ADVANCE-Purdue Research Note #14

Current research on gender and STEM in academia July 1, 2013



RESEARCH ARTICLES

1. From Bench to Board: Gender Differences in University Scientists' Participation in Corporate Scientific Advisory Boards. Forthcoming. Ding, W. et al. *Academy of Management Journal.* Published online 2012.

Abstract: "This paper examines the gender gap in the likelihood that academic scientists join corporate scientific advisory boards (SABs). We assess (i) demand-side theories that relate the gap in scientists' rate of joining SABs to the opportunity structure of SAB invitations, and (ii) supply-side explanations that attribute the gap to scientists' preferences for work of this type. We statistically examine the demand- and supply-side perspectives in a national sample of 6,000 life scientists whose careers span more than 30 years. Holding constant professional achievement, network ties, employer characteristics and research foci, male scientists are almost twice as likely as females to serve on the SABs of biotechnology companies. We do not find evidence in our data supporting a choice-based explanation for the gender gap. Instead, demand-side theoretical perspectives focusing on gender-stereotyped perceptions and the unequal opportunities embedded in social networks appear to explain some of the gender gap." http://amj.aom.org/content/early/2012/10/09/amj.2011.0020.abstract

2. Gender roles and infant/toddler care: Male and female professors on the tenure track. 2012. Rhoads et al. *Journal of Social, Evolutionary, and Cultural Psychology* 6(1): 13-31.

Abstract: "This study seeks to determine the association between gender role attitudes about childcare, utilization of parental leave policies and parental/infant preferences, on the one hand, and the distribution of childcare in the families of assistant professors with children under two on the other. Both utilization of paid parental leave policies by men and men's belief in non-traditional gender roles are associated with higher levels of participation in parenting tasks. However, even those male professors who take leave and believe in nontraditional gender roles do much less childcare relative to their spouses than female professors do. This result holds even when the male professor's wife works full time. Our results suggest that one reason why female professors do more childcare may be that they like it more than men do. The association of enjoyment of childcare with gender role attitudes or leave-taking status is not statistically significant, which suggests that sex differences in the enjoyment of childcare will not be easily changed by changes in policies or gender role ideology. Accordingly, when exploring the stickiness of gender roles with respect to infant and toddler care, it would seem prudent to consider biological and evolutionary explanations as well as those focusing on institutions and gender ideology."
Full article: http://shell.newpaltz.edu/jsec/articles/volume6/issue1/Rhoads Vol6Iss1.pdf

3. Effects of an online personal resilience training program for Women in STEM Doctoral **Programs.** 2013. Bekki, J.M. et al. *Journal of Women and Minorities in Science and Engineering* 19(1): 17-35.

Abstract: "...The CareerWISE program takes a unique approach by providing individuals online training in key intra- and interpersonal skills believed to influence persistence. This paper describes a randomized controlled trial (RCT) that was performed to evaluate the effectiveness of the CareerWISE intervention. In the RCT, 133 female doctoral students in the physical sciences and engineering utilized the online

resource for at least five hours. Comparisons of the treatment and wait-list control groups yielded strong effect sizes, demonstrating that even a small amount of exposure to the CareerWISE intervention increased the key measures of problem-solving, resilience, and coping efficacy, all of which are linked to persistence. Also, comparisons of the wait-list control group before and after exposure to the CareerWISE online resource revealed significant differences for the three key variables in addition to measures of personal resources, confidence to achieve STEM landmarks, coping styles, and barrier perceptions. The results provide persuasive evidence that students can use and faculty can recommend this resource to attain beneficial outcomes that are associated with psychological well-being and predict persistence. The study results also reinforce the notion that interventions designed for individuals can supplement institutional and policy strategies to broaden and retain the participation".

http://www.dl.begellhouse.com/journals/00551c876cc2f027,2d4a5d286768c212,7b9e982520fd226d.html

RECENT BOOKS

Recoding Gender: Women's Changing Participation in Computing. 2012. Abbate, J. Cambridge: Massachusetts Institute of Technology Press.

Summary: "Today, women earn a relatively low percentage of computer science degrees and hold proportionately few technical computing jobs. Meanwhile, the stereotype of the male "computer geek" seems to be everywhere in popular culture. Few people know that women were a significant presence in the early decades of computing in both the United States and Britain. Indeed, programming in postwar years was considered woman's work (perhaps in contrast to the more manly task of building the computers themselves). In Recoding Gender, Janet Abbate explores the untold history of women in computer science and programming from the Second World War to the late twentieth century. Demonstrating how gender has shaped the culture of computing, she offers a valuable historical perspective on today's concerns over women's underrepresentation in the field. Abbate describes the experiences of women who worked with the earliest electronic digital computers: Colossus, the wartime codebreaking computer at Bletchley Park outside London, and the American ENIAC, developed to calculate ballistics. She examines postwar methods for recruiting programmers, and the 1960s redefinition of programming as the more masculine "software engineering." She describes the social and business innovations of two early software entrepreneurs. Elsie Shutt and Stephanie Shirley: and she examines the career paths of women in academic computer science. Abbate's account of the bold and creative strategies of women who loved computing work, excelled at it, and forged successful careers will provide inspiration for those working to change gendered computing culture."

Source: http://mitpress.mit.edu/books/recoding-gender-0

IN THE NEWS

Stanford Sees Progress Recruiting Minority Professors. *Inside Higher Education,* May 31, 2013.

"Stanford University reported this week that it has made progress in diversifying its faculty. Between 2008 and 2013, the number of underrepresented minority faculty members (black, Latino and American Indian/Alaska Native) increased by 43 percent, to 146. During the same period, the overall growth in the Stanford faculty was only 9 percent. At the same time, the university said that a study based on interviews with 52 of the minority faculty members found areas that need improvement. Many minority faculty members, the university found, report feelings of research isolation, diminished peer recognition and "lesser collegiality."" Source: http://www.insidehighered.com/quicktakes/2013/05/31/stanford-sees-progress-recruiting-minority-professors