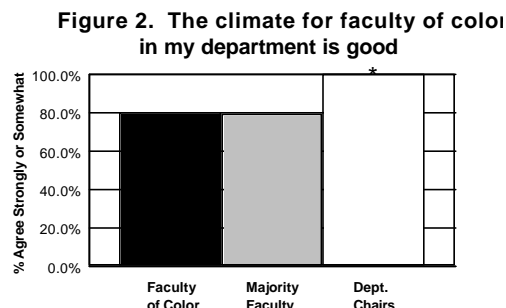
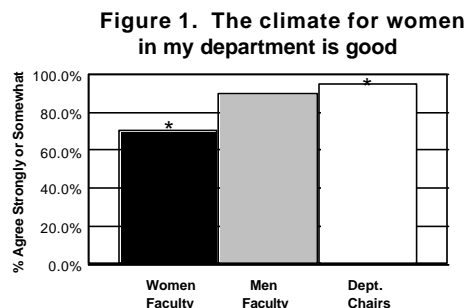
¹ "Faculty of color" is defined in this study as those faculty who self-identify as African American, Asian American, American Indian, and/or Hispanic. Faculty who are not U.S. Citizens are removed from the "faculty of color" designation even if they choose one of these non-white categories.

Table 2. Climate for Women and Faculty of Color, 2003

Item	Women (N=137)	Men (N=534)		Faculty of Color (N=47)	Majority Faculty (N=625)
I am treated with respect by colleagues	89.1%	93.1%		93.5%	92.2%
I am treated with respect by students	91.2%	97.7%	*	95.7%	96.5%
I am treated with respect by staff	96.4%	97.0%		97.9%	96.8%
I am treated with respect by my department chair	84.7%	91.4%	*	89.1%	90.1%
I feel excluded from an informal network in my department	46.7%	24.3%	*	37.0%	28.3%
I encounter unwritten rules concerning how one is expected to interact with	41.9%	26.4%	*	31.8%	29.4%
Colleagues in my department solicit my opinion about work-related matters	69.9%	85.4%	*	87.2%	81.8%
I feel that my colleagues value my research	68.5%	82.4%	*	76.1%	79.9%
I do a great deal of work that is not formally recognized by my department	59.0%	60.1%		58.7%	60.0%
I feel like I "fit" in my department	63.2%	78.1%	*	78.3%	74.8%
I feel isolated in my department	44.9%	22.5%	*	31.1%	26.8%

* Indicates significant difference at $p < .05$ level.

While these findings were disappointing, they were not surprising, as most campuses report similar discrepancies between these groups (MIT, 1999; University of Michigan 2002; University of Wisconsin-Madison Medical School, 1997; Johns Hopkins University, 1999). What we did find that was surprising in this survey was a large gap between women and men in the perception of the climate for women in the department. Specifically, men faculty overestimated the climate for women faculty by a significant percentage. Finally, we were most surprised to find that department chairs (who are primarily men in the 2003 sample) overestimated the quality of departmental climate for the women and faculty of color in their departments the most (Pribbenow et al., 1997). For all figures that follow, an asterisk (*) indicates a significant t-test at the $p < .05$ level; a tilde (~) indicates a marginally-significant t-test at the $p < .10$ level.



These results suggest that the UW-Madison faculty was in the “precontemplation” stage with respect to departmental climate in 2003, at the beginning of the ADVANCE work on campus. Most faculty, especially those in the majority (men, whites) and those in leadership positions, overestimated the actual climate for the underrepresented persons (women, faculty of color) in their midst. In the “precontemplation” stage there is no awareness that climate is an issue for women or minorities, and our data seemed to indicate that this was indeed the case in the biological and physical science departments at the UW-Madison.

Climate Change: Comparing Results from 2003 and 2006

Ultimately, we would like to know if women and faculty of color reported improved climate between 2003 and 2006. If so, we would like to know if we can attribute these changes to anything in particular—especially to the interventions that WISELI initiated on campus. First, we report on changes in the personal experience of climate for women and faculty of color at UW-Madison; next, we report the responses of men and of majority faculty with regards to their perceptions of climate for women and faculty of color. Finally, we then turn to the question of what might account for any observed changes.

Self-Reported Experiences of Climate for Women and Faculty of Color

Only a few of the specific climate items that were asked in both 2003 and 2006 showed a significant change over time for women, or for faculty of color. For women faculty in the biological and physical sciences, 5 of the 11 climate indicators were more positive in 2006 than in 2003, including the item “I feel I ‘fit’ in my department,” to which women faculty agreed significantly more often in 2006 than they did in 2003. Four of the 11 items showed no change at all between 2003 and 2006, and two of the items showed slightly worse experiences for women in 2006. Faculty of color also showed climate improvements for 4 of the 11 items on our instrument. Of note, we see a decrease in the percentage of faculty of color who report that they “feel excluded from an informal network in my department.” Six the 11 items showed no change for faculty of color, and one item showed a slight decline between 2003 and 2006.

Table 3. Climate for Women and Faculty of Color, 2006

Item	Women (N=156)	Men (N=495)		Faculty of Color (N=51)	Majority Faculty (N=599)
I am treated with respect by colleagues	89.0%	95.0%	*	94.1%	93.5%
I am treated with respect by students	93.0%	97.2%		94.1%	96.3%
I am treated with respect by staff	95.5%	98.0%		98.0%	97.3%
I am treated with respect by my department chair	88.1%	92.4%		87.2%	91.7%
I feel excluded from an informal network in my department	51.9%	21.6%	*	<u>21.6%</u>	29.6%
I encounter unwritten rules concerning how one is expected to interact with	46.8%	26.1%	*	27.5%	31.3%
Colleagues in my department solicit my opinion about work-related matters	77.1%	89.4%	*	86.0%	86.5%
I feel that my colleagues value my research	71.1%	81.0%	*	78.4%	63.3%
I do a great deal of work that is not formally recognized by my department	60.8%	59.3%		59.2%	59.7%
I feel like I "fit" in my department	74.3%	83.1%	*	74.0%	81.6%
I feel isolated in my department	35.7%	21.3%	*	25.5%	24.7%

* Indicates significant difference at $p < .05$ level.

Significantly HIGHER than 2003, $p < .05$.

Significantly HIGHER than 2003, $p < .10$.

Significantly LOWER than 2003, $p < .05$.

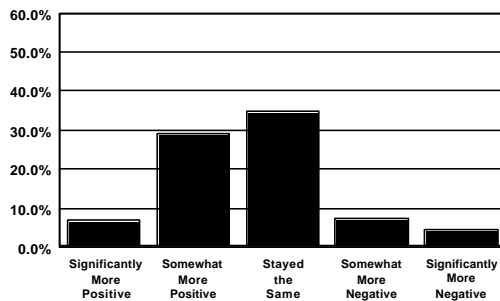
Significantly LOWER than 2003, $p < .10$.

The overall impression from these 11 indicators is that of a slightly improved departmental climate for both women, and faculty of color. The statistically significant improvement in the item "I feel like I 'fit' in my department" for women faculty (and others as well) is especially encouraging, as it is this one item that is perhaps the "best measure" of climate, because it is the most highly correlated with all of the other items (analysis not shown.) Significantly higher feelings of fit for women faculty in 2006 are a welcome change from 2003.

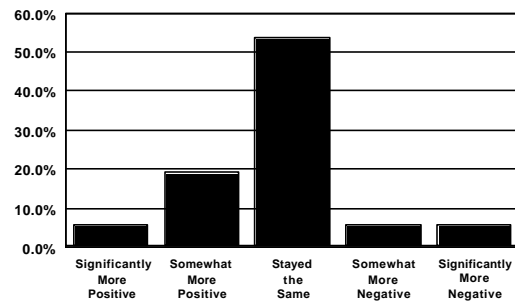
In 2006, we also asked faculty to report their own perceptions of climate *change* between 2003 and 2006. Women faculty in the biological and physical sciences reported positive change more often than they did negative change, as did faculty of color (although not as

strongly.) Three times as many women faculty indicated climate for themselves in their departments had improved rather than declined, and two times as many faculty of color reported a climate improvement for themselves rather than deteriorating climate.

**Figure 3. How Has Climate Changed for Me Personally
Responses of Women Faculty**



**Figure 4. How Has Climate Changed for Me Personally
Responses of Faculty of Color**

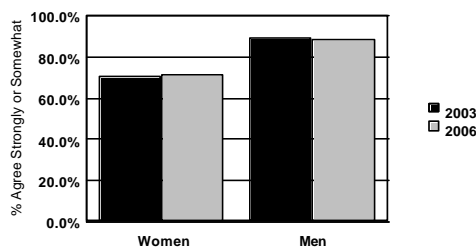


When measured from an individual perspective, one could say that climate is either the same or slightly improved between 2003 to 2006 for both women faculty and faculty of color in the biological and physical sciences at UW-Madison.

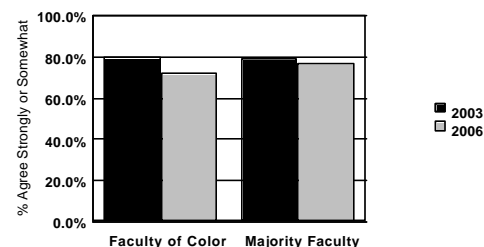
Perceptions of Climate Experienced by Others

How do women faculty and faculty of color perceive the climate for others like themselves in their departments? How to the majority faculty (male, and white) perceive the climate for their colleague who are women and members of racial/ethnic minority groups? Women faculty have not appreciably changed their opinion about whether climate for women in their departments is “good” between 2003 and 2006, while faculty of color are reporting less often in 2006 that climate for faculty of color in their departments is “good.” For faculty of color, this is in contrast to their self-reports about climate change over time for themselves; they are reporting that climate is improving in their departments even while they are less often in agreement that the climate is “good.”

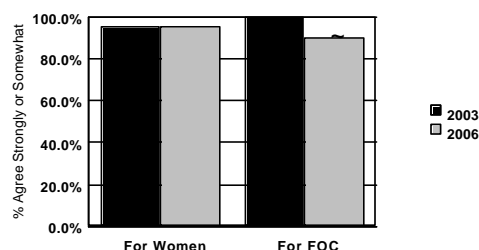
**Figure 5. The Climate for Women in
My Department is Good**



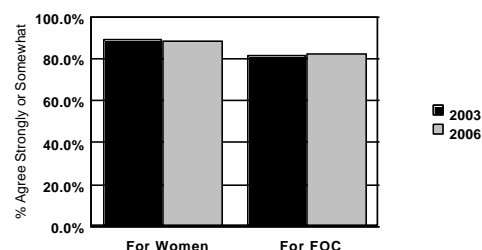
**Figure 6. The Climate for Faculty of
Color in My Department is Good**



**Figure 7. The Climate is Good in My Department
Responses of Department Chairs**

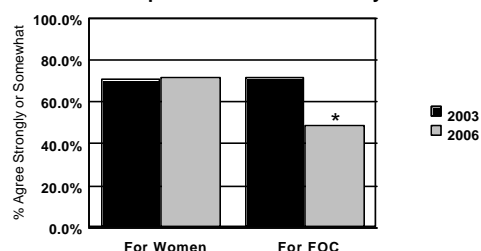


**Figure 8. The Climate is Good in My Department
Responses of Majority (White) Men**



These measures—of how women perceive the climate for women, and how faculty of color perceive the climate for faculty of color—can be used as an estimate of the “true” climate for women and for faculty of color in biological and physical science departments, if we make the assumption that women and faculty of color themselves are the most sensitive to the climate for others like themselves in a department. We then ask how well the majority group—men, and white faculty—view the climate in their department for women and for faculty of color, and also ask whether department chairs changed their views over this time period. As we saw in the 2003 data, there is a large gap between the perceptions of majority groups (men, white faculty) and leaders (department chairs) in a department, and the minority group (women, faculty of color) members’ own perceptions; we would like to know if this gap decreased in 2006.

**Figure 9. The Climate is Good in My Department
Responses of Women Faculty**



Overall, between 2003 and 2006, men faculty did not appreciably change their agreement to the item asking whether climate for women in their departments is good, and department chairs also saw little change on this measure; the gaps in perceptions did not decrease appreciably regarding the climate for women faculty. White faculty did slightly decrease their level of agreement to the question of whether the climate for faculty of color in their departments is “good”, although most of this change is due to the changing opinions of women on this item, as white male faculty actually increased their agreement to this item between 2003 and 2006. Department chairs showed a marginally significant decrease in the percent agreeing that climate for faculty of color in their departments is “good”, even though 90% of biological and physical science department chairs still agree in 2006 that climate for faculty of color in their departments is “good” (in contrast to the 72% of faculty of color who agree to the item.)

As mentioned briefly above, women faculty in the biological and physical science markedly decreased their agreement to the item “the climate for faculty of color in my

department is good” between 2003 and 2006. In 2003, approximately 71% of women faculty agreed that the climate for faculty of color in their departments was good, and in 2006, less than half (48.6%) agreed. Note that this is a much lower level of agreement than faculty of color themselves report.

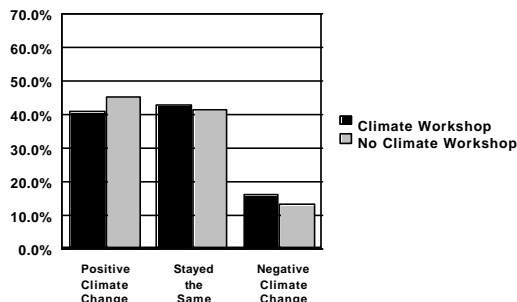
Using data for all biological and physical science faculty overall, we report the same or slightly improved climate for women and faculty of color when they are asked to report on the specific elements of departmental climate that they themselves experience. When asked to report about the climate for other women and other faculty of color, however, a slightly more negative picture emerges. Overall, we see little change in how majority groups (men, whites) view the climate for women and faculty of color, although we have some evidence that department chairs are developing a more realistic assessment of the climate for the faculty of color in their departments, as are women faculty in the biological and physical sciences.

Participation in WISELI Workshops and Attitude Change

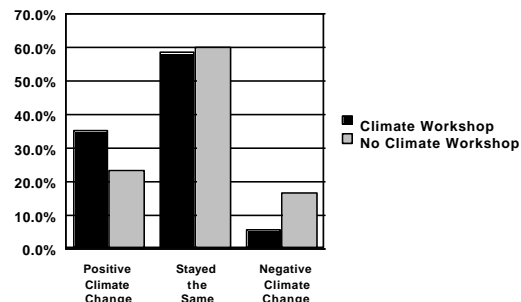
Although some change is observed in the aggregate for both individual experiences of departmental climate, and perceptions of climate for others, when we disaggregate our data by gender, race/ethnicity, and whether a faculty member and/or department member participated in a WISELI workshop, we begin to see more evidence of change occurring. In this section, we will focus on participation in two WISELI initiatives in particular—the *Searching for Excellence & Diversity* workshops for chairs of hiring committees, and the *Climate Workshops for Department Chairs*.

First, we investigated whether there is a relationship between self-reported climate change for women faculty and faculty of color and participation in WISELI workshops. For a women faculty member, having her chair participate in the *Climate Workshop for Department Chairs* did not appear to be correlated with a positive change over time (in fact, it may be more negative), whereas for faculty of color there does seem to be a positive relationship.

**Figure 10. How Has Climate Changed for Me Personally
Responses of Women Faculty**



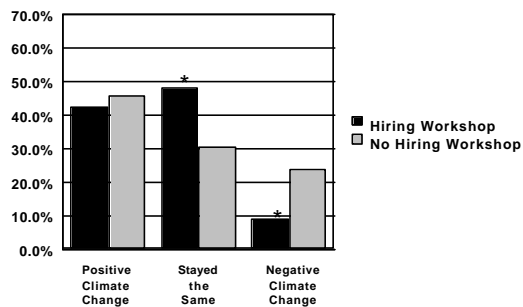
**Figure 11. How Has Climate Changed for Me Personally
Responses of Faculty of Color**



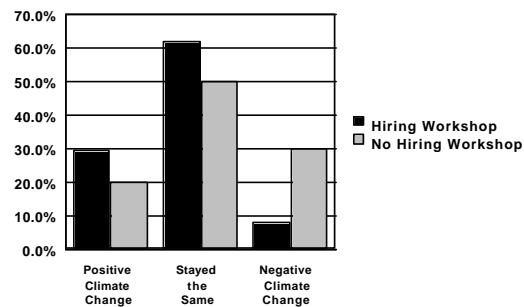
More change for women faculty is observed when at least one faculty member in a department participates in the *Searching for Excellence & Diversity* hiring workshops. Women who had a department member participate in the hiring workshops reported a negative climate change significantly less often than their female colleagues in

departments who did not send a faculty member to the workshops. Having at least one faculty member from a department participate in the hiring workshop is correlated with a report of positive climate change for faculty of color.

**Figure 12. How Has Climate Changed for Me Personally
Responses of Women Faculty**

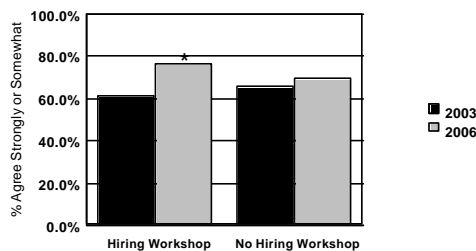


**Figure 13. How Has Climate Changed for Me Personally
Responses of Faculty of Color**

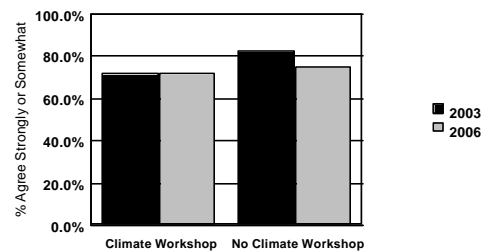


On the important measure of a feeling of “fit” in the department, we did see a relationship between having a department member participate in a hiring workshop for women (but not for faculty of color). Women faculty in the biological and physical sciences overall increased their feelings of departmental “fit” between 2003 and 2006, and this happened significantly more often for women in departments that participated in hiring workshops, compared to those which did not. For faculty of color, it was departmental participation in the climate workshops that was most highly correlated with feelings of “fit”—faculty of color whose chairs participated did not experience the decline in feelings of fit that other faculty of color experienced.

**Figure 14. I Feel Like I "Fit" in My Department
Responses of Women Faculty**



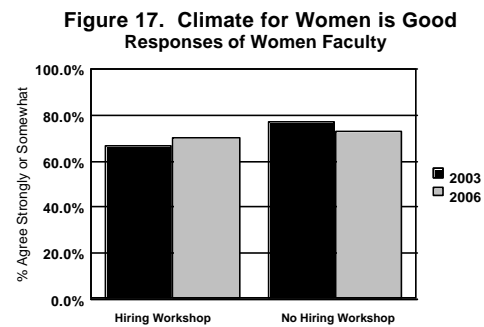
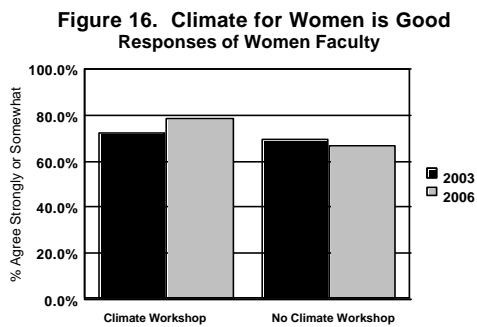
**Figure 15. I Feel Like I "Fit" in My Department
Responses of Faculty of Color**



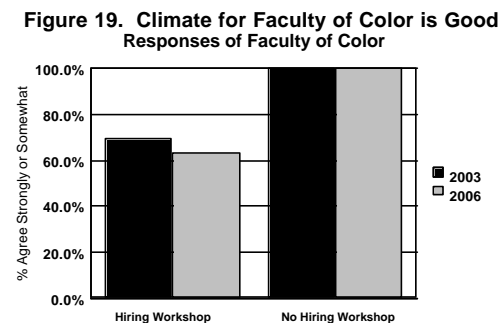
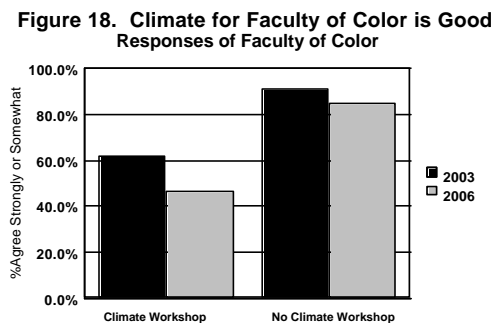
Thus, the two workshops appear to be related to perceptions of positive climate change between 2003 and 2006 for faculty of color, while only the hiring workshops are correlated with change for women faculty.

Is having a department chair or other faculty member who participated in one of WISELI’s workshops correlated with changes in agreement that climate is “good” for women and minorities? That is, are faculty who have been “trained” revising their views on how women and faculty of color are experiencing climate in their departments? Perceptions of the climate for women do appear to change for faculty who attended WISELI workshops, although the results are not statistically significant. Women in departments that participated in the *Department Chair Climate Workshops*, or sent a

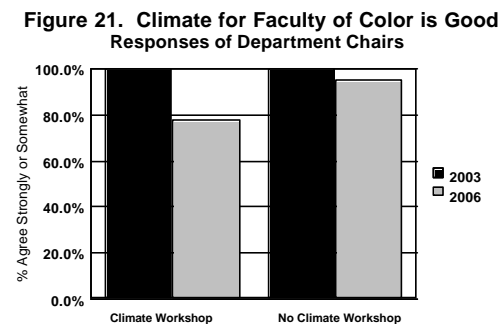
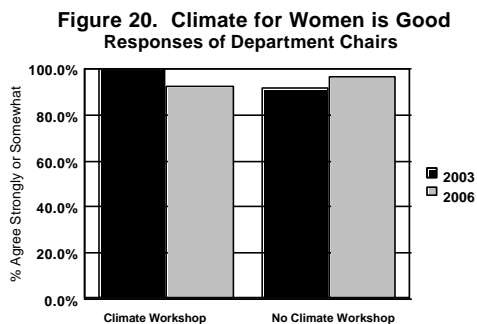
faculty member to the *Searching for Excellence & Diversity* hiring workshops, reported more often in 2006 that climate for women in their departments was “good.”



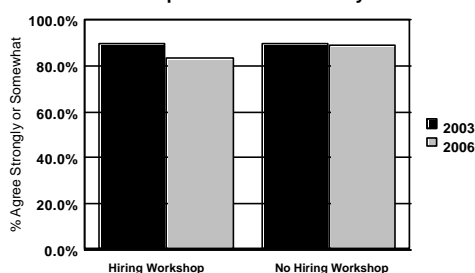
Interestingly, and in contrast to the self-reported climate change results above, faculty of color were not more inclined to agree that climate for faculty of color in their departments was good in 2006 if there was participation by their department in WISELI’s workshops. Again, these results are not even marginally significant, yet they are in a direction which is troubling.



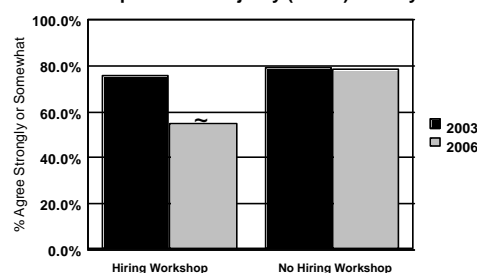
Finally, we ask whether participation in either WISELI’s *Searching for Excellence & Diversity* workshops, or a department chair’s participation in the *Climate Workshops for Department Chairs*, is related to change in attitudes about the climate for women and minority faculty in the department. We find that participation in these workshops does appear to be related to a decrease in agreement that climate for women, and especially for faculty of color, in one’s department is “good.”



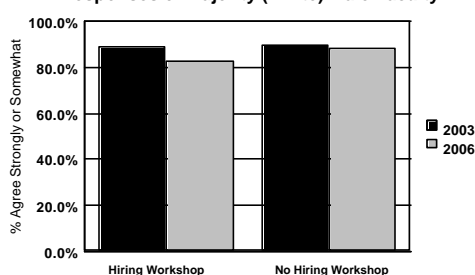
**Figure 22. Climate for Women is Good
Responses of Men Faculty**



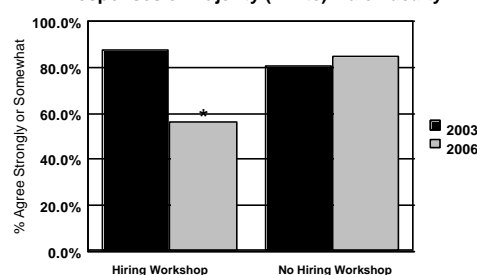
**Figure 23. Climate for Faculty of Color is Good
Responses of Majority (White) Faculty**



**Figure 24. Climate for Women is Good
Responses of Majority (White) Male Faculty**



**Figure 25. Climate for Faculty of Color is Good
Responses of Majority (White) Male Faculty**



Discussion and Conclusions

To return to the title of this paper, we find that there has been some climate change at the UW-Madison, and that the interventions created by WISELI likely are related to that change. The climate for women and minorities has improved slightly between 2003 and 2006, when we ask faculty about their personal experiences on a number of dimensions of departmental climate. It is less clear that faculty of color overall feel that climate has improved for all faculty of color, but women do report that climate has at least stayed the same between 2003 and 2006 for all women faculty. Perceptions of the climate experienced by women and faculty of color by the majority and leadership groups (men, whites, department chairs) have changed between 2003 and 2006; those faculty who are in the majority do seem to be revising downward their agreement that things are “good” in their departments for women and for faculty of color. This change appears to be most strongly related to participation in our *Searching for Excellence & Diversity* workshops for chairs of hiring committees.

As we show in Figures 24 and 25, white male faculty who participated in our hiring workshops were slightly more likely to disagree that climate for women faculty in their departments was “good” in 2006, and significantly more likely to disagree that climate for faculty of color in their departments was “good” in 2006, compared to 2003. Although one might argue that this indicates actual worse climates for women and for faculty of color, we believe that this revision downward actually reveals a positive change—from the former stage of “precontemplation” to “contemplation” and perhaps even “action.” Faculty who participated in our hiring workshops were exposed to the literature on unconscious biases and assumptions, and were provided with specific tips on how to reduce their impact in the hiring process (WISELI, 2003b). It is possible that creating this awareness for the hiring process may have also raised the awareness more generally, and we are seeing the positive effects on climate in three years. The extension of these individual attitude changes to changes experienced department-wide by women

faculty especially (see Figures 12 and 14) may stem from our choice to train primarily chairs of hiring committees in these workshops. Faculty members who are chosen to chair a faculty search are usually senior level male faculty members who get along well with others in the department; as such, they are particularly influential in their departments.

Of course, we are mindful that most of the faculty who participated in our workshops—department chairs and chairs of hiring committees—did so voluntarily. It is very possible that the correlations with changes in attitude that we observe in our faculty surveys are actually related to the participating faculty members' willingness to investigate issues of bias and climate in the first place. That may be true; however, the faculty members who participated in our workshops exhibited attitudes in 2003 that were not significantly different than their colleagues who did not participate. That these faculty sought the training that we provided and then revised their attitudes accordingly probably indicates that a core group of senior faculty members have made the transition through the stages of change.

We are also mindful that very few of the changes we have reported in these analyses are statistically significant at the conventional $p < .05$ level. The significant relationships we report are those we highlight most, but we think that the general *patterns* of findings are important as well—they tell a coherent story about climate change for underrepresented groups at UW-Madison. It is difficult to imagine that major significant changes could occur on a campus as large and decentralized as the UW-Madison in just three years (the time gap between surveys); thus, we do feel it is appropriate to analyze the patterns of difference rather than to narrowly focus only on those few changes that were statistically significant.

Departmental climate change at UW-Madison does appear to be slowly occurring. It is different for women faculty and faculty of color, and yet both of WISELI's interventions appear to be making a difference. WISELI's *Searching for Excellence & Diversity* workshops for chairs of hiring committees appears to be making great strides at changing the attitudes of individual faculty members, and some of these faculty take these changes back to their departments with them to improve climate there, especially for women faculty. The *Climate Workshops for Department Chairs* appear to be changing the attitudes of chairs, but this does not always translate into a better climate experience for women faculty. The workshops do seem to be having a greater impact on the experiences of faculty of color. Perhaps the chair's participation in the workshop, and the departmental climate survey, creates a backlash against women faculty in those departments who participate, because the chair's participation is mostly seen as an intervention aimed at the women (our name, Women in Science & Engineering Leadership Institute, has that effect on people.) Future iterations of these workshops may have to address the backlash issue more directly. Overall, however, we are heartened to see that our workshops are having positive effects on the experiences of women and minority faculty in the biological and physical sciences, and plan to continue this work until our entire campus has entered the "maintenance" stage of change.

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