Gendered Pathways in Faculty Careers

Do female and male faculty have similar experiences in their progress toward promotion and professional success? Does gender play a role in how faculty members perceive their integration into their departments? And with their colleagues?

These questions are some of those being explored in a three-year study of tenured faculty in the STEM departments of our ADVANCE grant. Based on interviews with a matched sample of 50 women and men, researchers Jeni Hart (co-principal investigator) and Jackie Litt (principal investigator) are presenting a picture of gender differences that speaks to the resilience of female faculty.

From the initial analysis, the researchers found that all faculty members experience both supports and barriers in their pathways to career success. For example, all faculty members rely on others for professional connections and resources. Building on national research, faculty at MU report that support and networks are significant resources in professional success, particularly in research groups, including those that are interdisciplinary. Yet at some point, men and women report feeling excluded from departmental decision making and feel they are less valued for their work than they believe they deserve.

Success and advancement (for example, years toward promotion to full) are similar for women and men. Despite much commonality in the experiences of women and men, the researchers have found that gender differences in perceptions of professional work do exist. While all the women acknowledge the importance of professional ties to success, most feel a distinct lack of these ties at the University, particularly in departments where women are only one or two of the total faculty. (The exception here is in interdisciplinary research groups, which appear to offer women greater integration.) In addition, women report having many more departmental “service” responsibilities than men, including advising — both formal and informal, teaching some of the larger and more labor-intensive courses and chairing time-intensive (though not necessarily powerful) committees, etc. Thus the researchers suggest that while the women and men they interviewed have both supports and challenges, women have to use more “work arounds” (i.e., work to get around barriers) to advance their career success.

The figure at right represents a preliminary model that depicts gender differences in the career pathways of the women and men. It has two lines. The top, what Hart and Litt call a “linear pathway,” is more likely to represent men’s career experiences: it represents a trajectory that is predominantly straightforward in its direction. While diversions or barriers do occur (loss of funding, lack of graduate student support, exclusion from a collaborative project — these are represented by the vertical lines in between the arrows), they generally do not interfere with the direction of work effort. More often than not, men have support mechanisms in place that keep them on the linear pathway. By contrast, the researchers depict a “fluctuating pathway” to represent women’s career pathways, such as those described above. As the model shows, interruptions in the trajectory are more consequential in terms of time commitment and work effort: diversions can lead to further diversions. Furthermore, as previously mentioned, when they do face barriers, women report spending time developing work arounds to those barriers until they develop resources to overcome them.

The pathways are aggregations into which most women and men fit. The researchers point out that some women do follow the linear path and some men follow the fluctuating path. Feelings of inclusion and exclusion within departments, with colleagues, etc., depend largely upon which of these paths faculty follow.

Over time, diversions off the path can create a cumulative disadvantage for professional success. That is, not only do diversions lead to other diversions but they may pile up to accumulate into major barriers to scientific and professional advance. Thus, while cumulative disadvantage may not result in more time to promotion to full professor or the achievement of other academic accolades, it does result in inequitable work environments. Given the findings, the researchers suggest that institutional measures can be developed to ensure equitable access to resources, network ties and divisions of departmental work.

Faculty Profile: Kathleen Trauth

MU Associate Professor Kathleen Trauth, the youngest of seven daughters, followed in the footsteps of a long line of highly educated women. All of her sisters went to college and graduate school, and five of the seven siblings, Trauth included, have doctorates. But Trauth says being the seventh in line motivated her to work hard. “I recognize the importance of influence,” she says. “Even in high school I knew I was going to go to graduate school. That was my trajectory.”

Trauth received her bachelor’s degree from Ohio State University and her master’s degree and doctorate from Texas Tech University, all in civil engineering. She has been a faculty member of the Department of Civil and Environmental Engineering at MU for nine years and is the faculty advisor of the Society of Women Engineers. “Nobody in my family was an engineer; the only way I found out about [the field] was from a guidance counselor who asked me if I had ever thought about it,” she says. “So for me, counseling is sort of a giving back. I think that’s why I’m so into it — I recognize how much I benefited, and I want others to benefit from it.”

Since arriving at MU, Trauth has been conducting research in the areas of water resources, particularly surface water quality and quantity, and land and water runoff. “The water quality issue is becoming more and more important in storm-water management,” she says. “Water has the ability to chemically dissolve materials and the energy to physically move materials. Unfortunately with storm water, that means that many pollutants on land surfaces make their way to streams and degrade water quality.”

As a mentee in the Mizzou ADVANCE program, Trauth says she wants to gain a better understanding of the skills necessary for leadership positions and for reaching her highest capabilities in her field. “I’m still on my trajectory,” she says.

For more information about Trauth, read her full profile online at mizzouadvance.missouri.edu/profile_trauth.html.
Mizzou ADVANCE Programs

Mentoring

For career guidance and professional development, the Mizzou ADVANCE Mentoring Program matches senior (i.e., associate and full) STEM faculty with more senior faculty and administrators. As it finished its second year, the program had 15 pairs of faculty participating in one-on-one mentoring relationships. The Mentoring Program also reaches many more faculty, including junior STEM faculty and those from our sister campuses and Lincoln University with events such as Lunch and Learns and professional development workshops. The most popular events in 2008 included the February and November Lunch and Learn sessions on preparing promotion dossiers and managing research collaborations, respectively. Both gatherings offered practical advice on key career issues for faculty. In addition, in October, a professional development workshop, Building Academic Leadership Strengths, was offered to faculty as a way to enhance their leadership skills.

In spring 2009, the Mentoring Program is sponsoring several lunches and discussion sessions, as well as a repeat of the preparing promotion dossiers program.

The Mentoring Program will soon accept applications for the third cohort of participants. If you are interested in joining the program, please contact Mizzou ADVANCE for application information (MizzouADVANCE@missouri.edu).

The Mizzou ADVANCE Interactive Theatre Troupe welcomed several new members in 2008. Additional actors give us more flexibility in scheduling performances. Our company now includes: crfancis blackchild, Milbre Burch, Hannia Burke-Aguero, Weldon Durham, Dan Fischbach, Mel George, L.R. Hults, Shawna Kelty, Whit Loy, Cece McFarland, Ezio Moscatelli, Kirsten Olsen, Mike Porter, Joshua Robinson, Emily Rollie, Doug Royal and Charles Willis. Andrea Onstad has created the troupe’s two theatre pieces in collaboration with actors and ADVANCE faculty.

In fall 2008, the troupe gave a number of performances of its first sketch, “A Knock at the Door,” for audiences including the Provost’s breakfast, the ADVANCE mentoring workshop, the College of Engineering and Psychology 1000 (a class of 500 students). The troupe also continued to develop its second piece, “Foie Gras,” affectionately known to the troupe as “Duck.” Jeffrey Steiger, artistic director of the University of Michigan’s Center for Research on Learning and Teaching Theatre Program, spent the weekend of November 8–9 working intensively with our actors and facilitators and helping us refine “Foie Gras.” Steiger also facilitated a preview of the new piece for the ADVANCE steering committee and STRIDE members. The troupe performed “Knock” for the Interdisciplinary Plant Group in February 2009, and they also expect to present for CAFNR and the Council of Research Administrators. This semester, we have begun performing “Foie Gras,” which treats the topic of mentoring a female associate professor for promotion to full professor. If you are interested in scheduling a performance of either script, please contact Suzanne Burgoyne (BurgoyneS@missouri.edu).

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STRIDE is a committee of 11 professors and administrators who are trained in practices that increase the promotion and success of female faculty. Through presentations, members are a resource for chairs, administrators, promotion and tenure committees and search committees. STRIDE is modeled after a successful program at the University of Michigan. In the past year, STRIDE made several presentations about the retention and promotion of female faculty in science and engineering. The audiences included deans and department chairs from the College of Engineering, CAFNR and the science departments in the College of Arts and Science. STRIDE is scheduled to or has made presentations to promotion and tenure committees of these colleges, as well as the campus P&T committee.

STRIDE is developing a presentation on the recruiting of female faculty, which we expect to roll out during spring semester. This is based on a very successful presentation on the same topic at the University of Michigan. A related book titled Mizzou ADVANCE Handbook for Faculty Searches and Hiring is available on the Mizzou ADVANCE Web site at MizzouADVANCE@missouri.edu, along with links to key articles.
Mizzou Women Advancing into Leadership Positions

Sheryl Tucker

The goal of Mizzou ADVANCE is to encourage the movement of senior women to the leadership roles they wish to have. One of the success stories on the MU campus since the beginning of the grant is Sheryl Tucker, associate dean of the Graduate School and professor of chemistry. Tucker came to MU in 1996 as an assistant professor of chemistry with a research focus in analytical chemistry. She was promoted to associate professor in 2002 and professor in 2008. In October 2007, Tucker began her position as the associate dean of the Graduate School where her primary responsibilities are academic affairs and the Office of Postdoctoral Education.

Tucker pursued an administrative position as a chance to use her professional skills to make contributions toward the greater mission of the University. Additionally, it was an opportunity to work at a different level of higher education and make a broader impact. As a chemist, Tucker felt prepared for the move to campus-level administration. She routinely applies the scientific investigative method to problem solve and draws on her general management experience from running a federally funded research program. In addition, she held the position of associate chair of graduate studies in chemistry, which provided her with an opportunity to hone her administrative skills. While some aspects of her current position such as the intellectual challenge, sense of accomplishment and attending many meetings are the same as her former position, there are some differences that those contemplating administrative positions might consider. Her flexibility of schedule and daily student interaction have decreased significantly, and her peer group and colleagues have changed since she moved to the Graduate School.

Tucker is co-principle investigator on the Mizzou ADVANCE grant and is the chair of the grant’s mentoring program. Her involvement in the grant made her aware of the lack of women in leadership positions at MU. When the associate dean position became open her work on the ADVANCE grant gave her the opportunity to work at a different level of higher education and make a broader impact. As a chemist, Tucker felt prepared for the move to campus-level administration. She routinely applies the scientific investigative method to problem solve and draws on her general management experience from running a federally funded research program. In addition, she held the position of associate chair of graduate studies in chemistry, which provided her with an opportunity to hone her administrative skills. While some aspects of her current position such as the intellectual challenge, sense of accomplishment and attending many meetings are the same as her former position, there are some differences that those contemplating administrative positions might consider. Her flexibility of schedule and daily student interaction have decreased significantly, and her peer group and colleagues have changed since she moved to the Graduate School.

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When asked about advice for someone aspiring to an administrative position Tucker recommends finding a mentor. The mentor can help you develop your professional credentials, understand your strengths and weaknesses and develop a network. Tucker also suggests delving into the higher education literature to understand the issues and concerns facing administrators and institutions today.

Karen Cone

Mizzou ADVANCE notes a new milestone in the career of one of MU’s senior female faculty in STEM. In January 2009, Karen Cone, professor of biological sciences, began a new position as a program director at the National Science Foundation in the division of molecular and cellular biosciences. In this capacity, she is responsible for coordinating the grant-review process for the genes and genome systems study section. Although the grant review process is not new to Cone, given that she has written and reviewed many grants as a faculty member, she has not experienced the process from the other side — where the decisions about funding are actually made. Her position at NSF will put her on the funding side of the grant process for the first time.

Cone joined the faculty at MU in 1988 as a new assistant professor. During the last 20 years, Cone led a successful research program and enjoyed her time at Mizzou. In 2008, she was awarded the distinction of Fellow of the American Association for the Advancement of Science. Changing careers at this time of her life was “not something [she] had planned on,” so when the opening was advertised, she thought about it for a long time before deciding to apply. A combination of professional and personal considerations led her to apply for the position and ultimately accept the offer. Cone says that she sees her position at NSF as a chance to use her scientific knowledge in a new way, “to help enable science, rather than doing research.”

During the last two years at MU, Cone was an active participant in the Mizzou ADVANCE program, serving as both a member of the STRIDE committee and a mentor in the Mizzou ADVANCE Mentoring Program. As a member of STRIDE, she has presented information on gender equity to key MU committees such as campus promotion and tenure. As a mentor, she has shared her thoughts and experiences with other faculty members to help with their professional development. Cone says her experience with Mizzou ADVANCE will allow her to “help build bridges among different programs at NSF.”

When asked about advice to others who might be considering career moves, Cone suggests that many faculty, both men and women, will face the question “is there life after tenure?” She suggests spending time to develop a network of colleagues both within and outside the University who can help keep you informed of new career advancement opportunities. Also, having a few trusted friends in your field with whom you can discuss delicate subjects — like changing jobs — can really help.

Editor’s note: Cone will be missed by all of us associated with Mizzou ADVANCE and many, many others on campus. We wish her the best of luck!

“...What I learned (even as a seasoned veteran in academia) was that things are not always as they seem. There can be competing agendas within the department and within the search committee that will be played out regardless of the qualifications of the applicant.”

—Matt Lucy, professor of animal sciences on an Interactive Theatre Troupe presentation
If you are a scientist or an engineer, it is likely that attending an interactive theater presentation is a bit outside your comfort zone. However, I doubt there is a more effective way to bring about discussions about the human side of personnel decisions.

— Suzanne Burgoyne, professor of theatre and chair of the Mizzou ADVANCE interactive theatre committee

I believe Mizzou ADVANCE is one of the most important grant initiatives to be established at the University in recent years. ADVANCE embodies the University’s commitment to diversity and excellence among its faculty, as well as its commitment to promoting the STEM disciplines. As the state’s historic land-grant university and Missouri’s only public research, doctoral and professional degree-granting institution, the University of Missouri has a strong history of advancing scientific and technological knowledge through teaching and research.

We are proud of our world-class female faculty members and supportive of efforts to recognize and address the unique set of challenges they face. Through educational programs, interactive theater and mentoring relationships, ADVANCE is making great strides in this direction. ADVANCE offers opportunities for critical dialog and collaboration among faculty to allow all members of the University family the same opportunities for professional and personal success.

By working together as administrators and educators, we can break down artificial barriers to achievement and positively affect the culture for our female faculty. A diverse faculty that reflects our society as a whole is a benefit to the entire University community.

I am pleased and encouraged by the broad and deep support Mizzou ADVANCE is receiving at our University. The leaders of our institution have been behind this grant from its inception — and their support is growing. As the principle investigator on the project, I know that Mizzou ADVANCE and its aims to enhance faculty diversity resonate with University leaders.

Those who are actively involved in the grant’s implementation — and I am grateful that there are many faculty and administrators giving their time to the project — are aware of the leadership support we receive. Leadership support was evident at the November 2008 Mizzou ADVANCE luncheon. The keynote speakers included Chancellor Brady Deaton and President Gary Forsee. Both leaders spoke about the importance and relevance of Mizzou ADVANCE while highlighting key data about the gender composition and experiences of our STEM faculty. For example, they highlighted the low numbers of women in STEM and the retention issues that exist for all faculty. With over 65 faculty and administrators attending the luncheon, it was an opportunity for the leaders to share information and demonstrate their involvement and support.

In addition to leadership support, we are engaging faculty in the STEM departments through our Mentoring Program, Interactive Theatre performances and STRIDE presentations. In total, over 140 faculty and administrators have participated in Mizzou ADVANCE. We hope to expand that number as we continue to implement our programs. If you would like to get more involved in Mizzou ADVANCE, I encourage you to contact me at LittJ@missouri.edu.