



## NIH **U**pdates on Women in Science News for Yo**U** to Use!

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## **The White House Addresses the Economics of Work-Life Balance**

Recognizing the increasing number of women in the workforce and the greater prevalence of households in which all of the adults work outside the home, the Executive Office of the President - Council of Economic Advisers published a study exploring the changing needs of American workers, existing flexible work hour policies, and the economic benefits of such policies including employee productivity and retention. Since women still provide the majority of dependent care giving and almost half of them are in the labor force, responsive and comprehensive workplace policies are needed. In 2007, 79% of employers allowed some employees to arrange flexible work hours and an increasing number of firms offer paid or unpaid leave after a major life event such as a birth or adoption, with an incremental return to work. However, only 27% of all full-time employees report having access to any form of flex-time. The discrepancy between employer and employee reported access to flex-time may result from policies not being widely publicized or being limited depending on level of skill and education, type of employment, and rank within the company.

This study outlines economic benefits for employers which result from offering flex-hours, as well as increased personal success, retention rates of employees, commitment to a company or institution, and improved work-family balance for employees. The Council suggests that employers view flex-hours as a part of the employee's benefits package, along with health insurance, retirement, and other standard components.

While marking a step forward for working families, the report acknowledges that more studies are needed to fully understand the benefits and costs of flexibility. It is important to analyze which employees take advantage of flexible hours and the particular effects of such policies on professional development and career success for women.

[Work-Life Balance and the Economics of Workplace Flexibility \(White House\)](#)

[First Lady to Speak at White House Workplace Flexibility Forum \(Wall Street Journal\)](#)

## **Women are Working More and Earning Less in Academic Medicine**

The results of a survey published in *Academic Medicine* suggest that women life sciences researchers still earn significantly less than their male colleagues. The study utilizes self-reported data collected from faculty and other researchers at the fifty universities whose medical schools received the most grant funds from the NIH in 2004. The authors found that even after controlling for both publications and hours spent working, men earned \$13,226 more per year than women with equal training.

For assistant professors, women reported working fewer hours in the lab and publishing fewer articles than men, but spent equal time on non-research responsibilities. Conversely, for full professors, women reported working longer hours than men, but while men spent more of their time in the lab, women reported working more hours on administrative tasks such as serving on federal review panels, acting as journal editors or editorial board members, chairing university-wide committees, and acting as an officer of a professional association. The reported gender difference in productivity, with a median of 84 and 100 total papers published by women and men full professors, respectively, may be explained by the greater time spent on service activities by women and, according to the authors, highlights the need for these activities to be recognized in university compensation and advancement policies.

[Activity, Productivity and Compensation of Men and Women in the Life Sciences \(Academic Medicine\)](#)

[Women in Academic Medicine: Equal to Men, Except in Pay \(The Chronicle of Higher Education\)](#)

## Studies Find That Career and Family Decisions Are Linked for Professional Women

A recent study in the *American Sociological Review* suggests that women in dual-earner couples, despite having advanced degrees and substantial work experience, are more likely to leave their jobs than their husbands if one or both work more than 50 hours per week. The author of the study, which used multilevel models of longitudinal data from the Survey of Income and Program Participation, attributed the difference to enduring gender stereotypes of men as breadwinners and women as caretakers, especially since the effect is even more striking for mothers. Given that professional women tend to be married to professional men who work long hours, this inclination to delay their own careers in favor of their husband's contributes to the gender-related salary and leadership disparities that have been widely observed and cited.

Similarly, in a study in *Academic Medicine*, researchers found that while 41% of male physicians planned to have children during their residencies, the same was true for only 27% of female residents. This research suggests that women may be more sensitive to the possible ramifications of childrearing during residency compared with men and that female doctors may be more likely to anticipate career setbacks as a result of pregnancy. However, the study showed that residents who were familiar with their institution's maternity leave policies or data on age-related decreases in fertility were less likely to delay having children. The authors suggest that medical schools should make this information widely available to medical students and residents.

[Reinforcing Separate Spheres: The Effect of Spousal Overwork on Men's and Women's Employment in Dual-Earner Households \(American Sociological Review\)](#)

[In Working Couples, Women's Careers Still Take Backseat \(Reuters\)](#)

[Do Women Residents Delay Childbearing Due to Perceived Career Threats? \(Academic Medicine\)](#)

## Survey and Literature Review Assess Mentoring in Medicine

Two recent studies illustrate the importance of mentoring programs for both medical students and faculty. A survey of University of California – San Francisco junior faculty which appeared in *Medical Education Online*, found that women and underrepresented minority faculty were as likely to have mentors as other faculty; however clinicians and clinician educators were less likely than research intensive faculty to have a mentor. In addition, twenty-eight percent of junior faculty reported having trouble finding a mentor without institutional assistance. The study further revealed that self-efficacy and satisfaction with work distribution are positively correlated with having a mentor.

A literature review of mentoring programs which appeared in *BMC Medical Education* identified four common goals: (1) career counseling; (2) development of professionalism and supporting personal growth; (3) increasing interest in research and supporting an academic career; or (4) fostering students' interest in a specialty for which a future shortage is projected. The authors noted that all of the papers originated in the US, noting that American medical schools view mentoring of medical students as part of the educational process and devote time and resources to programs, whereas in Europe, mentoring is focused mostly on the research careers of senior post-graduate trainees. The cost of mentoring programs was not addressed in the papers reviewed.

[Does Mentoring Matter: Results from a Survey of Faculty Mentees at a Large Health Sciences University \(Medical Education Online\)](#)

[Mentoring Programs for Medical Students - a Review of the PubMed Literature 2000 - 2008 \(BMC Medical Education\)](#)

## Reports Attempt to Answer Questions about Women in Science and Engineering

The National Bureau of Economic Research recently published a study which found that women reported leaving engineering more frequently than other scientific and non-scientific fields. Analysis of data from the 1993 and 2003 National Surveys of College Graduates suggests that women and men are just as likely to leave science, but that women are more likely to leave engineering than men. However, the modeling indicated that the likelihood of women leaving engineering was comparable to the likelihood of women leaving any other male-dominated, scientific or non-scientific field. Further, the modeling indicated that women were more likely to leave engineering due to inequities in pay and opportunity for promotion, whereas the excess departures of women from science could be largely attributed to incompatibility with having a family. In fact, women who leave engineering are more likely to enter an unrelated field of work, whereas women who leave science and other fields are more likely to leave the workforce entirely.

In response, the author suggests that institutions not only need to offer flexible hours and family-friendly policies, but also that women engineers need mentors, networks of support within their field and their institutions, and that gender discrimination by supervisors and co-workers needs to be addressed head-on.

A recent American Association of University Women study addressed similar issues of gender discrimination and structural deterrents for women pursuing scientific degrees. This study supports the position that gender gaps in employment in scientific careers are the result of institutional and cultural biases, rather than a pervasive lack of biological aptitude in women. The authors suggest that small changes to physical and computer science departments, such as introductory classes that provide broader views of the subjects and mentoring for students and junior faculty, can result in large gains in women entering and remaining in those fields. They suggest that schools and universities pay careful attention to how the environments in classrooms and workplaces encourage or discourage participation by girls and women.

[Why Do Women Leave Science and Engineering? \(National Bureau of Economic Research\)](#)

[Why Women Leave the Engineering Field \(Time\)](#)

[Why So Few? \(American Association of University Women\)](#)

[Bias Called a Persistent Hurdle for Women in Sciences \(New York Times\)](#)

## Highlighting Best Practices – Vanderbilt University

*Contributed by Joslyn Yudenfreund Kravitz*

Vanderbilt University provides a range of opportunities and resources for women on its campus and beyond. The [Margaret Cuninggim Women's Center](#), which is part of the Office of the Dean, has several programs supporting its mission of promoting “the creation of an equitable environment to enhance the personal and professional development of students, faculty, and staff.” These include an extensive library dedicated to women, gender, and feminism, and the Gender Matters program, which provides programming aimed at increasing awareness of the influence that gender has in our lives.

Each year, the Women's Center awards three prizes to recognize achievements by and in support of women at Vanderbilt University. [The Mulibrity Prize](#) honors a student who has demonstrated leadership in activities that contribute to the achievements, interests, and goals of women or that promote gender equity. [The Mary Jane Werthan Award](#) honors an individual who has contributed to the advancement of women at Vanderbilt on a systemic level. [The Mentoring Award](#) honors a member of the Vanderbilt community who has worked to foster the professional and intellectual development of women on campus. The Office of the Dean makes an additional annual award to a woman

scientist of national reputation who has a stellar record of research accomplishments and is known for her mentorship of women in science. The winner of the [Vanderbilt Prize in Biomedical Science](#) receives a cash award, delivers a seminar at Vanderbilt, and is given an opportunity to help a member of the next scientific generation. The awardee is paired with a promising woman MD/PhD student at Vanderbilt who is mentored by the award winner, and receives a scholarship from the Office of the Dean. Past awardees include Elizabeth Blackburn, Ph.D., winner of the 2009 Nobel Prize in Medicine.

Further demonstrations of Vanderbilt's commitment to mentoring include the Office of [Biomedical Research Education and Training's](#) (BRET) [Graduate and Postdoctoral Scholar Mentoring Program](#) and the various resources provided by the [Center for Teaching](#) (CFT). The BRET mentoring program was initiated in response to published reports on the importance of mentoring and surveys of Vanderbilt postdoctoral fellows which indicated that many were not happy with the level of mentoring they were receiving. To address these concerns a Mentoring Committee composed of faculty, students, and postdocs was established by the Dean in 2005 and resulted in six main recommendations which have since been implemented. These include making the Mentoring Committee permanent, updating the guidelines for the Individual Development plans that are initiated by every postdoctoral fellow and his or her mentor, and requiring each graduate student to be assigned an Advisory Committee to provide additional mentoring immediately following enrollment in the department. In addition, every faculty member is required to meet with their department chair annually to review their mentoring record for the year and develop a faculty mentoring dossier which is then used as a resource for the annual report of the chair to the Dean of the Medical School.

Resources and training for mentors are provided on the [BRET website](#) and in the CFT's curriculum for [mentoring graduate students](#), which provides a links to texts and mentoring programs at other universities, the definition of mentoring, the types and stages of mentoring, and a FAQ for addressing issues that come up while mentoring. In addition, the CFT provides information on [Professional Development for Future Faculty](#), [Teaching Statements](#), and [Teaching Portfolios](#) to aid students who wish to pursue a career in academia. Additional resources for postdoctoral fellows are provided by the [Vanderbilt University Medical Center Office of Postdoctoral Affairs](#).

Although many of the programs at Vanderbilt are not aimed specifically at women in biomedical careers, the notion that "rising water lifts all boats" applies. Efforts to encourage, recognize, and improve mentoring by faculty for all students and postdoctoral fellows will result in more successful women scientists who share in Vanderbilt's commitment to mentoring the next generation.

## **Women Scientists in Action – Tara M. Chaplin, Ph.D.**

Tara M. Chaplin, Ph.D., is an Assistant Professor of Psychiatry at the Yale University School of Medicine. Dr. Chaplin's research focuses on the role of gender and emotion regulation in the development of psychopathology and substance abuse in at-risk children and adolescents. She works in the NIH-funded Specialized Center of Research (SCOR) on Sex and Gender Factors Affecting Women's Health at Yale. Because of her career success, an impressive list of publications and grants, and her commitment to sex/gender research and the health of women and girls, Dr. Chaplin is this month's featured junior woman scientist.

Since 2006, Dr. Chaplin has worked with Yale University's Program on Stress, Addiction, and Psychopathology and the Yale Stress Center as the Adolescent Projects Coordinator. In this role, Dr. Chaplin has coordinated the assessments of adolescents for two interdisciplinary projects focused on sex/gender differences in the development of substance abuse in at-risk adolescents. In addition, she has lent her expertise on adolescent development to the formation of new studies and has mentored others in conducting this research.

Dr. Chaplin's research has focused on sex/gender, stress response, and the development of substance use disorders and psychopathology. She has examined gender differences in emotion and the implications of these for the development and prevention of substance abuse and depression. For example, in one study she found that anxious emotions were more strongly related to future depressive symptoms for adolescent girls than for boys. In another study with adult social drinkers, she found that women reported greater sadness and anxiety in response to a stressor than men and for men (but not women) alcohol craving was associated with emotional responses to the stressor. These findings may help us to understand sex differences in psychological disorders, with women at greater risk for depression/anxiety and men at greater risk for alcohol use disorders.

Concurrent with her work in this program, Dr. Chaplin has also worked as the Principle Investigator on a study entitled, "Gender, Emotional Arousal, and Risk for Adolescent Substance Abuse." This study uses a bio-psycho-social model to investigate emotional arousal and the development of psychopathology and substance abuse in at-risk adolescents, half of whom were prenatally cocaine exposed. In this study, Dr. Chaplin examines adolescents' neurobiological, cardiovascular, and self-reported and observed emotional responses to a social stressor, analyzing how these responses differ by gender and are related to the development of substance abuse and depression over time. Major findings of this ongoing study include evidence of greater cortisol levels in prenatally cocaine-exposed youth and heightened anxiety response to the stressor in cocaine-exposed girls. This may have implications for girls' future development of substance abuse and depression. This possibility is currently being investigated using longitudinal analyses.

Dr. Chaplin is also interested in the role of parent-child relationship quality in the development of emotion regulation and psychopathology in children and adolescents, particularly in at-risk families. She is currently conducting an observational study of adolescents' bio-psycho-social responses to parent-adolescent conflict interactions and their relation to adolescent substance use and other problem behaviors. She hopes that she can identify specific components of parent-adolescent interactions that can be targeted in substance abuse prevention programs for youth and families.

Dr. Chaplin cites her doctoral and post-doctoral work as foundational in her career of study on the health of women and girls. In her graduate and post-doctoral work, at Pennsylvania State University and the University of Pennsylvania, respectively, Dr. Chaplin conducted studies on gender, emotion, and risk for depression. Her graduate work included a study of gender differences in emotional socialization of preschoolers and a study of associations between patterns of emotion and depressive symptoms in adolescence. During her post-doctoral training, she collaborated on a randomized controlled evaluation of a depression prevention program for early adolescents, specifically testing whether the adolescent's gender influenced the program's efficiency. During this time Dr. Chaplin also worked with colleagues to develop and pilot a depression prevention program designed specifically for adolescent girls.

Dr. Chaplin's work in the Yale University SCOR program is a prime example of ORWH's multi-fold mission to promote and conduct interdisciplinary research focused on major medical problems affecting women and girls and comparing sex/gender contributions to health and disease, while supporting and advancing the careers of women in science. Building on her successful work in this program, Dr. Chaplin has become an Assistant Professor, published numerous peer-reviewed articles, authored several book chapters, and has obtained an NIH Mentored Research Scientist Development Award to support her independent research. She is further praised by her mentor, Dr. Rajita Sinha, "as an exemplary scientist-practitioner, who is conducting cutting edge interdisciplinary translational research on sex-specific bio-behavioral mechanisms that increase risk for mood, anxiety and addictive disorders."

Dr. Chaplin credits her success as a woman in science in part to the encouragement of her mentors. "I have been fortunate to have had many excellent mentors (many of whom are women) who have encouraged and supported me and have shown me by example how to navigate a successful scientific career as a woman. I have always loved research, but they were the ones who believed in me and told me that I could really make it happen."

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