StratEGIC

Strategies for Effecting Gender Equity and Institutional Change

Enhanced Visibility for Women and Women's Issues

In this Brief, we discuss interventions that seek to enhance the visibility of women as scholars, teachers, and leaders in STEM disciplines and of the issues that face women in their advancement in the academy. Taking a wide variety of forms, these interventions all seek to raise awareness—whether by celebrating women's accomplishments, sharing research on the state of women's representation in STEM, or drawing attention to the work of the campus ADVANCE project in reducing barriers to women's full participation in the academy. Visiting scholars have been frequently used at ADVANCE institutions for a variety of purposes and in varied forms; this intervention is separately addressed in Brief 12. Education on implicit bias also served to increase awareness; its targeted use to address specific groups (e.g., search committees) to achieve specific institutional goals (such as attending to equity in faculty searches) is discussed in Briefs 5 and 6.

Rationale

Numerous studies show that women's scientific contributions are devalued compared to those of men (Long & Fox, 1995; Wennaras & Wold, 1997; Goldin & Rouse, 2000; Lincoln, Pincus, Bandows Koster & Leboy, 2012, and references therein). Both men and women evaluate men more favorably than they do women, even when they have identical credentials (Correll et al., 2007; Steinpreis, Anders & Ritzke, 1999; Moss-Racusin et al, 2012). Moreover, self-assessments of ability are influenced by cultural beliefs about differences in men's and women's capabilities (Correll, 2001); therefore, women are less likely to apply for awards or ask to be nominated (Rudman, 1998), as well as less likely to receive awards for their scholarly work (Lincoln et al., 2012). Both the language of award criteria (Carnes et al., 2005) and the language of recommendation letters (Trix & Psenka, 2003) may be biased by gender schemas that do not portray women as intellectual leaders. The net outcome is that women's accomplishments are less visible and less valued than men's. This is the rationale behind ADVANCE projects' efforts to counter this pattern by highlighting and promoting women's accomplishments.

ADVANCE projects also found value in communicating the barriers STEM women face in the academy and the institutional work required to remove or reduce these barriers. To achieve transformation that is truly "institutional," ADVANCE IT projects must broadly affect many campus systems and many local, unit-based cultures, and must therefore engage the active support of a wide array of constituencies on campus. Communication about ADVANCE and the problems the project sought to solve aimed to inform and engage a wide range of on- and off-campus audiences, seeking to generate interest, inform discussion, draw participants into their programs, and engage allies and partners. These activities were not only important as outreach but also benefited the project by helping team members to hone their language, identify needs, solve problems collaboratively, develop partnerships, and become aware of where and why they might meet with resistance.

Purpose and Audience

Different communication efforts targeted different audiences. Informational materials and meetings were used to make individuals aware of opportunities and inform departments about activities they could join. Particular stakeholder groups—such as deans, chairs, or administrators at certain levels—were updated and

engaged at their regular convenings or in special, topical sessions. Websites were used to honor women scholars, celebrate awards and accomplishments, disseminate resource collections, provide information on upcoming events, and share information with other ADVANCE efforts.

Models

Interventions to enhance visibility necessarily overlap in both substance and function. Below they are distinguished by three main purposes: to celebrate women's professional accomplishments, to highlight the status of women in STEM and offer research-based explanations for this status, and to draw attention to the work of the ADVANCE project itself. A comprehensive communication plan will make use of several of these approaches and will repeat, revise, and strengthen them over time.

1. Celebrating women's achievements

Collectively, these approaches seek to highlight and publicize the accomplishments of women on campus. Such approaches may help to dispel myths about women's productivity or merit; they may help individual women to claim due credit for their successes or recognize opportunities for appropriate self-promotion. Making senior women faculty more visible on campus may help to remedy inequity of recognition at the top levels where they are most underrepresented, such as distinguished professorships or named chairs.

> *Recognizing women's success.* Many projects featured women's achievements and leadership on their website or in newsletters, recognizing awards for research, teaching or service; tenure and promotions; professional society roles; major grants and papers; and other notable achievements. Some projects highlighted the scholarly work of specific women through a "spotlight" article or video on the ADVANCE website or in the newsletter. Some hosted celebrations to acknowledge women's accomplishments, often in conjunction with other women's networks or centers on campus, or held a reception for grantees in their faculty grants programs (see Brief 2). Others drew attention to senior women scholars on their campus through special designations as scholars or ADVANCE advocates (e.g., the Lamont-Doherty Earth Observatory Research Professors at the *Columbia* ADVANCE project) or through a colloquium series featuring women scientists.

> *Enhancing nominations of women for awards*. Studies show that women are less often nominated for and awarded professional awards for their research (Lincoln et al., 2012). Some institutions documented gender differences in awards at the campus level, then compiled and publicized information about these awards to encourage nominations of women. Some helped departments to identify external awards in their disciplines for which faculty could be encouraged to apply or be nominated. *Hunter College* worked with its provost to add questions to departments' annual diversity reports on departmental nominations of faculty for awards, enhancing data collection as well as reminding departments of their nominating role.

2. Drawing attention to the status of women in STEM

Effective use of the body of social science research on gender and diversity as a tool for change has been a hallmark of the ADVANCE program as a whole. Local data on women's representation and advancement can also be powerful for communicating the need and urgency for institutional change.

> *Publicizing gender equity research through talks and symposia*. ADVANCE projects found a variety of ways to communicate evidence about the status of women in STEM and its causes, such as gender bias in evaluation. Visiting scholars were often invited to address these topics, as well as give a science research seminar and meet with faculty, students, and administrators (see Brief 12). Some institutions featured their own faculty gender scholars in talks, panels, discussions, and symposia. As team members developed expertise in these topics, they incorporated this research into brochures, videos, and

presentations and shared the bibliographies they created. They also made use of indicator data, such as that requested by NSF from institutions receiving ADVANCE grants, to localize the issues in their own institutional context (Frehill, Jeser-Cannavale & Malley, 2007). Briefs 5 and 6 note some useful references on implicit bias in particular.

Dramatizing the issues. The **University of Michigan's** CRLT Players pioneered the use of theatrical performances to dramatize issues for women faculty. ADVANCE supported the troupe to develop and perform humorous, research-based performances to portray situations such as a faculty meeting dominated by a bully or the deliberations of a tenure committee that show faculty expressing and trying to respond to implicit bias. In this model, actors followed each performance with a facilitated discussion of the issues raised. The group has performed at other campuses and led workshops for other troupes who wished to develop their own shows. **Georgia Tech** hosted a "Women in Science" film festival.

3. *Publicizing the ADVANCE project*

Efforts to raise awareness of women's accomplishments and the barriers they face provided some opportunities to make stakeholders aware of how the ADVANCE project was tackling these challenges. Yet beyond this, ADVANCE projects found it important to very actively communicate the goals and substance of their work to enlist participation and support at all levels.

Defining an identity. New ADVANCE projects must establish an identity and name recognition. Nearly all developed logos and websites and established a consistent look for newsletters, brochures, and slide sets. Furnishing and labeling a dedicated ADVANCE office raised the project's visibility, as well as fulfilling practical needs for meeting and work space. Small gifts to speakers, workshop leaders, and participants helped to spread the ADVANCE name and logo around campus and beyond; examples included pens, notepads, sticky notes, tote bags, portfolios, water bottles, magnets, mugs, coasters, and mouse pads.

Communicating with stakeholders. ADVANCE leaders described the need to "maintain a drumbeat" of communication about ADVANCE to campus constituencies. Strategies commonly used included: the project website; online or print newsletters; print materials such as brochures, flyers, postcards, and business cards; bulk and targeted e-mail; and videos. Some materials provided specific groups with relevant information (e.g., programs available to assistant professors). Project teams might meet to provide information to and gather input from individual academic departments, professional units relevant to ADVANCE work (e.g., human resources, campus communications, institutional research), faculty governance bodies, committees involved in faculty issues, and special task forces (e.g., Committee on the Status of Women, strategic planning groups). They sought out invitations to present the project to the university regents or trustees, gatherings of chairs or deans, students, and alumni.

As their expertise developed and awareness grew, ADVANCE personnel were sometimes asked by the provost or president to take an advisory role in specific projects or to provide information on particular issues—for example, to prepare a background paper on child care needs or gather data on work/life policies at comparable institutions. Across campuses, ADVANCE leaders used and further developed their personal and professional relationships to gain allies, generate ideas, and solve problems.

Communication to off-campus constituencies centered on institutions' ADVANCE websites, which often included event calendars and sign-up systems, brochures, workshop handouts, presentation slides and posters, research manuscripts, resource collections, evaluation reports, NSF proposals and annual reports (edited where needed to protect confidential data), information about the project team, evaluators and advisors, and suggested ways for readers to get involved. Press releases and advertisements to local papers and media outlets helped to inform the broader community and invite them to public events.

Sharing resources. Some ADVANCE projects compiled lists of campus or community resources for faculty (e.g., work/life policies, faculty development opportunities) and publicized them through brochures or websites. Some developed short videos as informational tools; for example, the *University of Wisconsin-Madison* made videos about three of its popular programs—Life/Cycle grants, Department Chair Climate Workshop, and Searching for Excellence & Diversity. Projects generously shared their intellectual products online—evaluation findings, research activities, bibliographies, and manuscripts—and at the annual ADVANCE investigators' meetings, professional meetings, and through regional consortia. The web portal developed at *Virginia Tech* gathers resources across all ADVANCE projects (www.portal.advance.vt.edu).

Examples

The *University of Rhode Island* formed an Internal Advisory Action Council of university leaders to discuss issues surrounding institutional climate change and held an Administrator's Breakfast Summit to put work/life issues at the forefront.

At *Case Western Reserve University*, ADVANCE co-hosted a yearly celebration with the campus women's center to recognize all honors to women faculty over the preceding year. The annual "Women of Achievement" luncheon became a popular and well-attended event. A new award for an outstanding woman scholar in each school was also established and announced at the luncheon.

Utah State University built relationships with a wide range of campus offices that yielded new and creative ideas for supporting women faculty and staff. Human resources personnel were crucial in sustaining the training of search committees and monitoring search data after the grant ended. Staff in facilities management helped to develop and furnish lactation spaces; parking management had the idea to provide pregnant women with a parking permit in their third trimester; and the women's basketball coach helped to raise funds for a campus child care facility.

A few institutions experimented with efforts to raise student awareness of gender issues in STEM. The team at *Case Western* found that classroom presentations were not well-received, but results were improved when the session was career-focused, held outside of class, promoted by student organizations, and involved graduate students as leaders.

Georgia Tech held a "town hall" to discuss sustaining and institutionalizing its ADVANCE activities.

The *University of Puerto Rico at Humacao* supported the production (and DVD recording) of a play written by a faculty member about mathematician Emmy Noether. Noether's struggles to obtain a faculty position in the early 20th century were linked to the current situation of women in the sciences. Some 800 people attended the performances, which included a special showing for administrators and department chairs.

The *Earth Institute at Columbia University* convened a symposium on the "Science of Diversity" that featured scholars from social science and law to discuss topics including cognitive bias, judgment, and decision-making; the effects on individuals of subtle environmental changes; structuring inclusive environments; and translating research into action. The symposium was featured in a highly visible medium in the discipline of this research institute (Laird, Bell, Downey & Pfirman, 2007).

The ACES project at *Case Western Reserve* developed a comprehensive communication strategy. Team members met with each department as it was scheduled to receive the ACES interventions. Faculty received packets with general information about ADVANCE and the ACES initiatives, as well as readings and resources customized for female faculty, male faculty, and department chairs. Packets were updated every summer to reflect the expansion of services and current offerings.

All chairs, faculty, and department assistants of the 32 ACES departments received regular email updates and flyers about activities, visiting lecturers, networking events, and application deadlines. The PI gave presentations and updates about ACES at meetings of the Board of Trustees, Faculty Senate, and Deans Council and handed out the ACES progress report at events and meetings. The project director led workshops on search guidelines and procedures for business managers and department assistants university-wide, as well as providing other bias and diversity training and meeting facilitation by request. The ACES newsletter was distributed twice a year.

Evaluation

Examples of formal evaluation of communication strategies were rare. Attendance at events can be documented and web analytics used to track the use of online resources. Projects should have a robust system to track the team's outreach efforts to departments, committees, and other campus groups, as this information is helpful both in reporting and in recognizing additional opportunities.

Some climate survey items may indicate how well the project has penetrated campus consciousness. For example, the final climate survey at the *University of Colorado Boulder* showed that 91% of tenure-stream faculty were aware of the ADVANCE project by name, and 38% of this group had participated in one or more events (Laursen, 2009). Both awareness and participation were higher among women than men and were lower among teaching and research faculty who had only partial access to project activities.

Affordances and Limitations

These visibility-enhancing strategies offered several affordances:

- Strong communication strategies were important for raising awareness of ADVANCE early in the project. As team members practiced and received feedback on their public messages, they gained clarity about how to best reach various audiences and refined their theories of change.

- Use of the social science research on gender was widely felt to be effective in persuading stakeholders that the problem was real, persistent, and often grounded in widely held, unconscious psychological schemas (Valian, 1999). Leaders found empirical evidence to be necessary (though not sufficient) for persuading STEM faculty, as data "speak scientists' language."

- Online resources were readily accessed by individuals on and off campus, while in-person events such as colloquia and panels often doubled as opportunities for campus networking (see Brief 3).

- Most communication strategies are relatively low in production cost, although the time investment may be significant in developing messages and materials. The campus communications office or colleagues who specialize in marketing may be able to provide advice. Some logos and materials may need to be vetted by campus communications officials.

- Early actions could also serve as means to get the word out. For example, some projects found that distributing funds through small grants programs (Brief 2) was an effective way to draw faculty attention and alert department chairs to how ADVANCE might benefit their faculty.

Project leaders also noted some limitations:

- Consistent support for web development and updating was a recurring issue. If this expertise was not available on the project team, it was important to negotiate the source and priority for technical support—where it would come from and what priority it would have.

- Not all audiences were favorable to ADVANCE. Team members needed to develop good listening skills, but also thick skins, to prepare to respond thoughtfully to critics yet avoid becoming

discouraged when resistance emerged. It was important to recognize that the pace of change varied in different units and, thus, to be patient and "cheerfully relentless," as one leader put it.

- As the ADVANCE office became more visible, it often became a go-to resource for individual women needing advice about difficulties in their personal lives or departments. ADVANCE leaders took on support, advocacy, and ombuds roles that they had not anticipated; as senior and well-connected people, they could often serve as intermediaries or discreetly alert colleagues of a problem. While these activities were important, valued, and clearly needed, they could be time-consuming and emotionally draining. And, absent a formal role in the unit's tenure process, ADVANCE leaders could find such work to be politically tricky, for example when advocating for fairness in a tenure appeal without seeming to advocate directly for a particular tenure candidate. We list this as a limitation to alert teams to the likelihood that these issues will arise so that they can consider in advance how they might respond.

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