Pathways
a magazine on poverty, inequality, and social policy
Special Issue 2018

STATE OF THE UNION 2018

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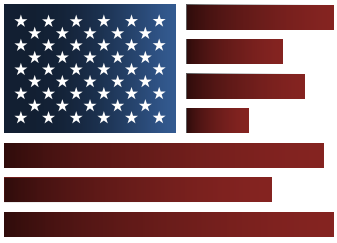
GENDER INEQUALITY

STATE of the UNION



The Stanford Center on Poverty & Inequality

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THE POVERTY AND INEQUALITY REPORT

The Stanford Center on Poverty and Inequality

DAVID GRUSKY, CHARLES VARNER,
MARYBETH MATTINGLY, AND STEPHANIE GARLOW

The Stanford Center on Poverty and Inequality is pleased to present its fifth annual report examining the state of the union. In this year's report, we provide a comprehensive assessment of gender inequality in eleven domains ranging from education to health, employment, earnings, poverty, sexual harassment, networks, and more. The report concludes with a discussion of the most promising science-based policies for reducing gender inequality at home and in the labor market.

There are of course all manner of excellent studies that address each of these eleven domains separately. We aim, by contrast, to provide an integrated analysis that assembles evidence across domains and thus allows for a comprehensive assessment of where the country stands. Without this integrated analysis, it's all too easy to default to a hodgepodge of piecemeal policies, each oriented to a single narrow-gauge problem in a single domain. By assembling a comprehensive report, we can identify generic problems that cut across many types of inequality, thus making it possible—at least in principle—to fashion a more coordinated policy response.

It might at first blush seem unlikely that any cross-cutting conclusions could be reached on the basis of this report. The chapters instead reveal a rather complicated story in which the speed, pattern, and even direction of change in the key "gender gaps" are all varying. The following types of gaps (and trends therein) show up in the various chapters of this report:

- gaps that have long favored men, continue to favor men now, and show no signs of declining much in size (e.g., consistently lower poverty rates for men),
- gaps that have long favored men, continue to favor men now, but are slowly declining in size (e.g., the growing share of women in the top 1 percent of the earnings distribution),
- gaps that have long favored men, began to decline in size many decades ago, with the rate of decline then gradually slowing or completely "stalling out" (e.g., the slowing rate of decline in the gender gap in labor earnings),
- gaps that have long favored men but have now come to favor women (e.g., the recent crossover in college graduation rates),
- gaps that have long favored women, continue to favor women now, but are slowly declining in size (e.g., the declining female advantage in life expectancy), and
- gaps that have long favored women, continue to favor women now, and show no signs of declining in size (e.g., the consistent female advantage in fourth-grade reading tests).

This is a complicated constellation of results. If nothing else, it should dissuade us from treating gender inequality as a unidimensional problem in which all gaps favor men or all gaps are eroding.

What accounts for such complications? It's partly that gender gaps are affected by social, cultural, and economic processes that don't always operate uniformly on women and men. The rise of industrial robots, for example, is a seemingly gender-neutral technological force that may nonetheless reduce the

gender gap in employment insofar as male-dominated jobs happen to be more susceptible to roboticization (pp. 17–19). The world is rife with such seemingly gender-neutral forces that nonetheless can have a gender-biased effect. It's unlikely, then, that the key gender gaps will move in lockstep when a different constellation of forces is affecting each of them.

Although these "gender-neutral" forces thus have a complicating effect on trends, it's still possible to find traces among our results of a more directly gendered logic. The most obvious example of such a logic rests on the distinction between two forms of gender inequality, a "vertical form" pertaining to the gender gap in the *amount* of resources, and a "horizontal form" pertaining to the gender gap in the *types* of resources. We can distinguish, for example, between (a) the vertical gap in the amount of human capital investment (e.g., high school vs. college education) and the horizontal gap in the types of human capital investment (e.g., STEM vs. non-STEM college major), (b) the vertical gap in the amount of earnings and the horizontal gap in the types of occupations standing behind those earnings, or (c) the vertical gap in the total number of network ties and the horizontal gap in the types of ties men and women have (e.g., kin, friends, coworkers).

This distinction matters because horizontal inequalities have been especially resistant to change. In each of the above cases, the vertical gap has grown smaller, been eliminated, or even reversed in direction, whereas the horizontal gap has not changed as much. The college graduation rate, for example, is now 5 percentage points higher for women than for men, yet women are still clustering in very different *types* of majors than men (pp. 9–12). Similarly, women now make up nearly half of the formal labor force, yet they're still working in very different *types* of occupations than men (pp. 30–33). And, likewise, women now have larger social networks than men, but they continue to have very different *types* of networks (pp. 42–44).

Why are horizontal forms of inequality especially resistant to change? It's partly because they're rooted in the essentialist belief that women and men have fundamentally different aptitudes and are accordingly suited for fundamentally different types of roles (e.g., occupations, majors, relationships). These widely diffused beliefs work at once to (a) encourage women and men to make choices that are consistent with such stereotypical views (i.e., the "socialization mechanism"), and (b) encourage managers and those in authority to allocate occupations and other roles in accord with such stereotypical views (i.e., the "discrimination mechanism").

The essentialist form is pernicious no matter which of these two mechanisms, socialization or discrimination, is in play. When gender inequality is rooted in gender-specific tastes or choices, we treat those choices as freely made, not as a product of socialization or an adaptation to a world in which gender-atypical decisions (e.g., a woman deciding to become a plumber) are discouraged or met with hostility. When inequality is instead rooted in discrimination, we tend not to properly code it as discrimination, instead attributing the outcome to the operation of gender-specific tastes or choices. The upshot is that horizontal forms of inequality persist because we see them as a legitimate expression of freely made choices rather than the result of discrimination or "choices under constraint."

Should we conclude that essentialist beliefs are so entrenched that the gender revolution will falter because of them? Hardly. This conclusion ignores the growing popularity of a counter-narrative that represents tastes and aspirations as socially constructed rather than immutable. For many parents, it's become a matter of honor to cultivate the analytic abilities of their daughters, a commitment that leads them to encourage their daughters to take math classes, to attend coding camps, and ultimately to become engineers or scientists. It's likewise become a matter of honor in many circles to call out gender discrimination when it happens, to divide domestic chores (somewhat) more evenly, and to otherwise challenge conventional gender roles. This new breed of parents and workers is thus increasingly under the sway of a "sociological narrative" that allows them to better see and redress essentialist sensibilities. Because so much of contemporary segregation has an essentialist backing, this developing revolution has the capacity, once it is fully unleashed, to bring about especially dramatic change in gender inequality.

It follows that meaningful change is possible even in a world in which "gender policy" has been sidelined, focuses on narrow objectives, or does not directly take on essentialism (pp. 45–48). This is obviously not to gainsay the power and importance of such policy. It can do much to increase choice, equalize opportunity, reduce discrimination, and bring work and family demands into a better balance. But it's also important to bear in mind that, even during periods of policy stasis, the revolution from below continues on and may ultimately bring about very fundamental change.

GENDER IDENTIFICATION

Stanford Center on Poverty and Inequality

ALIYA SAPERSTEIN

There has been a sea change in how Americans talk about gender and their personal identities. In 2015, Caitlyn Jenner introduced herself on the cover of *Vanity Fair*, bringing debates about transgender rights and identities to new audiences. A year later, the conversation about gender in the United States widened further as Merriam Webster's dictionary added the words *genderqueer* and *nonbinary* to its lexicon, and *Teen Vogue* featured an article titled, "Here's What It Means When You Don't Identify as a Girl or a Boy." The Associated Press Stylebook, a long-standing guide for the nation's journalists, began offering this gender "style tip" on its homepage in November 2017: "Not all people fall under one or two categories for sex or gender, so avoid references to both, either or opposite sexes or genders to encompass all people." In a few short years, the ideas that people can identify with a gender that differs from their sex at birth, and may not identify with traditional binary categories of "male/man" or "female/woman," have gained increasing prominence and surprisingly broad acceptance in American life.[1]

KEY FINDINGS

- When respondents of a national survey were asked about their femininity and masculinity, 7 percent considered themselves equally feminine and masculine, and another 4 percent responded in ways that did not "match" their sex at birth (i.e., females who saw themselves as more masculine than feminine, or males who saw themselves as more feminine than masculine).
- Recognizing this diversity reveals insights into disparities that conventional gender measures miss. For example, people with highly polarized gender identification—people who report being very feminine and not at all masculine or, conversely, very masculine and not at all feminine—are more likely to be married.
- The idea that people may not identify with traditional binary gender categories has gained acceptance in the United States, but the lack of recognition of transgender and nonbinary citizens in administrative records, identity documents, and national surveys restricts people's ability to self-identify and limits our understanding of patterns and trends in well-being.

FIGURE 1. Definition of Genderqueer

gen·der·queer (adjective) \ ˈjen-dər-ˌkwir \

: of, relating to, or being a person whose gender identity cannot be categorized as solely male or female

Genderqueer is a relatively new term that is used by a few different groups. Some people identify as genderqueer because their gender identity is androgynous.

—Laura Erickson-Schroth

genderqueer (noun)

Some *genderqueers* see themselves as a combination of feminine and masculine. Others (like me) see themselves as neither masculine nor feminine. Some *genderqueers* consider themselves trans and others (including me) do not.

—Shannon E. Wyss

First Known Use: 1995

Source: Merriam-Webster dictionary, https://www.merriam-webster.com/dictionary/genderqueer (retrieved January 5, 2018).

This nominal recognition in public discourse has not yet translated into guaranteeing the civil rights of, or working to equalize opportunities and outcomes for, transgender and nonbinary people. Since 2013, at least 24 states have considered bills restricting restrooms or other traditionally sex-segregated facilities, such as locker rooms, on the basis of a person's sex assigned at birth rather than their current gender identity.[2] In 2017, the current administration also reversed federal guidance on supporting transgender students in public schools and threatened to reinstate a ban on transgender people serving openly in the military.

It is well known that there are important male-female differences in earnings and labor market and health outcomes. It is less well known that there are also substantial disparities between transgender and cisgender people (i.e., those whose gender identity does not differ from their sex assigned at birth).[3]

These civil rights and inequality concerns are likely to remain on the public agenda in the years ahead. But there is a measurement problem that, if left unsolved, will hinder all such efforts: In order to see and monitor discrimination and disparities faced by transgender and nonbinary people, the national surveys and administrative records that academics, policymakers, and government officials use to understand patterns and trends in well-being will have to start measuring sex and gender differently.

Making Gender Count

The United States is behind other countries in offering federal recognition to its transgender and nonbinary citizens. In 2011, Nepal became the first country to include a third gender on its national census; India soon followed. A nonbinary option is available on passports in Canada and New Zealand, and all "personal documents" in Australia. Parents also have the option of not specifying their child's sex in German birth registries. In 2009, U.S. federal hate crime law was expanded to protect transgender people, and more than 17 states currently prohibit discrimination based on gender identity in both housing and employment. But "male" and "female" remain the only categories allowed on federal identity documents.[4]

U.S. national surveys have been similarly slow to change. Not only have all respondents been shoe-horned into binary categories, but also surveys generally fail to distinguish between "sex" and "gender," despite decades of scholarship seeking to separate biological and social explanations for observed inequalities between women and men. For example, in the General Social Survey, interviewers have been instructed to "Select the gender of chosen respondent" from the categories "male" and "female," and the variable that results from this question is called "SEX." Recording information this way clearly conflates sex and gender. Whereas "sex" refers to a distinction based on variation in chromosomes, hormones, or genitalia, "gender" refers to social expectations for behavior based on a sex category. When surveys conflate sex and gender, they not only ignore academic scholarship on the subject but also negate the existence of transgender people.[5]

Attempts to remedy these oversights in our national data systems have focused on measuring sex and gender separately, allowing for self-identification, and offering categories beyond conventional sex and gender binaries. Studies to date support a two-step approach that first asks people to identify their sex assigned at birth and then to report their current gender (see Figure 2). Additional answer options can include "intersex" for the sex at birth question and "transgender," "genderqueer," or "a gender not listed here" for the gender question.[6]

Measures such as these are beginning to be added to federal surveys, including the National Adult Tobacco Survey, the National Crime Victimization Survey, and the Survey of Prison Inmates. In 2015, a federal working group was convened to share knowledge about the measurement of both sexual orientation and gender identity, and it has issued three working papers to date. However, efforts aimed at broader official recognition, such as inclusion of a "transgender" answer option on the decennial census or annual American Community Sur-

FIGURE 2. Gender Questions in Surveys

General Social Survey

Sex: Categorical (Single)
SELECT GENDER OF CHOSEN RESPONDENT

Categories:

{Male}	MALE
{Female}	FEMALE

Two-Step Question Approach

What sex were you assigned at birth? (For example, on your birth certificate.)

- ☐ Female
- ☐ Male
- ☐ Intersex

What is your current gender?

- ☐ Woman
- ☐ Man
- ☐ Transgender
- ☐ A gender not listed here (please specify) _____

Source: General Social Survey, 2016, Ballot 1, p. 28. Author's survey, November 2014.

vey, are proceeding more cautiously—and some have been canceled entirely—under the current administration.[7]

Beyond Categorical Gender Difference

Gender diversity also exists within the categories of woman and man and within the categories of cisgender and transgender. Much like how differences in political affiliation between Democrats and Republicans are crosscut by ideological positions that range from liberal to conservative, people who identify with the same gender category exhibit variation in their femininity and masculinity—as self-identified and as perceived by others.

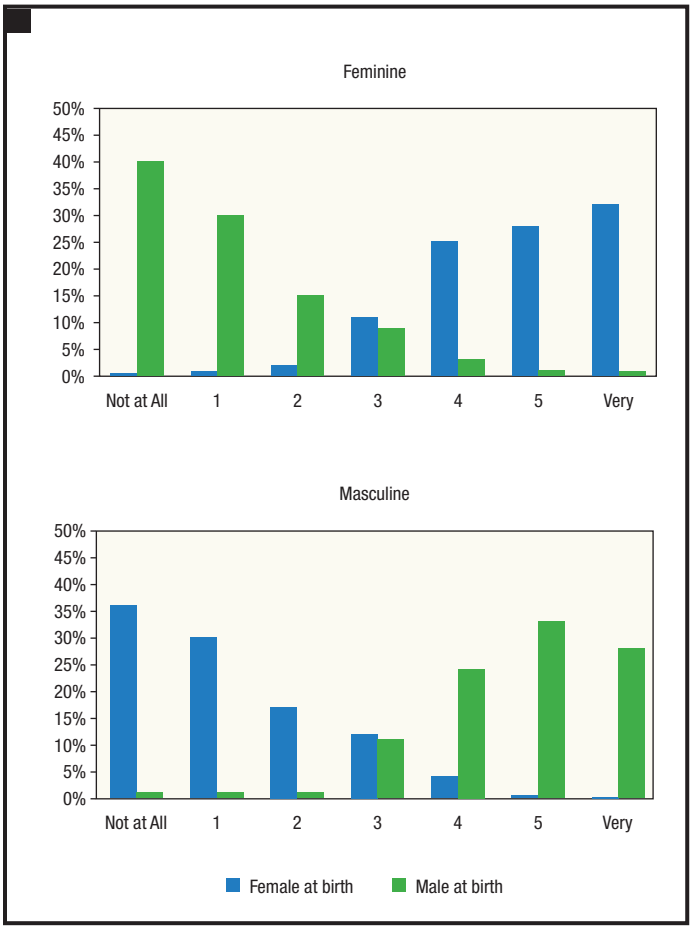
My collaborators and I found that fewer than one-third of respondents in a national survey rated themselves at the maximum of their sex-typical gender identification scale (see Figure 3), a result that calls into question the all-or-nothing relationship implied by binary categories. Indeed, 7 percent of our sample reported identical feminine and masculine responses, while nearly 4 percent reported a lower score on their sex-typical gender scale than on the atypical scale. The latter category includes (a) people assigned female at birth who saw themselves as more masculine than feminine, and (b) people assigned male at birth who saw themselves as more feminine than masculine.[8]

Although it is sometimes claimed that efforts to move beyond conventional measures are, in the end, "much ado about nothing," our results indicate, quite to the contrary, that there is substantial variability in the types and forms of gender identification. Gender diversity ranging from equal masculinity and femininity to the most polarized ends of the scales was evident across all demographic characteristics, including people likely to be grouped under an umbrella transgender category. Older people, people who identified as heterosexual or "straight," people who lived in the South, people who identified as Republican, and people who identified as black were all significantly more likely to see their gender in binary terms. However, people with highly polarized gender identification—who reported being very feminine and not at all masculine or, conversely, very masculine and not at all feminine—did not comprise a majority in any of the subpopulations in our sample.

Allowing for diversity within gender categories also reveals insights into processes of inequality that conventional gender measures miss. For example, married people tend to be better off financially and we find that, all else being equal, people with highly polarized gender identification are more likely to be married. This could occur either because traditional, binary gender identification makes one a more attractive marriage partner, or because marriage increases conformity to traditional gender norms (or both). Other research has found that men who report more stereotypically feminine attributes and behaviors are at a decreased risk of dying from heart disease.[9] But again, the cause of the association is unclear: Are men who identify as more feminine more likely to take care of their health? Do men who take care of their health come to see themselves—or come to be seen by others—as less masculine and more feminine? Or perhaps there is a third factor that tends to affect both gender identification and heart disease risk?

These and other questions that are crucial to understanding contemporary gender inequality, as well as its causes and consequences, can only be answered when our national surveys and administrative records catch up to the current realities of gender in the United States.

FIGURE 3. Gender Diversity Hidden by Binary Categories



Source: Magliozzi et al., 2016.

Aliya Saperstein is Associate Professor of Sociology at Stanford University.

NOTES

1. Bissinger, Buzz. 2015. "Caitlyn Jenner: The Full Story." *Vanity Fair*, June 25; Papisova, Vera. 2016. "Here's What It Means When You Don't Identify as a Girl or a Boy." *Teen Vogue*, February 12. See also, www.apstylebook.com.

2. See Kralik, Joellen. 2017. "'Bathroom Bill' Legislative Tracking." National Conference of State Legislatures, July 28.

3. GenIUSS Group. 2014. "Best Practices for Asking Questions to Identify Transgender and Other Gender Minority Respondents on Population-Based Surveys." Williams Institute.

4. As of June 2017, a nonbinary "X" marker is offered on driver's licenses and ID cards issued by the District of Columbia and the state of Oregon. Similar options will be available in California starting in 2019.

5. See Westbrook, Laurel, and Aliya Saperstein. 2015. "New Categories Are Not Enough: Rethinking the Measurement of Sex and Gender in Social Surveys." *Gender & Society* 29(4), 534–560. However, the conflation of sex and gender is not limited to social surveys—the definition of *genderqueer* added to Merriam Webster, for example, exhibits the same problem (see Figure 1).

6. See Magliozzi, Devon, Aliya Saperstein, and Laurel Westbrook. 2016. "Scaling Up: Representing Gender Diversity in Social Surveys." *Socius* 2. https://doi.org/10.1177/2378023116664352. Jans, Matt, David Grant, Royce Park, Bianca D. M. Wilson, Jody Herman, Gary Gates, and Ninez Ponce. 2016. "Putting the 'T' in LBGT: Testing and Fielding Questions to Identify Transgender People in the California Health Interview Survey." Presented at the Population Association of America Annual Meeting, April 1, Washington, D.C.

7. See Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys. 2016. "Evaluations of Sexual Orientation and Gender Identity Survey Measures: What Have We Learned?"; Holzberg, Jessica, Renee Ellis, Matt Virgile, Dawn Nelson, Jennifer Edgar, Polly Phipps, and Robin Kaplan. 2017. "Assessing the Feasibility of Asking About Gender Identity in the Current Population Survey: Results from Focus Groups with Members of the Transgender Population." Center for Survey Measurement, U.S. Census Bureau, and Office of Survey Methods Research, Bureau of Labor Statistics; Wang, Hansi Lo. 2017. "U.S. Census to Leave Sexual Orientation, Gender Identity Questions Off New Surveys." NPR.org, March 29.

8. See Magliozzi et al., 2016.

9. Hunt, Kate, Heather Lewars, Carol Emslie, and G. David Batty. 2007. "Decreased Risk of Death from Coronary Heart Disease Amongst Men with Higher 'Femininity' Scores: A General Population Cohort Study." *International Journal of Epidemiology* 36(3), 612-620.

EDUCATION

Stanford Center on Poverty and Inequality

ERIN M. FAHLE AND SEAN F. REARDON

How do male and female students fare in the U.S. educational system? One common narrative holds that boys perform better in math and science, while girls outperform boys in reading and language arts. A second narrative focuses on college success, noting that, at least in recent years, female students attend and graduate college at higher rates but remain underrepresented in science, technology, engineering, and mathematics (STEM) and earn fewer degrees in these fields. To what extent are these narratives true, how have they changed over time, and what do they mean for gender equality in education?

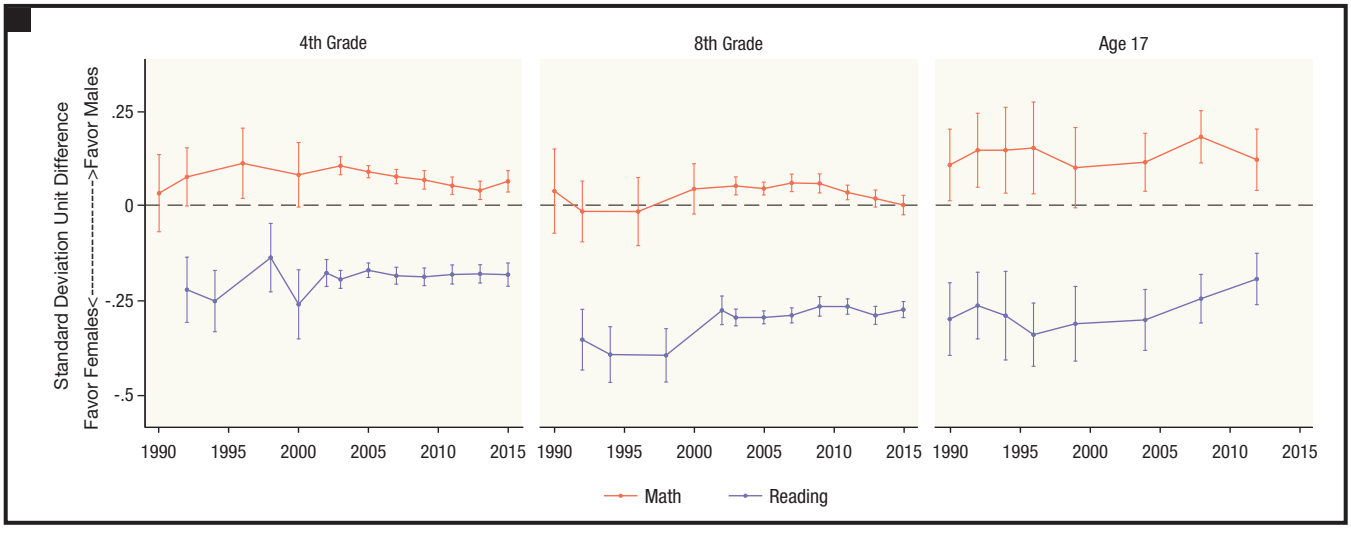
Gender Gaps in Academic Performance

The National Assessment of Educational Progress (NAEP) provides comparable information on the average math and reading skills of U.S. fourth- and eighth-grade students over the past two decades.[1] Figure 1 shows the male-female test score gaps from 1990 through 2015 on the fourth and eighth grade NAEP Main Assessments and on the age 17 NAEP Long-Term Trend (LTT) Assess-

KEY FINDINGS

- Despite common beliefs to the contrary, male students do not consistently outperform female students in mathematics. On average, males have a negligible lead in math in fourth grade, but that lead essentially disappears by eighth grade. This pattern shifts in high school. By age 17, there is a meaningful male advantage in math, approximately one-third of a grade level in 2012.
- In reading, female students consistently outperform male students from fourth grade through high school. In 2015, the male-female test score gap in fourth-grade reading was about half of a grade level, and in eighth grade it was even larger, at four-fifths of a grade level. At age 17, reading gaps persist at just over half a grade level.
- Although women attend college and graduate from college at higher rates than men, women are underrepresented in STEM majors and earn fewer STEM degrees.

FIGURE 1. Gender Gaps in Test Scores by Subject and Grade, 1990–2015



Source: National Assessment of Educational Progress.

ments.[2] Positive gaps indicate that male students are doing better than female students; negative gaps indicate the opposite.

These data show that the first narrative is, in part, true: In reading, female students clearly and consistently outperform male students from fourth grade through high school. In 2015, the male-female test score gap in fourth grade reading was 0.18 standard deviation units, or about half of a grade level; and in eighth grade, it was even larger, at four-fifths of a grade level. At age 17, the reading gap persists; it was just over half a grade level in 2012 (the most recent year of LTT).[3] Moreover, this female advantage in reading has remained relatively consistent since the 1990s.

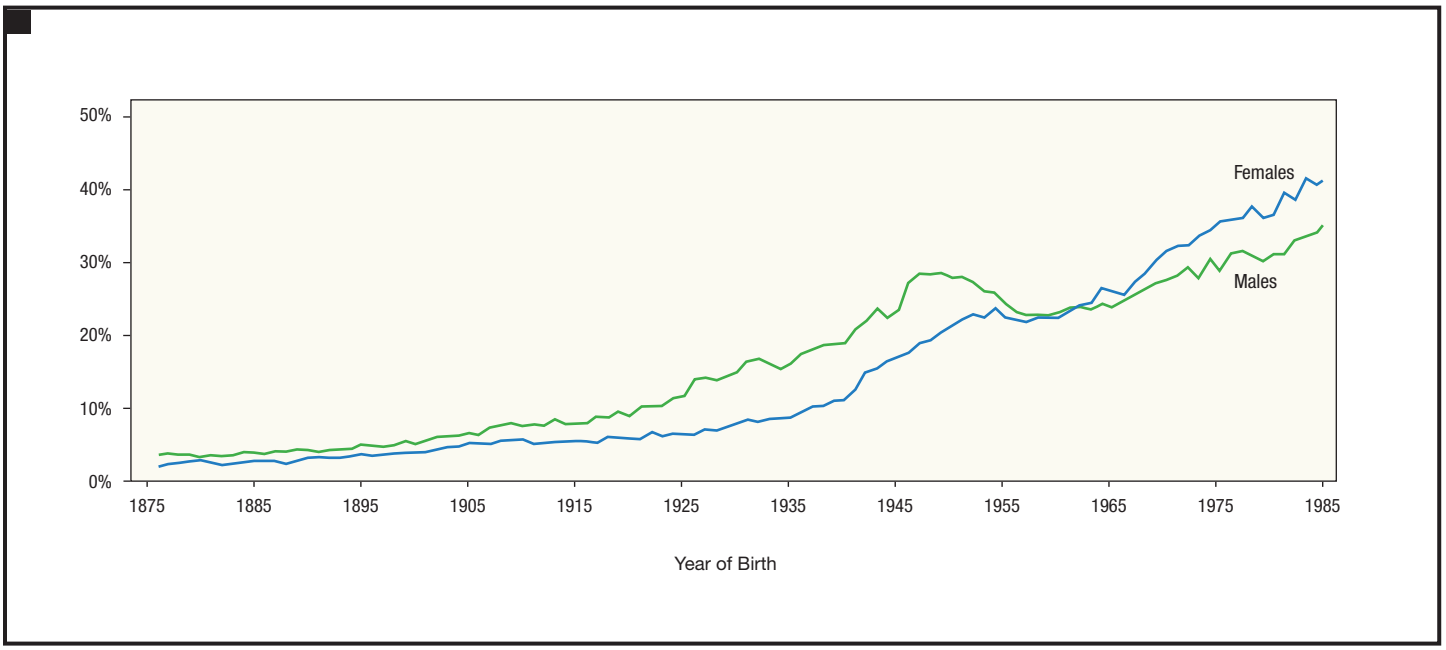
On the other hand, male students do not consistently outperform female students in mathematics, despite commonly held beliefs to the contrary. On average, males have a negligible lead in math in fourth grade; and in eighth grade, male and female students perform nearly equally on the NAEP math assessments.[4] However, this pattern shifts in high school. By age 17, there is a meaningful male advantage in math—approximately one-third of a grade level, in 2012. As with reading, these small male-favoring gaps have stayed largely the same since the 1990s.[5]

Interestingly, in both math and reading, the trends across grades suggest that female students gain ground, relative to males, through eighth grade—widening the reading gap and completely closing the math gap. However, this pattern is reversed after eighth grade—the math gap starts to favor male students and the reading gap no longer grows, as it does from fourth to eighth grade, in favor of female students.

Gender Gaps in College Enrollment and Graduation

There have been significant changes in the gender composition of students attending and graduating from college. Figure 2 shows the trend in college graduation rates of U.S.-born male and female adults. For cohorts born prior to the mid-1950s, men graduated at rates up to 9 percentage points higher than women. However, the graduation rates among males born between 1950 and 1960 dropped off steeply following the Vietnam War, to the point where the rates were nearly equal among male and female adults born in 1960. As a result of changing expectations for women regarding work and marriage, combined with the relatively higher rates of behavioral problems among male students (e.g., suspensions or arrests), female students surpassed male students in college attendance and graduation,[6] leading to a 5-percentage-point gap favoring females among adults today.

FIGURE 2. Trends in College Graduation Rates at Age 30



Source: Goldin and Katz, 2008, Figure 7.1, with supplemental data for 1976–1985 birth cohorts provided by Katz (personal communication, 2017).

Although women are graduating from college at higher rates, the other half of this narrative is also true: Women remain underrepresented in STEM majors and earn fewer STEM degrees. For example, in 2016 only 35 percent of STEM bachelor's degrees were awarded to women.[7] Within STEM fields, there are subfields where women comprise an even lower percentage of the students (e.g., computer science at 22%).[8]

What Causes These Patterns?

Multidisciplinary research has investigated how different biological,[9] psychological, and social factors work together to constrain male and female students' educational opportunities. This research highlights two critical contributors: societal beliefs about gender roles and behavioral differences between male and female students. There are pervasive stereotypes in the United States that "boys are better at math/science" and "girls are better at reading/language." The translation of these beliefs into differential expectations for male and female children by parents[10] or teachers[11] has meaningful consequences for students' performance in school and placement into advanced or remedial courses, in particular for female students in mathematics. These beliefs also shape students' interests or educational identities,[12] which can dissuade them from continuing in fields that do not "match" with their gender.[13] Simultaneously, there is evidence that male students have higher rates of school disciplinary action, recorded behavioral problems, and placement into special education throughout their school careers, which provides female students an overall advantage in school.[14,15]

The gender disparities in K–12 achievement and post-secondary education reflect the tension between these two factors. The overall female advantage from fourth through eighth grades and in college graduation appears to result, in part, from their behavioral advantage. The widening of the math gaps between eighth grade and age 17, along with the underrepresentation of women in STEM fields in college, indicate that stereotypes and differential expectations for boys and girls in math have a meaningful impact in high school that continues into college. These disparities have large potential consequences for men and women in the labor market: If men remain less likely to have a college degree, they will earn lower wages in less-skilled jobs; if women remain less likely to have STEM degrees, they will continue to have more limited access to some high-skill, lucrative fields.

Reducing gender inequality in education has direct benefits for both males and females, but it is unclear that school-based measures, such as providing support for female students in STEM or developing interventions to reduce behavioral problems for male students, will be sufficient. The evidence suggests that to truly achieve gender equality in education, our society's long-standing beliefs about gender roles and identities must change.

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NOTES

1. There are two different NAEP assessments: Main and Long-Term Trend NAEP. We use Main NAEP assessments for fourth and eighth grade because they provide larger sample sizes and more frequent assessments in elementary and middle school than the Long-Term Trend NAEP; we use Long-Term Trend NAEP at age 17 because the 12th-grade Main NAEP assessments have been administered less frequently in the last two decades. All NAEP assessment data can be accessed at https://nces.ed.gov/nationsreportcard/naepdata/.

2. We calculate the male-female gap as: $(\mu_{male}-\mu_{female})/ sd_{all}$; the standard errors of the gaps are computed as $\sqrt{(se(\mu_{male})^2+se(\mu_{female})^2)}/ sd_{all}$. The error bars shown indicate 95 percent confidence intervals.

3. Studies using the Early Childhood Longitudinal Study kindergarten cohort (ECLS-K) show that this female advantage in ELA exists even as early as kindergarten. See, for example, Robinson, Joseph Paul, and Sarah Theule Lubienski. 2011. "The Development of Gender Achievement Gaps in Mathematics and Reading During Elementary and Middle School: Examining Direct Cognitive Assessments and Teacher Ratings." *American Educational Research Journal* 48(2), 268–302. https://doi.org/10.3102/0002831210372249.

4. There is evidence, however, that although average differences in achievement during elementary and middle school are small, female students are underrepresented among the highest-achieving math students. Penner, Andrew M., and Marcel Paret. 2008. "Gender Differences in Mathematics Achievement: Exploring the Early Grades and the Extremes." *Social Science Research* 37(1), 239–253. https://doi.org/10.1016/j.ssresearch.2007.06.012; Robinson and Lubienski, 2011.

5. In fact, NAEP-LTT data show that these patterns have been largely unchanged since the 1970s. National Center for Education Statistics. 2013. "The Nation's Report Card: Trends in Academic Progress 2012." NCES 2013-456. https://nces.ed.gov/nationsreportcard/subject/publications/main2012/pdf/2013456.pdf.

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15. Note that these behavioral differences may also result from stereotypes that "girls are well-behaved and quiet" and "boys are active and loud," and children's socialization into those roles.

HEALTH

Stanford Center on Poverty and Inequality

MARK DUGGAN AND VALERIE SCIMECA

Here's a grim fact: U.S. life expectancy has plateaued. It might have reasonably been assumed that, at least for the foreseeable future, life expectancy would continuously increase as the economy grew, medical innovations accumulated, healthy behaviors diffused, and health care improved. Up until 2010, each new decade indeed brought substantially longer life spans, just as this logic implies. Parents could expect their newborns to live 78.7 years in 2010, exceeding the life expectancy for 1970 births by almost eight years. Life spans were averaging 10 weeks longer *each year*.

Then something dramatically changed. The prior trend predicted that life expectancy should have increased by more than a year since 2010. Instead, in an especially sharp break, there's been no observable increase at all.

In this article, we discuss the causes of this change and its implications for health and well-being in the United States, with a special focus on the changing gap in life expectancy for men and women. Although most of the many "gender gaps" examined in this issue favor men, the gap in life expectancy favors women, thus making it an idiosyncratic case of some interest.

We will examine trends in life expectancy at birth, defined as the average life span expected for newborns given prevailing death rates.[1] Why focus on life expectancy? Of course, average life span doesn't correlate perfectly with health. For example, each deadly car accident reduces the average life span, but accidents happen to healthy and unhealthy individuals alike. Suicide rates, on the other hand, are more closely linked with underlying mental health problems or societal conditions that reduce well-being.[2] In short, life expectancy is certainly not the only measure of population health, but it is one of the important summary measures.

KEY FINDINGS

- The male-female life expectancy gap, which favors females, fell from 7.6 years in 1970 to 4.8 years in 2010, a reduction of more than one-third.
- Most of this convergence was caused by a substantial decline from 1990 to 2000 in HIV-AIDS mortality and in the homicide rate. Because HIV-AIDS and homicide affect men more than women, a decline in these underlying rates had the effect of reducing the male-female life expectancy gap.
- Life expectancy has stagnated for the last several years for men and women, primarily due to increases in drug poisoning deaths and in the suicide rate.

Trends in U.S. Life Expectancy

U.S. life expectancy trends for males and females have been qualitatively similar. However, as shown in Figure 1, the rate of increase was much less rapid for females. From 1970 to 2010, life expectancy for an infant girl increased 6.3 years, from 74.7 to 81.0. The corresponding increase for an infant boy (9.1 years) was nearly three years greater, rising from 67.1 to 76.2. Because of these differences, the male-female life expectancy gap fell by more than one-third, from 7.6 to 4.8 years.[3]

Most of this convergence occurred in the 1990s, when life expectancy increased by 2.3 years for males versus just 0.5 year for females. This more rapid improvement among males was to a significant extent caused by a substantial decline in HIV-AIDS mortality and in the homicide rate, both of which disproportionately affect younger adult men.

Causes of the Recent Stall in U.S. Life Expectancy

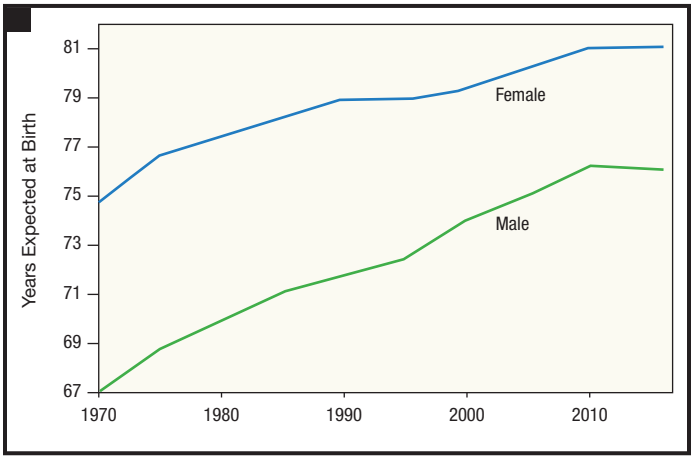
Both male and female life expectancies have been essentially flat since 2010.[4] What are the predominant causes of this stagnation? Table 1 lists age-adjusted death rates in 2010 and 2016 for the top 10 causes of death. Despite reductions in mortality from cancer and heart disease, there have been substantial increases from unintentional injuries, Alzheimer's disease, and suicide. Of these, injury deaths and suicides have greater effects on life expectancy, since they are more prevalent at younger ages.[5] This helps explain why, even though overall death rates fell, life expectancy was unchanged from 2010 to 2016.

Within the category of unintentional injury, the two most common causes of death are motor vehicle incidents and poisonings, which include drug overdoses. The death rate from poisoning increased by 37.7 percent from 2010 to 2015 (from 10.6 to 14.6 per 100,000).[6] This increase continues a trend that started in the 1990s. The poisoning death rate doubled from 1990 to 2000 (2.3 to 4.5) and more than doubled again from 2000 to 2010 (4.5 to 10.6). However, these earlier increases were mostly offset by contemporaneous reductions in the motor vehicle death rate, which fell from 18.5 in 1990 to 11.3 in 2010. In contrast, since 2010 the motor vehicle death rate has been relatively unchanged, while poisoning deaths have continued to rise.

The next two causes of death that have increased most in recent years are Alzheimer's disease and suicide. The Alzheimer's death rate increased 20.7 percent. The 11.6 percent increase in the suicide rate continues a trend that started around 2000, when the national suicide rate stood at 10.4 per 100,000. Suicides have steadily risen since, reaching 13.5 per 100,000 in 2016.

This analysis suggests that life expectancy has stalled in large part due to the increasing prevalence of death from unintentional injury (including drug poisoning) and suicide. While both began to increase before 2010, the decrease in motor vehicle deaths had previously offset their effect on overall life expectancy. With motor vehicle deaths now having reached at least a temporary low point, the effects of drug deaths and suicides are directly observable in the recent life expectancy plateau. Deaths from Alzheimer's disease have also increased markedly since 2010, but since the disease affects older individuals, it has less impact on average life expectancy.

FIGURE 1. Life Expectancy by Sex



Source: 1970–2010 data from Arias et al., 2017, Table 19; 2016 data from Kochanek, Kenneth D., Sherry L. Murphy, Jiaquan Xu, and Elizabeth Arias. 2017. "Mortality in the United States, 2016." *National Center for Health Statistics Data Brief*, Figure 1.

Implications for Health Disparities

As shown in Figure 1, the life expectancy gap declined in size by one-third from 1970 to 2010. How has the gap fared since? Since 2010, there has been a slight 0.2 year increase in this gap. This is because life expectancy for males turned very slightly downward, whereas it continued to grow for women, albeit at a slower rate than had before been the case.

It is useful to examine the changing causes of death standing behind this aggregate trend. The final two columns of Table 1 show the ratio of male-to-female mortality rates for each cause of death in 2010 and 2015.[8] With the exception of Alzheimer's disease, death rates for men are higher than (or equal to) the corresponding rates for women for all of the conditions listed.[9] Notably, men are more than twice as likely as women to die from unintentional injuries. This ratio has recently increased, which contributes to the 0.2 year increase since 2010 in the female-male life expectancy gap.

Although the overall gap increased slightly, Table 1 reveals that some of the forces in play are serving to reduce the gap. Suicide is a case in point. Men are much more likely to commit suicide than women, but the recent increase in suicide has had a larger effect on women, leading to some convergence in the life expectancy gap. As Table 2 shows, the overall suicide rate for women increased 50 percent (from 4.0 to 6.0 per 100,000) from 2000 to 2015 versus 19 percent for men (17.7 to 21.1). Men aged 75 and up were the only age-sex group whose suicide rate fell, and in every age group, women's suicide rates increased relative to men's. The most striking differences occurred under age 25, where increases of around 10 percent for men were dwarfed by increases of around 80 percent for women. These death rate increases at young ages have important effects on the trends in life expectancy by sex.

TABLE 1. Age-Adjusted Rates for the Top 10 Causes of Death

Cause of Death	2010	2016	Percent Change	2010 Male/Female Ratio	2015 Male/Female Ratio
Heart Disease	179.1	168.5	-7.6%	1.6	1.6
Cancer	172.8	155.8	-9.8%	1.4	1.4
Chronic Lower Respiratory Diseases	42.2	40.6	-3.8%	1.3	1.2
Unintentional Injuries	38.0	47.4	+24.7%	2.0	2.1
Stroke	39.1	37.3	-4.6%	1.0	1.0
Alzheimer's Disease	25.1	30.3	+20.7%	0.8	0.7
Diabetes	20.8	21.0	+1.0%	1.4	1.5
Influenza and Pneumonia	15.1	13.5	-10.6%	1.4	1.3
Kidney Disease	15.3	13.1	-14.4%	1.4	1.4
Suicide	12.1	13.5	+11.6%	4.0	3.5
All Other Causes	187.4	191.1	+1.8%	1.3	1.3
Overall	747.0	733.1	-2.4%	1.4	1.4

Source: 2010 and 2015 data from Table 17. "Age-Adjusted Death Rates for Selected Causes of Death, by Sex, Race, and Hispanic Origin: United States, Selected Years 1950–2015." National Center for Health Statistics; 2016 data from Kochanek et al., 2017. Rates are per 100,000 population.

TABLE 2. Suicide Rate by Sex and Age in 2000 and 2015

	Male Suicide Rate			Female Suicide Rate			Male/Female Ratio	
Age Group	2000	2015	Percent Change	2000	2015	Percent Change	2000	2015
15–19	13.0	14.2	+9%	2.7	5.1	+89%	4.8	2.8
20–24	21.4	24.2	+13%	3.2	5.5	+72%	6.7	4.4
25–34	19.6	24.7	+26%	4.3	6.6	+54%	4.6	3.7
35–44	22.8	25.9	+14%	6.4	8.4	+31%	3.6	3.1
45–54	22.4	30.1	+34%	6.7	10.7	+60%	3.3	2.8
55–64	19.4	28.9	+49%	5.4	9.7	+80%	3.6	3.0
65–74	22.7	26.2	+15%	4.0	5.7	+43%	5.7	4.6
75–84	38.6	35.2	-9%	4.0	4.6	+15%	9.7	7.7
85+	57.5	48.2	-16%	4.2	4.2	0%	13.7	11.5
Overall	17.7	21.1	+19%	4.0	6.0	+50%	4.4	3.5

Note: Overall death rate is age-adjusted.
Source: Table 30. "Death Rates for Suicide, by Sex, Race, Hispanic Origin, and Age: United States, Selected Years 1950–2015." National Center for Health Statistics.

Conclusions

In short, average health in the United States as measured by life expectancy has not improved during the last several years for men or women. The increases in drug poisoning deaths and in the suicide rate are a primary reason for this disturbing trend. While drug deaths have hit men and women about equally hard, the recent increase in the suicide rate has disproportionately affected women. American women still live longer than men, though women's life expectancy advantage has narrowed to 5 years (down from 7.6 years in 1970).

While life expectancy provides an overall snapshot of health in the United States by sex, there are disparities in well-being and quality of life that it captures less well. For example, depression occurs much more frequently in women than in men,[10] but its effects on well-being are represented in the life

expectancy gap only to the extent that depression increases the death rate. It is beyond our scope here to explain all gender differences in well-being. However, recent large increases in women's suicide rates suggest that newly emerging public health conditions may be relatively more detrimental to women than our summary life expectancy measure shows.

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NOTES

1. To calculate life expectancy for a specific year, the National Center for Health Statistics uses all of the age-specific mortality rates for that year. It then "assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in that year." See Arias, Elizabeth, Melonie Heron, and Jiaquan Xu. 2017. "United States Life Tables, 2014." *National Vital Statistics Reports* 66(4).

2. Conditions like diabetes fall in the middle of this continuum. Diabetes may reduce life expectancy, but it can be associated with a reasonably high quality of life if well managed.

3. During this same period, there was a similar convergence in life expectancy by race. For example, the black-white gap in male life expectancy fell from 8.0 years to 4.7 years, while for females this narrowed from 7.3 to 3.3 years.

4. For females, life expectancy inched up from 81.0 to 81.1 years; for males, it fell slightly from 76.2 to 76.1 years.

5. The median ages among those dying from accidental deaths and from suicides in 2015 were 54 and 48, respectively. In contrast, the median age of death from heart disease and cancer was 81 and 72, respectively. See Murphy, Sherry L., Jiaquan Xu, Kenneth D. Kochanek, Sally C. Curtin, and Elizabeth Arias. 2017. "Deaths: Final Data for 2015." *National Vital Statistics Reports* 66(6), Table 6.

6. The 2016 data have not yet been published for more specific causes of death (e.g., poisoning).

7. The Alzheimer's increase partly reflects individuals living to older ages than previously. Ninety-three percent of decedents in this group were 75 or older in 2010 and 2015.

8. The 2016 data are not yet published by sex.

9. Women accounted for 70 percent of deaths with Alzheimer's as the primary cause in both 2010 and 2015.

10. Albert, Paul R. 2015. "Why Is Depression More Prevalent in Women?" *Journal of Psychiatry & Neuroscience* 40(4), 219–221.

EMPLOYMENT

Stanford Center on Poverty and Inequality

MELISSA S. KEARNEY AND KATHARINE G. ABRAHAM

Women's employment rates, which had been rising since the late 1960s, have generally been stagnant or declining over the past two decades. The declines have been concentrated among less-educated and younger women. Marriage rates are down among those without a college degree, and employment has fallen among men as well as women, meaning that the decline in employment among less-educated women is not due to more of them marrying high-earning men. Many of the same forces that have pushed down the employment rates of men have also hurt the employment rates of women.

KEY FINDINGS

- Since 2000, U.S. women's overall employment rate has fallen, with the decline concentrated among women without a college degree.
- This decline largely reflects many of the same secular forces, such as trade pressures and technological advances, that have negatively affected labor demand for male workers who have not completed college.
- Although supply-side factors—including child care challenges and the "secondary earner penalty" in the U.S. tax code—are not the primary driver of falling female employment rates, supply-side policies that lower child care costs and marginal tax rates could help to increase female employment.

Recent Trends

From 2000 to 2017, the employment rate (employment-to-population ratio) among women aged 16 to 64 declined 2.7 percentage points, falling from 67.9 to 65.2 percent.[1] Among men, the drop was 5.2 percentage points, from 80.7 to 75.5 percent. Among both women and men, some of this decline can be attributed to the aging of the population, but a large share is due to declining employment among prime-age and younger workers. The employment rate among men aged 25 to 54 fell 3.6 percentage points over this period, from 89.0 to 85.4 percent. The decline among prime-age women was smaller, but still sizable—a 2.0-percentage-point decline, from 74.2 to 72.2 percent. Declines in employment have been largest for those without a college degree. As shown in Figure 1, this is true for women and men.

Notably, there has been an *increase* in the employment rate among women aged 55 to 64. As shown in Figure 2, over the past two decades, the employment rate of women in this age group increased 8.0 percentage points, rising from 49.6 percent in 1997 to 57.6 percent in 2017. This increase stands in stark contrast to the mostly stagnant or declining rates of employment among younger women. It is also much larger than the change among men in the same age category.

Factors Affecting the Demand for Workers

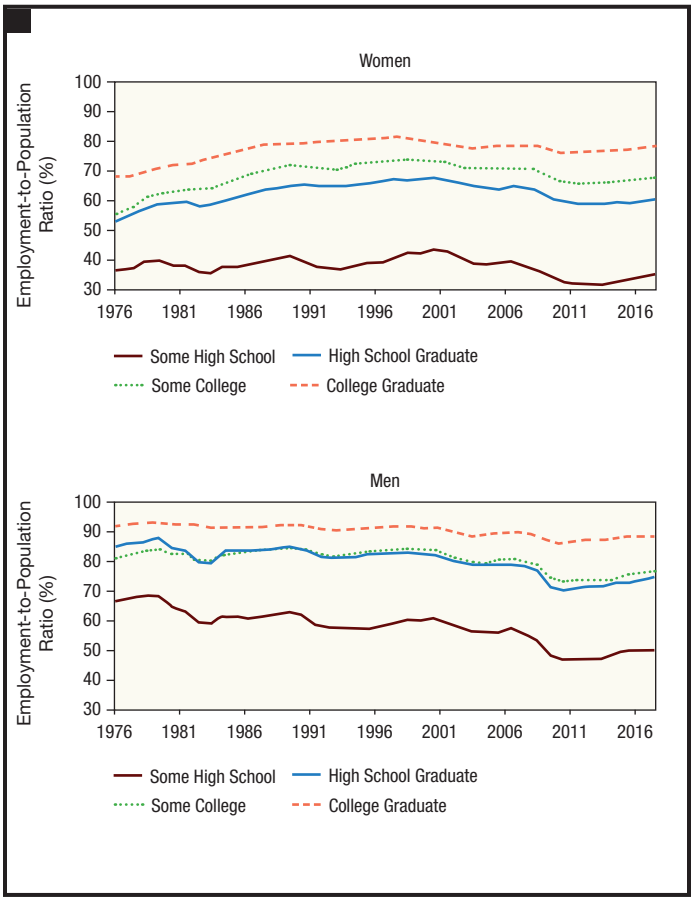
Women now comprise roughly half the workforce, and to a large extent, the same forces that have disadvantaged less-educated men in the labor market also have had a punishing effect on the wages and employment rates of less-educated women. Expanded trade with China is one critical demand-side factor that has led to a decrease in employment, concentrated in manufacturing, over this period.[2] The adoption of industrial robots has also driven employment reductions, particularly in the automobile industry.[3] Given the disproportionate representation of men in industries hit especially hard by trade pressures and robots, it is perhaps unsurprising that overall employment declines have been larger for men than for women. This is not to suggest that all of the forces behind declining employment have hit men harder. There is some evidence, for example, that the computerization of some types of routine labor, such as clerical and administrative support tasks, led to a larger net decline in employment among women.[4]

Raising Women's Employment

Women's employment cannot be fully understood by examining only the changing demand for certain types of workers. The availability of income from other sources (including government social insurance programs) and the costs of working (including income taxes and child care and transportation costs) also affect women's decisions about whether to work and how much to work. An examination of several of these factors leads us to conclude that changes in supply-side policies could help to raise women's employment rates.

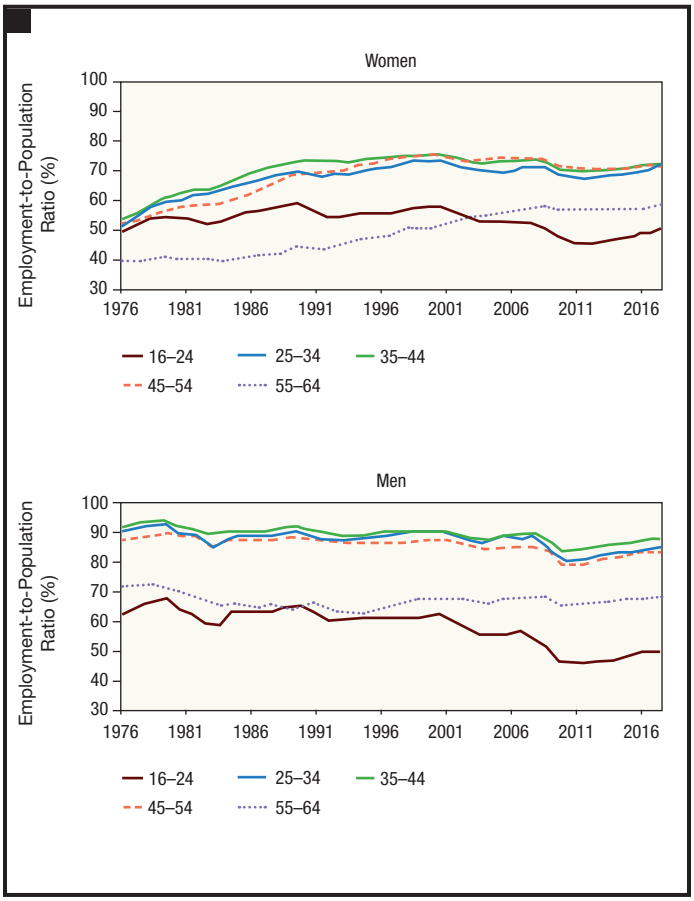
First, the treatment of families as a combined unit in the U.S. tax code creates an implicit "secondary earner penalty." That is, the first dollar of earnings by a spouse—or "secondary" earner, which is still often the wife—is taxed at the marginal tax rate of the last dollar earned by the "primary" earner, thereby reducing the take-home pay that many married women would receive from working. This also applies to the Earned Income Tax Credit (EITC), a refundable credit available to tax filing units with low but positive annual earnings. Because the credit is based on pooled family income rather than individual earnings, adding earnings from a second worker in the household will often significantly diminish or eliminate a couple's tax credit.[5] How could these disincentives in the tax code be addressed? One option would be to introduce a secondary-earner tax deduction that would allow families with two employed members to keep more of their earnings. We would expect the resulting increase in the return to working to raise employment rates among married women.[6]

FIGURE 1. Trends in Women's and Men's Employment by Education



Note: Limited to those aged 16–64.
Source: IPUMS-CPS. Each value shown is a 12-month average across the January–December Current Population Survey for a given year.

FIGURE 2. Trends in Women's and Men's Employment by Age



Source: IPUMS-CPS. Each value shown is a 12-month average across the January–December Current Population Survey for a given year.

Second, as the earnings of lower-wage workers have fallen over recent decades, the challenges associated with arranging and paying for child care may have grown. Rigorous evidence consistently shows that expanded access to free or low-priced child care leads to higher female employment.[7]

Finally, increased receipt of social security disability insurance benefits has contributed to falling employment rates among women and men.[8] There is robust evidence that beneficiaries with less severe medical conditions would have higher employment rates had they not received benefits or had benefit amounts been lower. Policy reforms or initiatives aimed at helping such individuals return to work have the potential to increase employment rates.

Conclusions

After rising steadily for many decades, the overall female employment rate in the United States has been falling since 2000. This decline largely reflects many of the same forces that have negatively affected labor demand for non-college male workers. Still, supply-side hindrances, such as the lack of affordable high-quality child care and the high marginal income tax rates on secondary earners in married-couple households, likely contribute to female employment being lower than would otherwise be the case.

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NOTES

1. The employment rates reported in this article are based on the authors' tabulations from Flood, Sarah, Miriam King, Steven Ruggles, and J. Robert Warren. *Integrated Public Use Microdata Series, Current Population Survey: Version 5.0* [dataset]. Minneapolis, MN: University of Minnesota, 2017. https://doi.org/10.18128/D030.V5.0, hereafter "IPUMS-CPS."

2. This evidence is documented in a number of papers, including Autor, David, David Dorn, Gordon H. Hanson, and Jae Song. 2014. "Trade Adjustment: Worker-Level Evidence." *Quarterly Journal of Economics* 129(4), 1799–1860; Acemoglu, Daron, David Autor, David Dorn, Gordon H. Hanson, and Brendan Price. 2016. "Import Competition and the Great U.S. Employment Sag of the 2000s." *Journal of Labor Economics* 34(S1), S141–S198; Pierce, Justin R., and Peter K. Schott. 2016. "The Surprisingly Swift Decline of U.S. Manufacturing Employment." *American Economic Review* 106(7), 1632–1662.

3. Acemoglu, Daron, and Pascual Restrepo. 2017. "Robots and Jobs: Evidence from U.S. Labor Markets." NBER Working Paper 23285.

4. Autor, David, David Dorn, and Gordon H. Hanson. 2015. "Untangling Trade and Technology: Evidence from Local Labour Markets." *The Economic Journal* 125(584), 621–646.

5. See Eissa, Nada, and Hilary Hoynes. 2004. "Taxes and the Labor Market Participation of Married Couples: The Earned Income Tax Credit." *Journal of Public Economics* 88(9–10), 1931–1958. This paper finds that the EITC expansions between 1984 and 1996 led to more than a full percentage point decline in married women's labor force participation.

6. For a full discussion of this issue, see Kearney, Melissa S., and Lesley J. Turner. 2013. "Giving Secondary Earners a Tax Break: A Proposal to Help Low- and Middle-Income Families." The Hamilton Project.

7. For a review of this evidence, see Abraham, Katharine, and Melissa Kearney. 2018. "Explaining the Decline in the U.S. Employment to Population Ratio: A Review of the Evidence." NBER Working Paper 24333.

8. Abraham and Kearney, 2018.

EARNINGS

Stanford Center on Poverty and Inequality

EMMANUEL SAEZ

A substantial body of work documents the level and evolution of the gender wage gap in the United States.[1] This gap was very large in the 1960s, shrunk significantly in the 1970s and 1980s, has fallen only slightly since the 1990s, and remains fairly high. The median male full-time weekly wage was 162 percent of the median female wage in 1973. It had fallen to 131 percent by 1993 and stood at 123 percent in 2015.[2]

Yet the wage ratio captures only a fraction of the total gender gap in labor earnings. The typical focus on wage differences ignores that women might (a) be less likely to work, (b) work fewer hours, (c) receive fewer fringe benefits, and (d) have lower self-employment income than men. In addition, the surveys that are frequently used to compute gender wage ratios do not capture the top of the earnings distribution well, due to "top coding" (i.e., lumping high values into one top category that cannot be disaggregated) and measurement error. In short, wage ratios miss much of the gender inequality in the labor market, especially among top earners, where gender gaps may be largest.

A Better Gender Gap Measure

Given the limitations of survey data, Thomas Piketty, Gabriel Zucman, and I have developed a more comprehensive gender gap measure using individual income tax data.[3] To divide earnings within married couples, we use information from W2 wage earnings forms. We then augment wage earnings with fringe benefits, such as pension contributions and health benefits, to capture the full compensation of employees. Tax data also provide information on self-employment earnings broken down across spouses.[4] We use these data to define an individual's labor earnings as the sum of wages, salaries, fringe benefits, and self-employment income. This is a comprehensive measure of labor earnings that is consistent with the definition used in National Accounts.[5] We measure labor earnings annually, adjusting for inflation to 2014 dollars using the national income deflator.

KEY FINDINGS

- Gender wage gaps, as conventionally measured, understate the extent of gender inequality in the labor market. When gender differences in wages are examined in conjunction with gender differences in labor force participation, fringe benefits, and self-employment income, men's average labor earnings are 75 percent higher than women's. Under this fuller accounting, women thus earn 57 cents for each dollar earned by men.
- Although women have come to comprise almost 50 percent of the formal labor market, their representation in top labor income groups has risen very slowly. In the most recent available data, just 16 percent of the top 1 percent of labor income earners are women.

Figure 1 provides a summary of the trend in labor income gender inequality since the 1960s. We take two basic statistics—total labor earnings per man and total labor earnings per woman—and compute the male-to-female ratio of these two averages. These averages are across all men and women aged 20–64, including those not employed (e.g., women and men who are incarcerated or not employed in the formal labor market). Therefore, this ratio captures not only the gender differences in wages among those who work, but also the gender differences in labor force participation, hours of work, fringe benefits, and self-employment income. This is a relevant metric for studying overall labor income inequality between all working-age men and women.

As Figure 1 shows, men's average labor earnings were 3.7 times women's in the early 1960s and are now 1.75 times women's average labor earnings. Or equivalently, women earned only 27 percent of what men were earning in the 1960s. Today, women earn about 57 percent of what men earn.

This comprehensive gender gap is therefore much larger than the gender gap based on wages alone. When all sources of labor income differences are included, the gender gap has halved since the 1960s but is far from disappearing. Additional breakdowns also show that the gender gap increases with age. Today, young men aged 20–34 earn 1.3 times their female peers; this same ratio reaches almost 2 for adults aged 55–64.

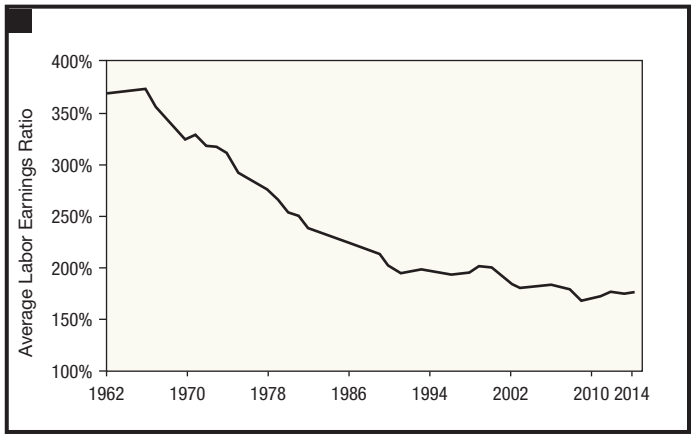
Next, we look at the gender gap at various percentiles of the distribution, looking first at the median, and then at upper percentiles. Figure 2 shows that among the working-age population (again including those who aren't employed), the difference in median annual labor earnings for men versus women has diminished in recent decades. Two forces are at play. For working-age women, median labor earnings stood above $20,000 in 2014, more than five times the 1962 level. This is largely the result of the much larger share of women now participating in the formal labor market. For working-age men, median labor earnings have stagnated: They were the same in 2014 as in 1964, at about $35,000. Though the median labor income of men grew relatively quickly from 1962 to 1973 and during the 1990s boom, it fell during recessions, effectively erasing all gains. Therefore, the closing of the median gender wage gap is largely driven by the complete stagnation of male median wages in the United States since the early 1970s.

The Top of the Income Ladder

While median wages have stagnated, labor income at the top has surged. Are women catching up with men at the top? Our data show that considerable gender inequalities persist at the top of the distribution. The top line in Figure 3 depicts the fraction of women among all workers in a given year. Notably, women are almost as likely to work as men are today. In the 1960s, women made up just 37 percent of the formal labor market (when both salaried work and self-employment are included). Yet by the early 1990s, women had almost entirely closed the labor force participation gap, with each gender's share of total employment converging at about 50 percent.

However, as Figure 3 also shows, women are much less represented at the top of the labor income distribution (e.g., the top decile, the top percentile, and the top 0.1%). If there were no additional gender gap near the top, we would expect the fraction of women earners in these top groups to equal women's overall fraction of the labor market (i.e., about 50%). In the 1960s, women accounted for less than 5 percent of the

FIGURE 1. Male-to-Female Average Labor Earnings Ratio for U.S. Adults Aged 20–64, 1962 to 2014



Source: Figures 1–3 are based on the author's calculations.

FIGURE 2. Median Labor Earnings of Adults Aged 20–64, 1962 to 2014

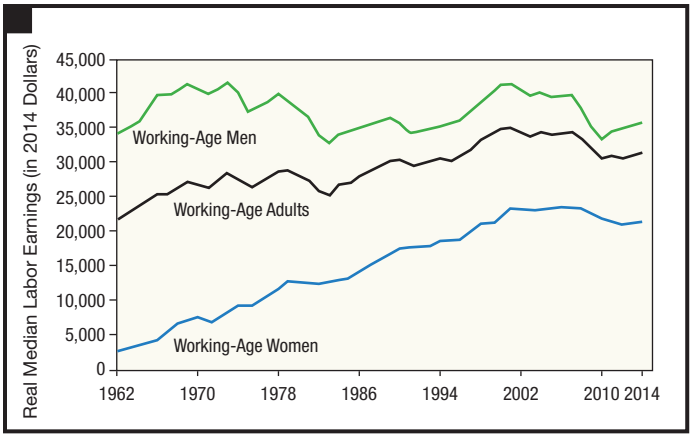
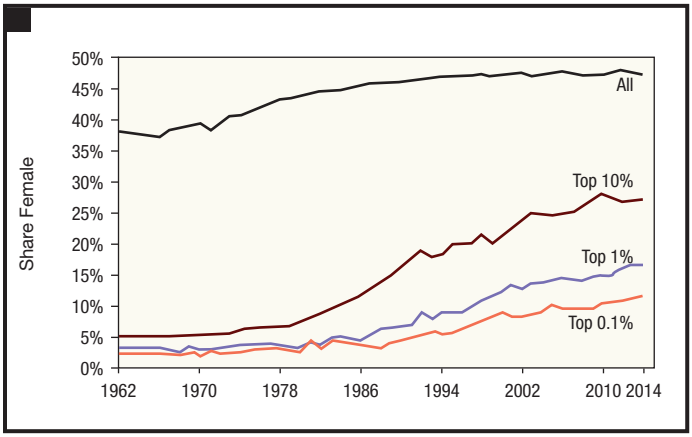


FIGURE 3. Share of Women in the Employed Population by Fractiles of Labor Earnings in the United States, 1962 to 2014



top decile, top 1 percent, and top 0.1 percent of labor income earners, while women made up 35 to 40 percent of all earners. Nowadays, they account for close to 27 percent of the top decile (+22 points), but the proportion of women in top groups falls steeply with income. Women make up only about 16 percent of the top 1 percent (+13 points since the 1960s), and 11 percent of the top 0.1 percent (+9 points).

The representation of women at the very top has thus increased only modestly since 1999. The glass ceiling is nowhere close to being shattered. At the pace of progress we have seen since 2000, it would take over a century for women to reach parity in the top 1 percent or the top 0.1 percent, a very long march toward gender equality.

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NOTES

1. For a recent and comprehensive survey, see Blau, Francine D., and Lawrence M. Kahn. 2017. "The Gender Wage Gap: Extent, Trends, and Explanations." *Journal of Economic Literature* 55(3), 789–865.

2. Organisation for Economic Co-operation and Development. 2017. "Earnings and Wages: Gender Wage Gap." Data online at https://data.oecd.org/earnwage/gender-wage-gap.htm.

3. The discussion in this short article is based on recent joint work with Thomas Piketty and Gabriel Zucman. See Piketty, Thomas, Emmanuel Saez, and Gabriel Zucman. Forthcoming. "Distributional National Accounts: Methods and Estimates for the United States." *Quarterly Journal of Economics*.

4. Piketty et al., forthcoming. Complete methodological details are provided in the online appendix, and complete data are posted in Excel format at http://gabriel-zucman.eu/usdina/.

5. See Piketty et al., forthcoming, for a history of the measurement of national income and its distribution in the National Accounts system.

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POVERTY

Stanford Center on Poverty and Inequality

H. LUKE SHAEFER, MARYBETH MATTINGLY, AND KATHRYN EDIN

The purpose of this article is to examine the "gender gap" in poverty. Are women or men more likely to be in poverty? Are women or men more likely to experience the direst forms of poverty? And how are these gender gaps in poverty changing over time?

Because women are more likely than men to be single (custodial) parents, they cannot always work long hours in the formal labor market, which reduces their income and increases their chances of being in poverty. Moreover, because of discrimination and the gender gap in wages, women face further labor market disadvantages that again may raise their poverty rates. But low-educated men face labor market problems of their own. Men bore the brunt of the takeoff in incarceration, which in turn affects their capacity to invest in human capital and subjects them to post-release discrimination and other labor market problems. Additionally, the gender gap in college graduation also favors women, which means that men are now less likely than women to benefit from the protective effect of a college degree.

In this article, we examine long-run trends in both poverty and deep poverty, allowing us to assess how these various forces are playing out. We also provide a more detailed portrait of men's and women's economic circumstances in the present day (using data from 2016, the most recent year for which data are available).

Trends in Poverty

Throughout our analyses, we will examine official poverty rates for adults who are aged 25 years and older, as doing so ensures that they have had adequate time to complete their education and become attached to the labor force. Because married women and men who live in the same household have the same poverty status, a main source of any gender gap in the poverty rate will be differences in the economic circumstances of women or men who are not married.

KEY FINDINGS

- Under the official poverty measure, the poverty rate for women is higher than that for men, although this gender gap shrank slightly in the 1990s.
- The gender gap in poverty is evident for all gradations of poverty. The share of women in deep poverty, regular poverty, and near poverty is greater than the corresponding share of men. Women also experience higher levels of food insecurity.

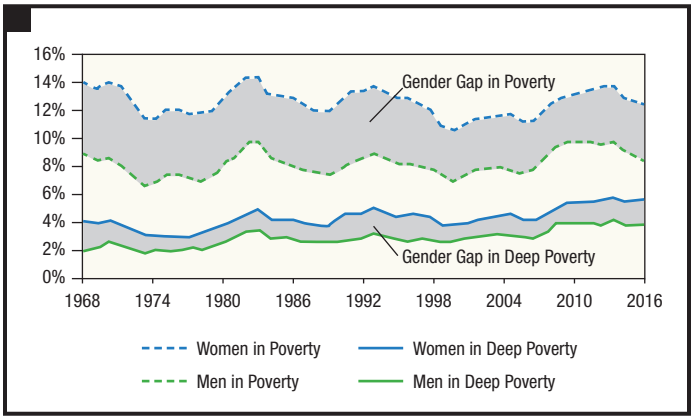
We begin, in Figure 1, by showing the official poverty rates of women and men from 1968 to 2016. As shown here, women have consistently higher rates than men, with the gap remaining quite constant even in the context of recessions, changing labor force participation rates, and other disruptions.

The only notable change in the size of the gender gap is a slight narrowing in the latter part of the 1990s. During this period, the poverty rate for women declined from 13.8 percent in 1993 to 10.6 percent in 2000 (i.e., a decline of 3.2 points), while the poverty rate for men declined more modestly from 8.7 percent to 6.9 percent (i.e., a decline of 1.8 points). The gender gap remained roughly constant in size during the years after this slight narrowing in the 1990s. Over the full period covered in Figure 1, women thus experienced a slight decline in their poverty rate, whereas men did not.

Trends in Deep Poverty

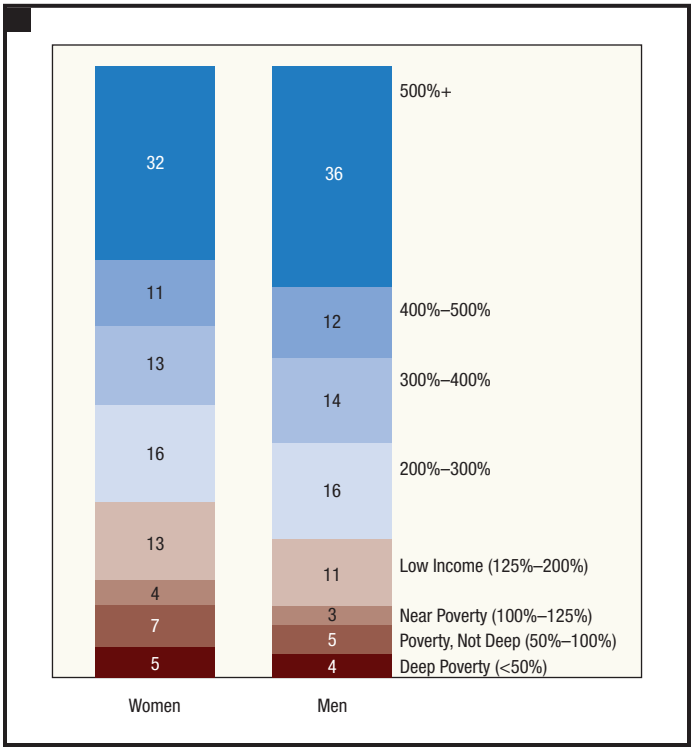
It is also important to examine the gender gap in more extreme forms of deprivation.[1] Here we examine rates of deep poverty, released by the Census Bureau, defined as those with cash income below half the official poverty threshold.[2] Deep poverty is associated with greater levels of material hardship—particularly food insecurity—than is poverty closer to the poverty threshold.[3] Deep poverty

FIGURE 1. Poverty and Deep Poverty by Gender, 1968–2016



Note: Limited to those aged 25 years and older. Estimates are unweighted because of historical changes in weight construction.
Source: Unless otherwise noted, statistics cited in this article are based on the authors' analyses of the Annual Social and Economic Supplement to the Current Population Survey, accessed via IPUMS-CPS, University of Minnesota, www.ipums.org.

FIGURE 2. Poverty Level by Gender, 2016



Note: Limited to those aged 25 years and older. Analyses are weighted to adjust for sampling.

TABLE 1. Measures of Economic Need by Gender, 2016

	Women	Men
Official Poverty Measure	12.1	8.6
Supplemental Poverty Measure	13.9	11.7
Food Insecurity	11.1	9.6

Note: Limited to those aged 25 years and older. Food insecurity includes those who reported low or very low food security. Analyses are weighted to adjust for sampling.

appears to be more "sticky" as well, in the sense that those experiencing it tend to remain in it for longer spells.[4] A recent study indicates that 40 percent of those born into deep poverty land in the bottom quintile of income as adults, compared with 30 percent of those living closer to the official poverty threshold (i.e., those who are poor but not deeply poor).[5]

As Figure 1 shows, women consistently experience higher rates of deep poverty than men, with no evidence of any change in the size of this gap. For women and men alike, deep poverty increases by almost 2 percentage points over the course of the time period covered here, with the result that the gap itself remained largely unchanged.

Other Measures of Poverty

Next we recalculate the gender gap under an additional suite of poverty measures. Thus far we have considered two gradations of poverty under the official poverty threshold, but we have not considered categories that, although above the official threshold, might still entail economic hardship.[6] In Figure 2, we show how women and men fare across the income distribution by introducing new categories pertaining to near poverty (100%–125% of the official poverty threshold), low income (125%–200% of the official poverty threshold), and four other higher multiples of the official poverty level.

We find that for each of the four lowest income categories, the share for women is consistently higher than the corresponding share for men. Although we have already documented this result for the deep and regular poverty categories, Figure 2 reveals that there's also a larger share of women than men in the near-poor category (i.e., 4.1% versus 3.3%) and in the low-income category (i.e., 12.5% versus 10.9%). The share of women and men is roughly the same in the next-highest category (i.e., 200%–300% of the official poverty threshold). In all three of the highest categories, there are, by contrast, substantially higher shares for men than for women. This result demonstrates that women consistently experience more hardship than men across the many gradations of hardship.

Are these results in part an artifact of the way in which official poverty is measured? The Official Poverty Measure (OPM) treats the family unit as those related by blood or marriage, yet we know that unmarried partners are increasingly cohabiting. If a single mother lives with an unmarried partner who has a good job, his (or her) income will not count in the single mother's family income for the purpose of determining poverty. In addition, much of the safety net comes in the form of in-kind transfers and refundable tax credits, also

not included in OPM calculations, and much of this aid targets single mothers. Recently, the Census Bureau began to release estimates using the Supplemental Poverty Measure (SPM), which counts income from non-married partners and adds resources from non-cash and post-tax transfers.[7] We can thus use the SPM to determine whether the gender gap is attributable to these features of the OPM.

In Table 1, we report official and supplemental poverty rates for men and women from 2016. We find that for both measures, women have higher rates of poverty than men. However, the gap is smaller under the SPM. While women have 1.4 times the poverty rate of men under the OPM, they have only 1.2 times the poverty rate of men under the SPM.

Which is more reflective of hardship? The household food insecurity rate is offered as a partial test. This measure, which is taken from the Current Population Survey Food Security Supplement in December, covers roughly the same time period as poverty estimates. We find that women have a household food insecurity rate that is about 1.2 times that of men, a ratio that is in line with the SPM ratio. This result might lead one to prefer an SPM-based measure of the gender gap, insofar as one is obliged to rely on any single measure, although it is also possible that women are more successfully buffered against food hardship in particular through greater access to the Supplemental Nutrition Assistance Program and other nutrition assistance programs.

Conclusions

Across a series of indicators, we find that women have higher rates of poverty and hardship than men, although the degree of the disparity varies. This result holds for measures of deep poverty, regular poverty, near poverty, and our low-income category. It holds for measures of official and supplemental poverty alike (although the gap is smaller under a supplemental poverty measure). And it holds for a household food insecurity measure.

There is, however, one domain in which it surely does not hold. Because we have relied on household survey data, we have not been able to include institutionalized populations, including those who are incarcerated or in homeless shelters. Although our results suggest that rates of "non-institutionalized hardship" are higher for women than men, it is well documented that rates of "institutionalized hardship" (in the form of incarceration or residing in a homeless shelter) are higher for men than for women. This latter result, a very important one, reveals that men and women vary in the way in which hardship is experienced.

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NOTES

1. There is a growing body of research, for example, on those living on cash incomes below $2 per person per day. See Edin, Kathryn J., and H. Luke Shaefer. 2015. *$2 a Day: Living on Almost Nothing in America*. Boston, MA: Houghton Mifflin Harcourt.

2. See, for example, Semega, Jessica L., Kayla R. Fontenot, and Melissa A. Kollar. 2017. "Income and Poverty in the United States: 2016." U.S. Census Bureau. Retrieved from https://www.census.gov/content/dam/Census/library/publications/2017/demo/P60-259.pdf.

3. Cuddy, Emily, Joanna Venator, and Richard V. Reeves. 2015. "In a Land of Dollars: Deep Poverty and Its Consequences." The Brookings Institution; Anderson, Patricia M., Kristin F. Butcher, and Diane Whitmore Schanzenbach. 2015. "Changes in Safety Net Use During the Great Recession." *American Economic Review* 105(5), 161–165; Gundersen, Craig, and James P. Ziliak. 2014. "Childhood Food Insecurity in the U.S.: Trends, Causes, and Policy Options." *The Future of Children*, Princeton-Brookings.

4. Lei, Serena. 2013. "The Unwaged War on Deep Poverty." Urban Institute. Retrieved from https://www.urban.org/features/unwaged-war-deep-poverty.

5. Cuddy et al., 2015.

6. See livingwage.mit.edu.

7. See https://www.census.gov/content/dam/Census/library/publications/2017/demo/p60-261.pdf for a discussion of all differences between the SPM and OPM.

SAFETY NET

Stanford Center on Poverty and Inequality

LINDA M. BURTON, MARYBETH MATTINGLY,
JUAN PEDROZA, AND WHITNEY WELSH

It is well established that women are more likely than men to be in poverty. The purpose of this article is to examine whether the U.S. safety net is adequately responding to this disparity.

We consider the extent to which the safety net reaches disadvantaged Americans via four key social insurance programs: public health insurance, the Earned Income Tax Credit (EITC), food stamps, and cash assistance. We examine the gender differences in benefit receipt that emerge due to safety net targeting toward children, and we also assess whether men or women are more likely to receive program benefits when their custodial parent status is the same.

Because public policy is still shaped by the norm that women should care for children, women have greater eligibility for these safety net programs than men. Moreover, remaining gender differences suggest that men, even when they are eligible for benefits, face greater obstacles in accessing the safety net. Although most of the research on gender inequalities underscores the special obstacles faced by women, this is an important zone in which men may face greater obstacles, though the hurdles for women are also often substantial.

KEY FINDINGS

- Because women have primary responsibility for the care of children, women use social safety net programs more often than men.
- Gender differences in safety net use cannot be fully explained by gender differences in family type. The obstacles to engaging with the safety net are often greater for single fathers than single mothers, and single mothers are more likely to receive cash and food assistance.
- Although some of these gender differences are rooted in differences in eligibility and could thus be straightforwardly addressed, others rest on gender norms and other cultural differences that especially stigmatize safety net use among men.

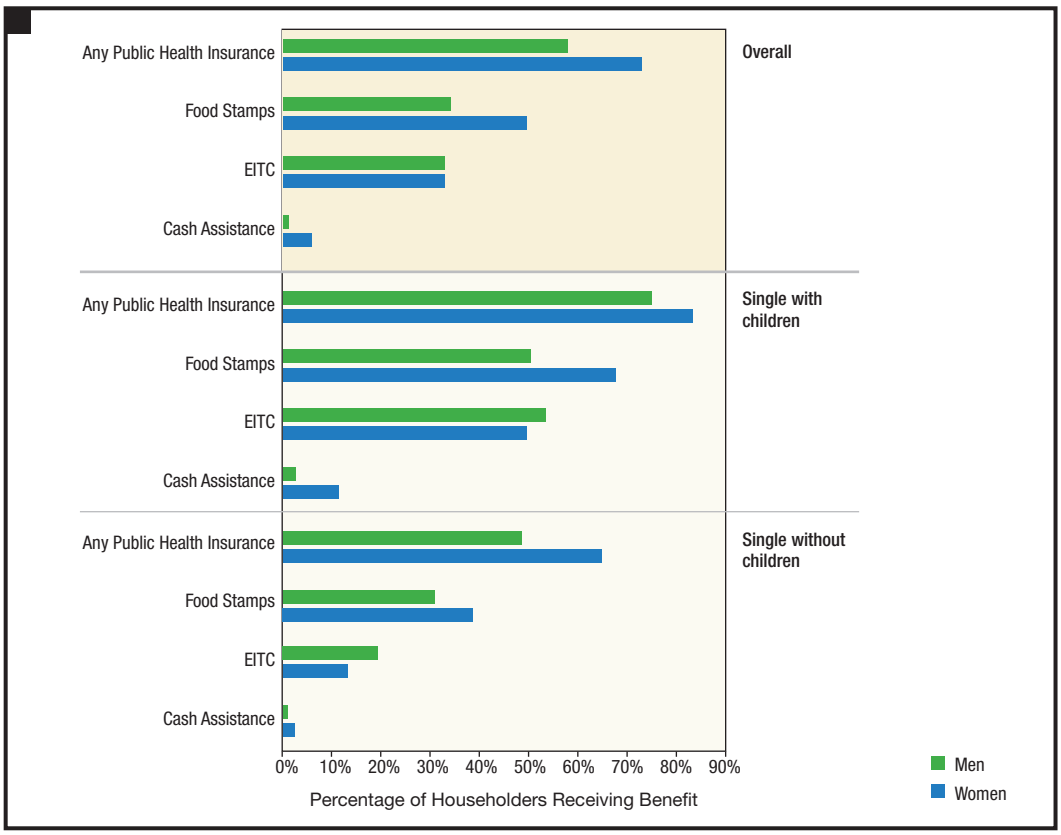
U.S. Safety Net Reach by Gender

Not all poor households receive safety net benefits. Figure 1 displays the share of poor households reporting receipt of public health insurance, EITC, food stamps, and cash assistance in 2016, both overall and by family type. Men in poor households are less likely (58%) than such women (73%) to report receipt of public health insurance (i.e., Medicaid, State Children's Health Insurance Program [SCHIP], or Medicare).[1] There are similar gender differences in food stamp receipt: Nearly half of poor women (49%) received Supplemental Nutrition Assistance Program (i.e., SNAP or "food stamp") benefits in 2016, while just a third of poor men (34%) did. Among those households that did receive SNAP benefits, men and women reported roughly equivalent annual benefit amounts. In contrast, although women and men receive the EITC at similar rates, the median annual benefit for women is somewhat greater ($3,150) than for men ($2,400).

Cash assistance is not widely available in the United States. The number of recipients in the main cash assistance program, Temporary Assistance for Needy Families (TANF), has steadily declined in the two decades since the last round of welfare reform, which added work requirements and lifetime limits on eligibility. Although poor women are almost five times more likely to receive cash assistance than poor men, assistance rates are very low across the board. Just 5.7 percent of poor women's households and 1.2 percent of poor men's households receive any cash assistance. Among the few women who do receive cash assistance, the amount of income support is high relative to other major safety net programs. As shown in Table 1, the median cash assistance amount rivals or exceeds the median benefit value of EITC and SNAP. Because spouses residing in the same household have the same observed benefit levels, observed differences in safety net receipt are driven by those who are not married.

We cannot examine in this short article the substantial variation—by region, state, and rural/urban status—in the reach of the U.S. safety net. If we were to do so, the picture of the safety net would be considerably more complex. As one

FIGURE 1. Percentage of Poor Men and Women Receiving Safety Net Benefits in 2016, by Major Program and Family Type



Note: Universe limited to civilian heads of household living below the official poverty line. Public health insurance coverage captures the share of households where a householder, their spouse, or children—either in the household's primary family or a subfamily—receive benefits from any of three programs (Medicaid, Medicare, SCHIP).
Source: IPUMS-CPS.

TABLE 1. Median Amount That Poor Men and Women Received in Safety Net Benefits in 2016, by Major Program and Family Type

	Program	Men	Women
Overall	Food Stamps	$2,160	$2,400
	EITC	$2,400	$3,150
	Cash Assistance	$2,160	$2,439
Single with Children	Food Stamps	$3,180	$3,912
	EITC	$3,359	$3,359
	Cash Assistance	$2,832	$2,527
Single without Children	Food Stamps	$1,584	$1,632
	EITC	$338	$338
	Cash Assistance	$1,326	$2,244

Note: We present household figures based on self-reported income and benefit receipt data in the Annual Social and Economic Supplement to the Current Population Survey, which covers EITC, food stamp, and cash assistance benefit levels. Dollar values are not available for public health insurance.

example, recent longitudinal ethnographic research suggests that TANF cash assistance receipt is particularly low among poor rural mothers.[2]

Sources of Gender Differences in the Safety Net's Reach

What accounts for gender differences in the safety net's reach? The most important source is family type. As Figure 2 shows, 37 percent of poor women are single mothers, while only 11 percent of poor men are single fathers. This matters because single parents are especially vulnerable and thus targeted by U.S. safety net policies. Since women are more often single parents than men, it is not surprising to find overall gender differences in safety net receipt.

But these gender differences in single parenthood are not the complete story. Figure 1 also shows that single fathers access the safety net at lower rates than single mothers (except in the case of the EITC).

Why do single fathers receive safety net benefits less often than similarly situated single mothers? In understanding this result, it's relevant that safety net use is deeply stigmatized, with many who are eligible often forgoing benefit receipt. Many find the process of applying for aid demeaning and at times forego needed benefits rather than submit to a process that strips away dignity. These considerations of dignity may figure especially prominently for men because they're expected to be "breadwinners." Moreover, when men do apply for benefits, they may face more resistance (or less help) from caseworkers because men who do not fulfill breadwinning expectations are seen as undeserving.

These gendered forms of stigmatization are likely not the only causes at play. Men may also have less access to information about safety net programs, because unlike women, men may not talk as much to each other about benefits. Men also face eligibility obstacles. They are often less needy than similarly situated women: Men, even at low incomes, have higher average pay than women.[3] Additionally, ethnographic research shows that fathers sometimes take unofficial custody of children when mothers are unable to care for them, perhaps because of a drug problem, but do not seek aid so that the mother will retain her benefits.[4]

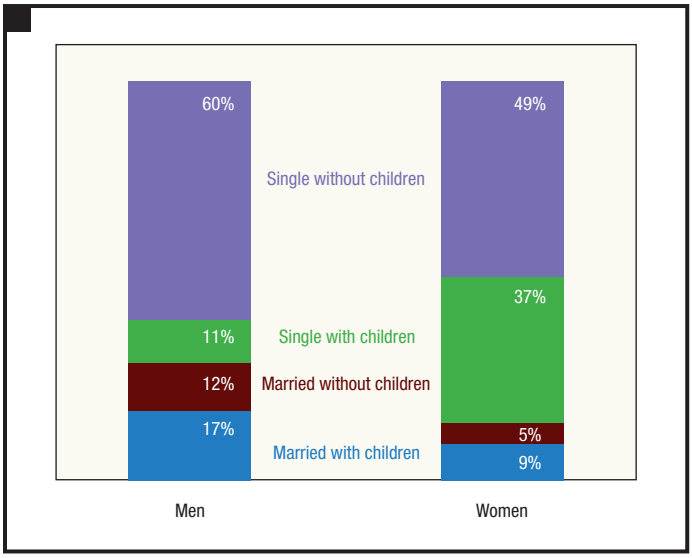
It is also relevant that poor men are more likely than poor women to be incarcerated. When these men exit the criminal justice system, they face difficulties finding work and are often dependent on a girlfriend or mother for housing.[5] The precarious nature of their living arrangements can preclude them from seeking aid, either because they do not have a permanent address, or because insofar as the man's presence in the household becomes known, it can disrupt existing flows of aid to other members of the household.[6]

Conclusions

Given that women more often care for children, it's hardly surprising that they're more likely to engage with the safety net, as it understandably prioritizes the support of children. This simple result, as important as it is, is not our main takeaway.

The main takeaway from our analysis, instead, is that among men who do care for children as single fathers, safety net engagement is lower than among poor single mothers. Qualitative research shows the obstacles to engaging with the safety net for single fathers are often greater than those for similarly situated women. Although some of these obstacles are rooted in differences in eligibility and could thus be straightforwardly addressed, others rest on gender norms and other cultural differences that especially stigmatize safety net use among men.

FIGURE 2. Men and Women Living Below the Official Poverty Line in 2016, by Family Type



Note: Universe limited to civilian heads of household living below the official poverty line, including nonfamily householders. Married householders with no spouse present (less than 2% of the total poor population) are excluded.
Source: IPUMS-CPS.

Linda M. Burton is Director of the Center for Child and Family Policy at Duke University. Marybeth Mattingly is Research Consultant and Juan Pedroza is Graduate Research Fellow at the Stanford Center on Poverty and Inequality (CPI). Whitney Welsh is Research Scientist at Duke University. Linda Burton and Marybeth Mattingly lead the race, ethnicity, and immigration research group at the CPI.

NOTES

1. All statistics reported in this article are from the authors' tabulations applying household weights to the Annual Social and Economic Supplement of the Current Population Survey data. See Flood, Sarah, Miriam King, Steven Ruggles, and J. Robert Warren. *Integrated Public Use Microdata Series, Current Population Survey: Version 5.0* [dataset]. Minneapolis, MN: University of Minnesota, 2017. https://doi.org/10.18128/D030.V5.0, hereafter "IPUMS-CPS."

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4. Roy, Kevin. 2004. "Three-Block Fathers: Spatial Perceptions and Kin-Work in Low-Income African American Neighborhoods." *Social Problems* 51(4), 528–548.

5. Geller, Amanda, and Marah A. Curtis. 2011. "A Sort of Homecoming: Incarceration and the Housing Security of Urban Men." *Social Science Research* 40(4), 1196–1213.

6. Garrett-Peters, Raymond, and Linda M. Burton. 2015. "Reframing Marriage and Marital Delay Among Low-Income Mothers: An Interactionist Perspective." *Journal of Family Theory and Review* 7(3), 242–264.

OCCUPATIONAL SEGREGATION

Stanford Center on Poverty and Inequality

KIM A. WEEDEN, MARY NEWHART, AND DAFNA GELBGISER

In this article, we describe trends in and patterns of occupational segregation and discuss their implications for the gender gap in wages, an especially important form of inequality. We take on four questions in turn: Is the U.S. occupational structure deeply segregated by gender? Is segregation declining? Which occupations are most segregated? And is the gender gap in wages driven mainly by occupational segregation?

KEY FINDINGS

- Nearly half of the women in the labor force would have to move to a different occupation to eliminate all occupational segregation by gender.
- Gender segregation increased in the 1950s and 1960s, declined quite sharply in the 1970s and 1980s, but stalled starting in the 1990s. If the average annual rates of change since 1970 were to continue, it would take 150 years to reach full integration; if post-2000 rates continued, it would take 320 years.

How Much Segregation Is There?

In the United States and all late-industrial societies, the division of labor is expressed through occupations, each of which is a bundle of tasks and roles tagged with such familiar labels as doctor, lawyer, computer programmer, teacher, nurse, carpenter, plumber, and so on. Because occupations are a source of identity and determine access to a wide range of economic and noneconomic rewards, it is important to ask whether women and men typically end up in the same ones. In other words, is there much occupational segregation?

In a hypothetical world with no occupational segregation, we might expect about 48 percent of workers in every occupation to be women, because about 48 percent of paid workers are women. This expectation is wildly off the mark. In reality, occupations vary enormously in the share of workers who are women, ranging from about 3.5 percent in occupations such as home appliance repairers to 95 percent in occupations such as secretaries and child care workers. This is a simple—but profound—form of gender inequality that is too often seen as natural or inevitable.

As of 2016, about half of women would need to shift into a new occupation to eliminate all occupational segregation by gender. This hypothetical desegregation effort could occur if 49 percent of women moved out of their current female-dominated occupations and into male-dominated occupations.[1] Alternatively, 49 percent of men could move from male- to female-dominated occupations, or about a quarter of women *and* a quarter of men could switch to occupations not dominated by their own gender. In technical terms, this degree of occupational segregation can be expressed by the index of dissimilarity *D*, which in 2016 was 0.49, or equivalently 49 percent.

Levels of gender segregation also vary by race. Hispanic women are slightly more segregated from Hispanic men (*D*=51%) than white women are from white men (*D*=50%). Black women (*D*=47%) and Asian women (*D*=39%) are somewhat less segregated from black and Asian men, respectively.[2] The relative "success" of black women on this measure is due in part to the extreme disadvantage faced by black men. That is, because black men are so profoundly underrepresented in managerial and other desirable occupations, it's easier for women to "catch up" to them. If instead white men are used as the reference category, then black and Hispanic women have the highest levels of segregation (*D*=54%), while white and Asian women have the lowest levels (*D*=50%).

Trends in Segregation

To put current levels of segregation in context, Figure 1 presents trends in occupational segregation from 1950 through 2016.[3] Between 1950 and 1970, segregation increased overall, although not for black or Hispanic workers. This is likely

a continuation of the resegregation of the labor force after World War II.[4] Segregation declined by 13 percentage points in the 20 years between 1970 and 1990, but by only 3 percentage points over the next 20 years, with some variation by race. In the post-recession era, integration shows signs of increasing, but at nowhere near the pace of the 1970s and 1980s. If the average annual rates of change since 1970 were to continue, it would take 150 years to reach full integration; if post-2000 rates continued, it would take 320 years.

Why have rates of segregation remained so high? One answer lies in the resistance of female-dominated occupations to integration. Their average pay is typically lower, so there is less economic incentive for men to enter them. It's also less acceptable in American culture for men to aspire to "women's occupations" than the reverse.[5] Another answer, though, lies in resegregation: When formerly male-dominated occupations begin to integrate, they often pass the point of full integration and continue to feminize (e.g., veterinarians).

What Occupations Do Men and Women Hold?

Segregation scholars often differentiate between segregation across occupations that differ in their tasks ("horizontal segregation") and segregation across occupations that differ on some ordered criterion, such as pay ("vertical segregation").[6] Both forms of segregation are very common. Most child care workers are women, and most bus drivers are men, but the pay of child care workers and bus drivers is about the same. This, then, is a form of horizontal segregation. "Glass ceilings," by contrast, are a form of vertical segregation in which men hold the positions in a company with the highest pay, most authority, greatest chances for promotion, and so on.

Figure 2 graphs the percentage of women in different occupations in 2015 and 2016. In this figure, detailed occupations (e.g., lawyer, carpenter) are grouped into big categories such as professional, managerial, or craft occupations.

Horizontal segregation often takes the form of women disproportionately working in occupations that emphasize non-manual skills and men disproportionately working in those that emphasize manual skills. For example, women constitute 73 percent of workers in clerical occupations, but less than 4 percent of workers in craft occupations. Horizontal segregation also occurs within major groups such as the professions, where women are more likely to work in occupations that are "people-oriented" rather than "object-oriented."[7]

FIGURE 1. Trends in Occupational Segregation by Race, 1950–2016

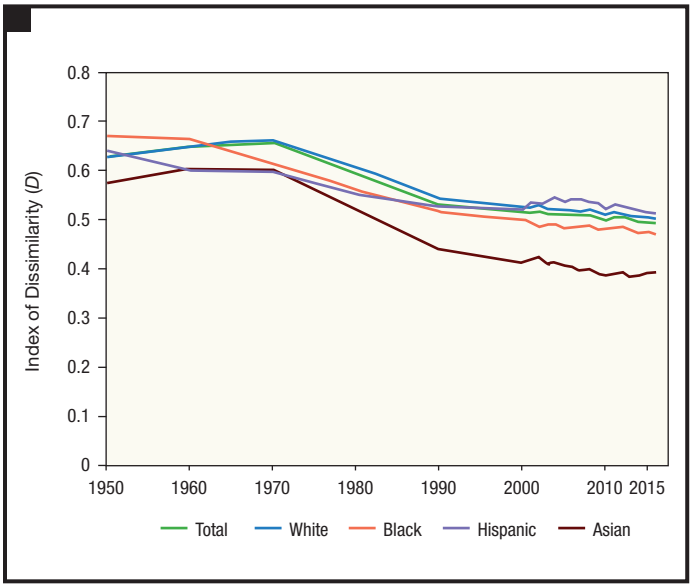
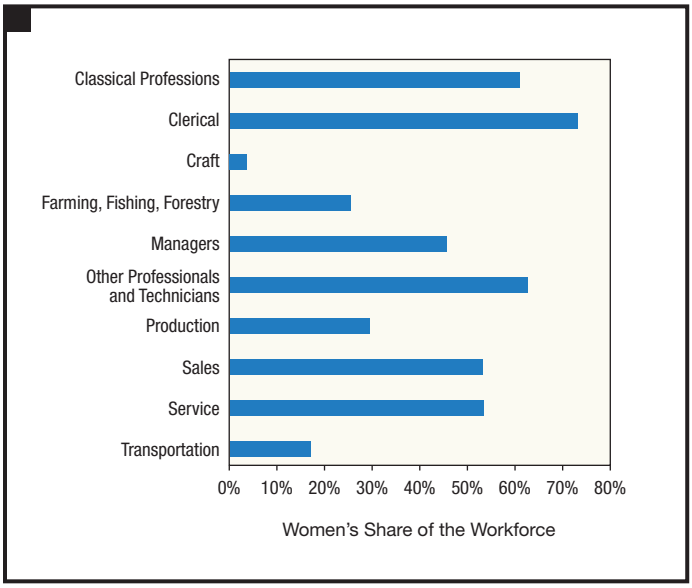


FIGURE 2. Women's Share of the Workforce by Major Occupation Groups, 2015–2016



Source: Figures 1–2 are based on authors' analysis of IPUMS Census and American Community Survey data.

Vertical segregation is also very strong. As the percentage of women in an occupation increases, the median wages of that occupation decrease (r=-0.21, across all 474 detailed occupations that are coded in the census data). This negative correlation is stronger in sales (-0.89), production (-0.67), and "other professional and technician" occupations (-0.62), weaker (-.07) in craft occupations (where there is little variability in the percentage of women), and slightly positive in farming and clerical occupations (r=.05 in both). Overall, only 20 percent of American women work in occupations where women's median hourly wage is at least 95 percent of men's median hourly wage. Only 5 percent work in occupations where women's mean wage is at least 95 percent of men's mean wage.[8]

Why Does Occupational Segregation Matter?

Segregation is of interest in its own right as an indicator of inequality, but it's also a key source of other forms of inequality, such as the gender gap in wages. In 2016, a college-educated white woman with average experience who works 40 hours a week has a predicted hourly wage of $5.00 less (about 10%) than a white man with similar attributes.[9] This gap decreases to $4.10 after adjusting for between-occupation pay differences, implying that occupations "explain" about 18 percent of the human capital-adjusted gender gap in wages. The share varies by race and is sensitive to the other covariates included in the model, but it is typically greater than the shares due to education or experience. [10]

It follows that as occupational segregation declines, so too does the gender gap in wages. But the gap-reducing effects of desegregation have been countered by gap-increasing changes in occupational wages. Even though women have entered many professional and managerial occupations, the wage disparities between "male" and "female" occupations have also grown since the 1970s, muting the effect of integration on the gender wage gap.[11]

Conclusions

Occupational segregation is the result of "push" and "pull" factors rooted in social interaction and social structure. These factors include discrimination against women or mothers, gender-specific socialization, gender-linked traits or "natural" abilities, cultural beliefs about men and women's competence and double standards of evaluation, the household division of labor, workplace experiences (e.g., sexual harassment), government policies that prohibit within-job discrimination but allow disparate pay for comparably skilled jobs, and work-family policies.

One lesson can be drawn from this literature: Any serious effort to understand gender inequality in labor market outcomes, including wages, cannot simply "control away" occupations. We cannot, for example, take the very low share of women among Silicon Valley computer engineers as a given, and only ask whether women are paid less than men once they become computer engineers. These within-occupation pay inequalities are important, but so too are the social processes that lead to segregation, and in particular vertical segregation, in the first place. If the goal is to reduce gender inequality in wages, we need to develop better policy that alleviates occupational segregation itself, not just within-occupation pay differentials.

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NOTES

1. Unless otherwise noted, all statistics presented in this article are from our analysis of data from the Census (1950–2000; Ruggles, Steven, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. 2017. *Integrated Public Use Microdata Series: Version 7.0* [dataset]. Minneapolis, MN: University of Minnesota), American Community Survey (2001–2016; Ruggles et al., 2017), and, for covariate-adjusted models of hourly wages, Current Population Survey (2013–2016; Center for Economic and Policy Research. 2017. CPS ORG Uniform Extracts, Version 2.2.1. Washington, D.C.). A "female-typed" occupation is one in which the share of women exceeds the share of women in the paid labor force; a "male-typed" occupation is the reverse.

2. Segregation among American Indians/Native Alaskans and "other races" isn't presented because of small sample sizes, but these groups are included in race-pooled estimates. Races are mutually exclusive, and imputed (from ancestry and other covariates) in censuses collected before that racial group (e.g., Asian) was explicitly included in the race question; see the IPUMS documentation for details.

3. In constructing Figure 1, we calculated *D* using the occupation scheme with which the data were originally collected. We obtained similar trends when we harmonized occupations to the 2010 and 1990 schemes.

4. For trends in the early 20th century, see Weeden, Kim A. 2004. "Profiles of Change: Sex Segregation in the United States, 1910–2000." In *Occupational Ghettos: The Worldwide Segregation of Women and Men*, eds. Maria Charles and David B. Grusky. Stanford, CA: Stanford University Press, 131–178.

5. England, Paula. 2010. "The Gender Revolution: Uneven and Stalled." *Gender and Society* 24(2), 149–166.

6. See Levanon, Asaf, and David B. Grusky. 2016. "The Persistence of Extreme Gender Segregation in the Twenty-First Century." *American Journal of Sociology* 122(2), 573–619. Also Charles, Maria, and David B. Grusky. 2004. *Occupational Ghettos: The Worldwide Segregation of Women and Men.* Stanford, CA.: Stanford University Press.

7. See, for example, Lippa, Richard A., Kathleen Preston, and John Penner. 2014. "Women's Representation in 60 Occupations from 1972 to 2010." PLOS ONE. https://doi.org/10.1371/journal.pone.0095960.

8. The disparity is greater for mean than for median wages because means are pulled up by especially high earners, most of whom are men.

9. We find similar results in models of logged wages but present "raw" results because they are easier to interpret.

10. Blau, Francine, and Lawrence M. Kahn. 2016. "The Gender Wage Gap: Extent, Trends, and Explanations." IZA Discussion Paper 9656. Last accessed January 24, 2018.

11. See Blau and Kahn, 2016.

DISCRIMINATION

Stanford Center on Poverty and Inequality

DAVID S. PEDULLA

Recent events from Silicon Valley, Hollywood, and beyond have made it clear that gender continues to shape opportunities in the world of work. If the study of gender inequality at work was once a largely academic pursuit, it is anything but that now.

While gender affects employment outcomes in many ways, an important mechanism through which gender inequalities emerge is discrimination. Gender discrimination can occur in schools and educational environments, consumer markets, the health care system, and other institutional domains. Due to the central role of employment in shaping economic security and financial well-being, this article presents evidence on gender discrimination in employment and specifically on discrimination at the point of hire. There are two main reasons for emphasizing hiring: (1) obtaining a job is an early and key component in the employment process, and (2) the research methods for documenting hiring discrimination are well developed and relatively straightforward to deploy. However, it is important to note that gender discrimination emerges throughout the employment process, from wage setting to promotions and beyond.

KEY FINDINGS

- As audit studies spread and take hold, a large body of compelling evidence on gender discrimination in hiring has developed.
- This evidence reveals that not all women experience the same amount of discrimination. It's especially costly for a woman to be a parent: At the point of hiring, parenthood sharply penalizes women but not men. However, women with part-time employment histories are *not* penalized, whether compared with men who have part-time employment histories or women who have full-time employment histories.
- Gender discrimination is more likely to emerge when the applicant's commitment to work can be called into question or when an applicant is behaving in a gender-nonconforming way.

Definition and Measurement

Gender discrimination is usually conceptualized as the differential *treatment* of a person (or group) due to their gender. In other words, a woman experiences discrimination during the hiring process when she's passed over for a man even though she has equal skills, educational credentials, underlying ability, experience, or other attributes and endowments that imply equivalent expected productivity. By this definition, discrimination is about behaviors rather than attitudes, beliefs, or ideologies.

This conceptualization of gender discrimination has two important implications. First, it can be *difficult to observe*, as researchers aren't usually present at the moment of hire, nor do they have access to the information governing hiring decisions. Because discrimination is a behavior that occurs when someone on the demand side of the labor market (e.g., employer, manager, hiring agent) treats someone on the supply side of the labor market (e.g., job applicant, employee) differently, it can be difficult for researchers to observe this behavior at the moment it occurs.

Second, even if a researcher could effectively become a "fly on the wall" at the moment when callbacks were being decided upon, discrimination would still be *difficult to detect*. After all, job applicants and employees are rarely identical. Indeed, they often differ along many axes. The mere differential treatment of two job applicants who also differ by gender does not necessarily mean that discrimination is at play.

To address this set of methodological issues, scholars often use field-experimental techniques, sometimes referred to as audit studies.[1] These studies typically send fictitious job applications for real job openings, randomize the gender of the job applicant (often using names), and then track employ-

ers' positive responses to each applicant (often referred to as "callbacks"). Because everything except the gender of the applicant is held constant, any gender difference in employers' responses to applicants is interpreted as evidence of discrimination.

These experimental designs provide researchers with a direct lens into the treatment of job applicants. Additionally, this approach gives researchers control over the characteristics of the applicants, thus allowing them to more plausibly ensure that any differential treatment that emerges is due to the characteristic of interest—gender, in our case—rather than some other confounding factor, such as skill or experience.

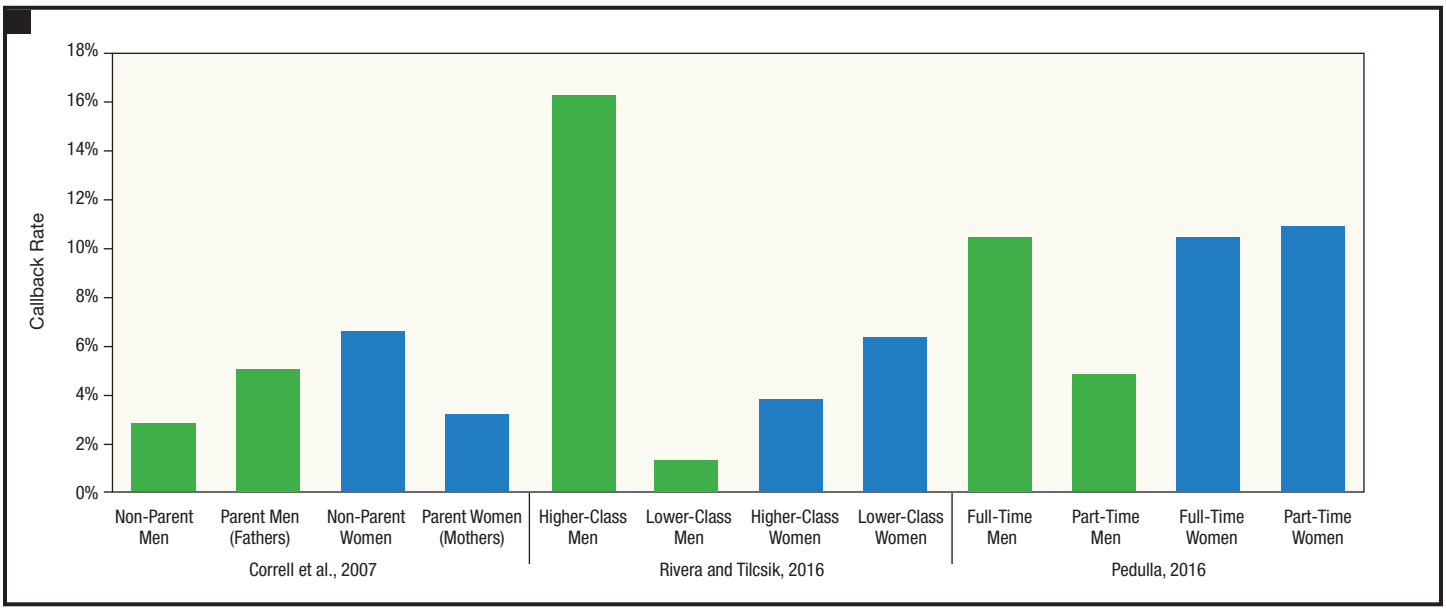
Key Findings on Gender Discrimination in Hiring

There is a growing body of field-experimental evidence on gender discrimination in hiring in the United States. This evidence points to the deep and persistent consequences that gender discrimination has for employment outcomes.

It is not the case, however, that all types of women are disadvantaged or that they're disadvantaged to the same extent at the early moments of the hiring process. Rather, the average "gender effect" hides significant complexity, and recent research highlights how gender works with other applicant characteristics and contextual forces to produce disparate outcomes. At the individual level, gender intersects with an applicant's parental status, social class background, and prior employment history to affect the likelihood of receiving a callback for a job. These three key results, which are summarized in Figure 1, are central to our current understanding of gender discrimination in hiring. Although there are of course other important forces at work, especially race and ethnicity, the discussion below focuses on three key forces that reveal how differential perceptions of worker commitment can drive some types of discrimination.

Parental Status: Figure 1 reveals, first, that the effects of gender vary by parental status. These estimates—derived from the research of Shelley Correll, Stephen Benard, and In Paik[2]—demonstrate that women face a penalty when they have children, with callback rates declining from 6.6 percent for women who are not parents to 3.1 percent for women who are. On the other hand, fathers do not face a callback penalty relative to childless men. If anything, there's a benefit to parenthood among men (although this difference is not statistically significant). This research also suggests that the motherhood penalty exists largely because mothers are perceived as being less committed and less competent.

FIGURE 1. Callback Rates by Gender and Other Applicant Characteristics



Note: Comparisons within each study provide information about how gender and other characteristics intersect to produce callback rates. Caution is encouraged when comparing callback rates across studies, given the different timing and approach used for each data collection effort. Additional details about the design and implementation of each study can be found in the relevant articles.
Source: Callback rates are drawn from the three studies noted in the figure (with full citations in the notes section).

Social Class: Social class may also affect male and female applicants differently. One study of the legal labor market—conducted by Lauren Rivera and András Tilcsik[3]—found that male applicants benefit heavily from signals that indicate higher social class origins (e.g., participation in certain elite sports, such as sailing and polo), but female applicants do not. It appears that women with higher-class signals on their resume are penalized due to concerns about their commitment to intensive careers. The callback rate for higher-class men (16.3%) was found to be more than four times greater than that for higher-class women (3.8%).

Employment History: Hiring outcomes are also affected by the intersection of gender with nonstandard or mismatched employment histories. In my own research, I have shown that for men, a history of part-time employment—a type of work that is highly feminized in the United States—has severe negative consequences in the job application process.[4] Indeed, employers treat men with part-time employment histories as negatively as they treat men who have experienced long-term unemployment. However, women with part-time employment histories are not penalized compared with women who have remained in full-time jobs. A complementary survey experiment finds that men may experience a penalty for part-time work because they are perceived as less committed.

The foregoing results pertain to the interaction of gender with individual-level attributes. What does audit study research tell us about the additional and complementary effects of contextual forces (where "contextual forces" pertain to features of the environment in which the individual finds herself)? Research in this area reveals that gender discrimination is sensitive to the circumstances surrounding the job application. The evidence suggests, for example, that gender discrimination varies across such job characteristics as (a) status (i.e., professional-oriented versus working-class jobs), (b) gender composition, and (c) gender-typing.

It will not be possible in this short piece to review this literature comprehensively. It bears noting, however, that some of the relevant research brings in several of these contextual factors at once. One recent study—conducted by Jill Yavorsky[5]—found, for example, that women experience discrimination when applying for male-dominated working-class jobs. Men, however, experience discrimination when applying for female-dominated jobs, regardless of the status of the position. This study also uncovers variation in the treatment of men and women applicants depending on the gender-typing of the job (as measured by the masculine and feminine language used in the job postings to which the fictitious applications were submitted). Thus, the context of evaluation plays an important role in shaping the emergence of gender discrimination.

Conclusions

Is there anything that unifies these seemingly disparate results? There indeed is. Across studies, perceptions of applicant commitment appear to be highly relevant in understanding why gender discrimination is likely to emerge. Why, for example, might men benefit from being fathers while women are penalized for being mothers? One likely explanation is that employers worry that mothers will be less committed workers (whereas fathers, not being as burdened by domestic duties, can still be highly committed). Why are men, more so than women, penalized for a history of part-time employment? It's likely because men's part-time employment, unlike women's, implies an atypical work profile that calls into question their commitment to work. It follows that interventions aimed at shifting attributions about commitment might prove successful.

Future research should examine how gender discrimination varies by the policies, practices, and demographic composition of workplace organizations. How might increasing women's representation in leadership positions affect hiring discrimination? How might the use of new technologies during the hiring process exacerbate or mitigate gender discrimination? How can backlash be avoided as companies attempt to correct for long-standing discriminatory practices? By taking on these questions and thus deepening our understanding of the underlying processes that drive discrimination, we will be better able to design interventions to prevent gender discrimination in the future.

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NOTES

1. For additional details and resources regarding audit studies, see www.auditstudies.com.

2. Correll, Shelley J., Stephen Benard, and In Paik. 2007. "Getting a Job: Is There a Motherhood Penalty?" *American Journal of Sociology* 112(5), 1297–1339.

3. Rivera, Lauren A., and András Tilcsik. 2016. "Class Advantage, Commitment Penalty: The Gendered Effect of Social Class Signals in an Elite Labor Market." *American Sociological Review* 81(6), 1097–1131.

4. Pedulla, David S. 2016. "Penalized or Protected? Gender and the Consequences of Nonstandard and Mismatched Employment Histories." *American Sociological Review* 81(2), 262–289.

5. Yavorsky, Jill. 2017. *Inequality in Hiring: Gendered and Classed Discrimination in the Labor Market*. Doctoral Dissertation. Columbus, Ohio: The Ohio State University.

WORKPLACE SEXUAL HARASSMENT

Stanford Center on Poverty and Inequality

AMY BLACKSTONE, HEATHER MCLAUGHLIN, AND CHRISTOPHER UGGEN

Workplace sexual harassment has been around for as long as workplaces themselves, though social and legal recognition of the phenomenon is scarcely a half century old. Public discussion of sexual harassment as a problem emerged in the 1970s, amid rising women's workforce participation and burgeoning feminist consciousness, and it was only in 1986, in *Meritor Savings Bank v. Vinson*, that the United States Supreme Court established sexual harassment as a form of sex discrimination under Title VII of the Civil Rights Act.

Given recent heightened interest in sexual harassment, it is especially important to review what's known—and not known—about its prevalence, causes and costs, and policies to reduce it. We take on each of these issues in turn.

Prevalence

Although any worker may be targeted, women are subjected to the most frequent and severe forms of sexual harassment. In 2016, the U.S. Equal Employment Opportunity Commission (EEOC) received 6,758 complaints of sexual harassment, representing only a small fraction of those harassed.[1] Survey research finds a much higher prevalence of harassing behaviors, with as many as 85 percent of women reporting behaviors such as unwanted touching, leering, and offensive sexual joking at work.[2]

The General Social Survey (GSS), asking direct single-item questions, finds that 4 to 7 percent of female workers and about 1 to 3 percent of male workers experience sexual harassment in a given year, indicating much higher rates than the number of EEOC complaints would suggest.[3] More generally, about 19 percent of women and 16 percent of men reported some kind of harassment at work over the past five years (including bullying or abuse) in the 2016 GSS. In our study, approximately 33 percent of women and 14 percent of men (see Figure 1) had experienced behavior at work that they defined as sexual harassment (by age 25 to 26).[4]

KEY FINDINGS

- By age 25 to 26, one in three women and one in seven men experience behavior at work that they define as sexual harassment.
- Very few women file lawsuits in response to sexual harassment. But women who experience harassment are 6.5 times more likely than women who are not harassed to change jobs within two years.

Predictors

Women supervisors are significantly more likely than other women to be sexually harassed, a finding that complicates popular narratives of powerful men preying on less powerful women.[5] Harassers appear to target women in positions of authority because their status challenges traditional gender norms. Men, too, may be harassed for not fitting conventional notions of heterosexual masculinity. Men who espouse egalitarian gender beliefs, for example, are more likely than other men to report harassment.[6]

Age, race, and gender expression are also linked to sexual harassment. Relative to the general population, those who identify as LGBT generally report higher rates of sexual harassment (about 7% per year) and general harassment (about 25% over the past five years in the 2016 General Social Survey). Perceptions of what "counts" as harassment also vary by age, and many workers reinterpret past experiences as they get older.[7] Adults are more likely than adolescent workers to experience "core markers" of harassment, such as unwanted touching and violations of personal space.[8] In addition, stereotypes about black women shape both the kind of harassment they experience and others' responses to their experiences.[9] As Kimberle Crenshaw pointed out long ago, it is hardly accidental that controversial black entertainers have been received very differently than their controversial white analogues. Research also suggests

that men whose gender expressions are not heteronormative are more likely to report harassment than those who are more stereotypically masculine.[10]

Targets of harassment appear to be selected in part because they are least likely to report their experience.[11] Indeed, most harassment goes unreported. As shown in Figure 2, we found that nearly one-third of women who experienced unwanted touching and/or multiple harassing behaviors told no one about their experience, and only 3 percent filed a lawsuit. Although the #MeToo movement has almost certainly changed reporting behavior, it is not yet known whether its effects have substantially raised reporting rates for rank-and-file cases as well as high-profile ones.

Costs

Although few women file lawsuits, 80 percent of the harassed women in our study changed jobs within two years, at presumably high cost for workers and employers alike. Women who experience harassment are 6.5 times more likely than women who are not harassed to change jobs.[12] This rate stays roughly the same even after accounting for other factors—such as the birth of a child—that sometimes lead to job change (and might be confounded with harassment).

In addition to changing jobs, many women change industries or reduce their hours after harassment. Sexually harassed women report significantly greater financial stress two years after the harassment than those who are not harassed. In many cases, workers who stand up against harmful environ-

FIGURE 1. Proportion of Workers Who Experienced Sexual Harassment by Age 25–26

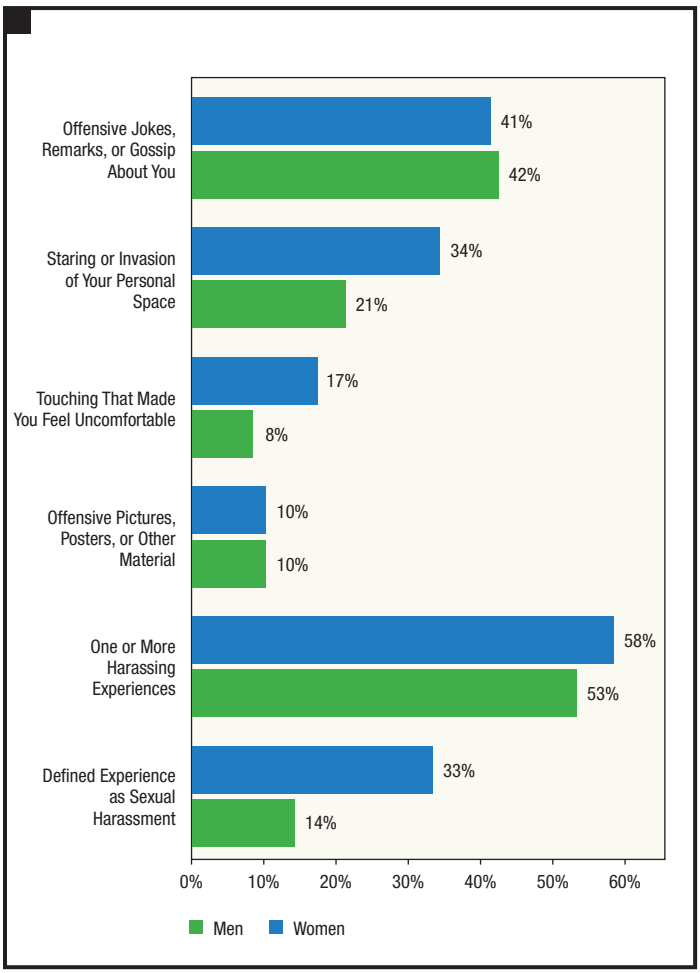
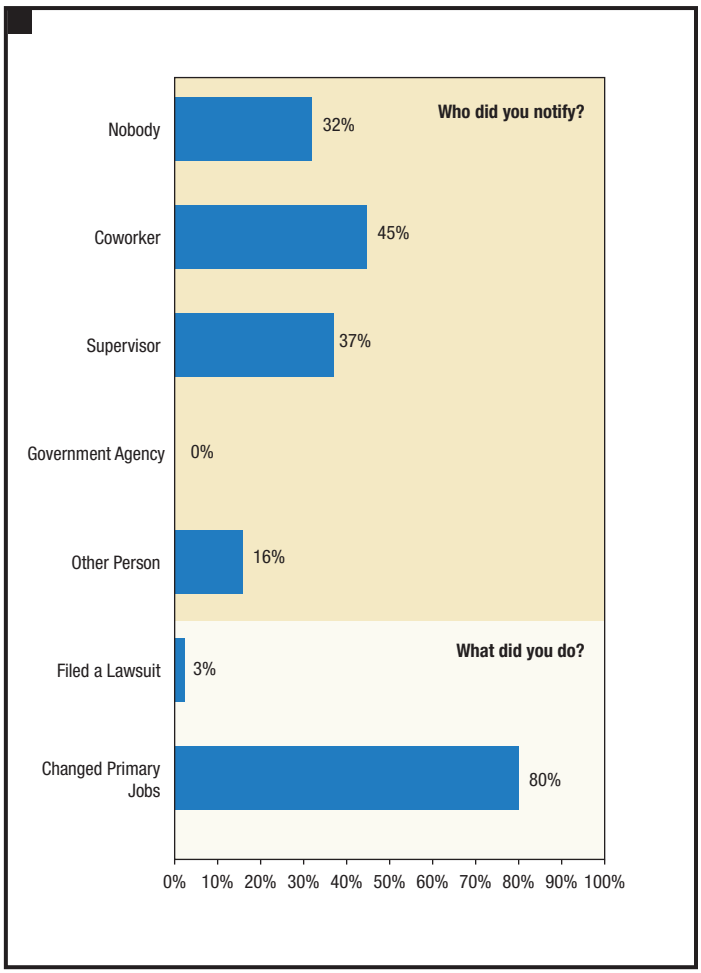


FIGURE 2. Women's Responses to Severe Sexual Harassment



Source: Mortimer, Jeylan T. Youth Development Study, 1988–2011 [St. Paul, Minnesota]. ICPSR24881-v3. Ann Arbor, MI: Inter-University Consortium for Political and Social Research [distributor], 2015-12-18. https://doi.org/10.3886/ICPSR24881.v3.

ments and remain in their jobs also face ostracism and career stagnation, whether they are harassed themselves or acting on behalf of colleagues.

Sexual harassment brings physical and psychological consequences too, including sleep problems, increased risk of anxiety, depression, and post-traumatic stress disorder.[13] Harassed individuals also report diminished self-esteem, self-confidence, and psychological well-being. These depressive symptoms often persist for many years after harassment has occurred. Effects may also accumulate over time, as early targets are more likely than non-targets to be harassed again later in life.[14]

The high costs of sexual harassment extend beyond those who are harassed. Employers face reduced employee job satisfaction and organizational commitment, increased absenteeism and work withdrawal, and deteriorating relationships among coworkers. The EEOC reports that sexual harassment charges filed with them in 2016 cost organizations and harassers $40.7 million, in addition to monetary damages awarded through litigation.[15]

Prevention and Control

When sexual harassment is ignored or pushes women out of the workplace, the organizational cultures that produce it remain unchallenged. Rather than expecting harassed women to leave, better systems for reporting, preventing, and controlling harassment are needed. Hiring and promoting more women is one proven strategy, as male-dominated environments have been found to foster higher harassment rates.[16] Bystander training may also help by developing a culture in which employees are empowered to promote positive workplace interactions. And serious and repeat harassers must face real sanctions.

The "Silence Breakers" and #MeToo movement of 2017–2018 have brought renewed attention to the issue, but it would be wrong to simply assume that these movements will ultimately be transformative; indeed, previous waves of attention to harassment in 1991 (involving Clarence Thomas and Anita Hill) and 1998 (involving Bill Clinton and Monica Lewinsky) failed to produce lasting change. The key question is whether a full-throated norm cascade has been engendered and whether, in response to that cascade, organizations will recognize the reputational, personnel, and economic costs of harassment and introduce the wholesale culture changes required to reduce its prevalence.

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NOTES

1. Men filed about one in six of these complaints (16.6%). U.S. Equal Employment Opportunity Commission. 2016. "Charges Alleging Sexual Harassment, FY 2010–2016." Retrieved December 28, 2017, from https://www.eeoc.gov/eeoc/statistics/enforcement/sexual_harassment_new.cfm.

2. U.S. Equal Employment Opportunity Commission. 2016. "Select Task Force on the Study of Harassment in the Workplace."

3. Smith, Tom W., Peter Marsden, Michael Hout, and Jibum Kim. General Social Surveys, 1972–2016 [machine-readable data file]. NORC at the University of Chicago [producer and distributor]. Data accessed from the GSS Data Explorer website at gssdataexplorer.norc.org.

4. Uggen, Christopher, and Amy Blackstone. 2004. "Sexual Harassment as a Gendered Expression of Power." *American Sociological Review* 69(1), 64–92. These data are consistent with 1994–1996 GSS evidence that 41.4 percent of women and 25.6 percent of men had ever found "themselves the object of sexual advances, propositions, or unwanted sexual discussions from coworkers or supervisors. The advances sometimes involve physical contact and sometimes just involve sexual conversations."

5. McLaughlin, Heather, Christopher Uggen, and Amy Blackstone. 2012. "Sexual Harassment, Workplace Authority, and the Paradox of Power." *American Sociological Review* 77(4), 625–647.

6. Uggen and Blackstone, 2004.

7. Blackstone, Amy, Jason Houle, and Christopher Uggen. 2014. "'I Didn't Recognize It as a Bad Experience Until I Was Much Older': Age, Experience, and Workers' Perceptions of Sexual Harassment." *Sociological Spectrum* 34(4), 314–337.

8. Uggen and Blackstone, 2004.

9. Crenshaw, Kimberle. 1992. "Race, Gender, and Sexual Harassment." *Southern California Law Review* 65, 1467–1476.

10. Uggen and Blackstone, 2004.

11. Blackstone, Amy, Christopher Uggen, and Heather McLaughlin. 2009. "Legal Consciousness and Responses to Sexual Harassment." *Law & Society Review* 43(3), 631–668.

12. McLaughlin, Heather, Christopher Uggen, and Amy Blackstone. 2017. "The Economic and Career Effects of Sexual Harassment on Working Women." *Gender & Society* 31(3), 333–358.

13. Stock, Susan R., and France Tissot. 2012. "Are There Health Effects of Harassment in the Workplace? A Gender-Sensitive Study of the Relationships Between Work and Neck Pain." *Ergonomics* 55(2), 147–159.

14. Houle, Jason, Jeremy Staff, Christopher Uggen, Jeylan T. Mortimer, and Amy Blackstone. 2011. "The Impact of Sexual Harassment on Depressive Symptoms During the Early Occupational Career." *Society and Mental Health* 1(2), 89–105.

15. U.S. Equal Employment Opportunity Commission, "Charges Alleging Sexual Harassment, FY 2010–2016."

16. Gruber, James E., and Phoebe Morgan. 2005. *In the Company of Men: Male Dominance and Sexual Harassment*. Boston: Northeastern University Press.

SOCIAL NETWORKS

Stanford Center on Poverty and Inequality

ADINA D. STERLING

The quality of one's life depends, in part, on the people one knows. If one wants a good job, a desirable partner, or a ticket to a sold-out Broadway show, it can help to know the right people. There is a burgeoning research literature showing that one's social networks can affect an unusually wide range of outcomes.

It is thus important to examine whether women and men have networks of different sizes and types. This article will show that, while there are still differences in the types of social ties that make up men's and women's networks, some forms of gender difference in social networks are lessening over time. To keep this article tractable, we will confine our attention to face-to-face networks, as they are very important for key life chances and outcomes.

KEY FINDINGS

- Over the last half century, as women entered the labor force in large numbers, they have had the opportunity to supplement their kin and friendship networks with coworker networks.
- It is still the case that women have more kin and friendship ties than men. This gender gap advantages women by providing them with more sources of social support.
- But men still have more coworker ties than women. This gender gap advantages men by providing them with better access to jobs.

Who Has the Largest Networks?

It is useful to begin with a simple question: Do men have larger networks than women? The answer to this question matters because network size—the number of relationships a person has—is a key measure of one's "social capital," or one's capacity to draw on others for valuable resources, such as information, advice, money, and support. When it comes to the availability of fundamental resources, the number of social ties is a prime indicator of overall network health. There are of course many other network measures, but network size is often strongly correlated with them.

Why might women and men have different-sized networks? Men and women find themselves in different social spheres, so their opportunities to form ties differ.[1] In the past, marriage and parenthood reduced women's workforce participation, thereby limiting their opportunities to come into contact with others. The dramatic increase in women's workforce participation is a contributing factor in the reduction of gender differences in network size. The magnitude—and suddenness—of this fundamental labor market change shouldn't be forgotten. In 1950, only 34 percent of all women participated in the workforce, while 86 percent of all men did, a 52-point difference. By contrast, there was only a 12-point difference in 2017, with 57 percent of all women and 69 percent of all men participating in the workforce.[2]

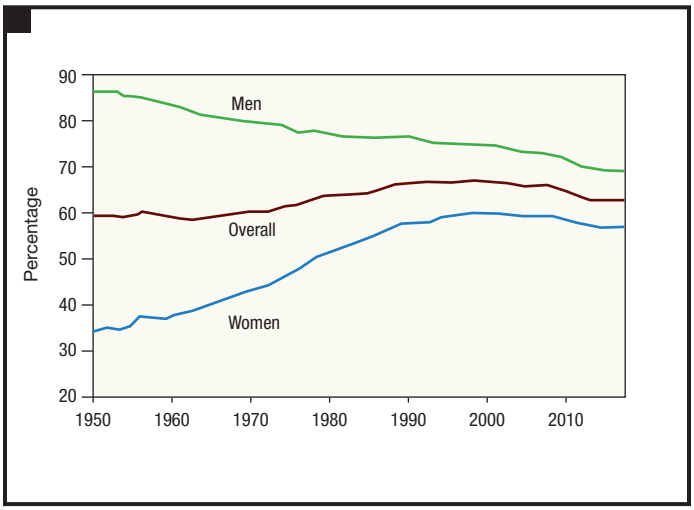
We should expect gender gaps in network size to become smaller as the gap in workforce participation rates narrows (see Figure 1). This is precisely what we find in the General Social Survey (GSS). In 1985, the GSS began one of the first nationally representative studies of networks by asking people about their "core discussion network," where this was defined as the people with whom "important matters" were discussed.[3] This 1985 survey showed that, with women already in the workforce in large numbers, the size of men's and women's networks was statistically indistinguishable.

After 1985, as female workforce participation expanded further, women's total network size surpassed that of men. Indeed, in every major national survey conducted since 1985, women's networks have been shown to be larger than men's.[4]

Are There Gender Differences in the Types of Ties?

Although women have *more* ties, do they also have *better* ones? The available evidence suggests that, while women and men clearly have different types of ties, the main differences in play do not always serve women well. We elaborate on this

FIGURE 1. Workforce Participation, 1950–2017



Note: Limited to the civilian noninstitutional population, aged 16 and older.
Source: Current Population Survey.

TABLE 1. Composition of Social Networks by Gender, 2010

	Men	Women	*F*-stat
Spouses	0.48	0.41	3.99*
Other Family	0.14	0.17	1.26
Children	0.20	0.28	2.93†
Siblings	0.20	0.28	4.06*
Parents	0.31	0.35	0.41
Total Kin	1.33	1.48	3.71†
Neighbors	0.07	0.10	1.77
Coworkers	0.32	0.17	11.66**
Advisors	0.19	0.25	2.52
Friends	1.03	1.27	7.34**
Total Non-Kin	1.61	1.79	2.10
Network Size	2.26	2.52	5.09*

Note: GSS 2010 Survey, N=1272; all statistics reported with adjustments for survey weighting; $^{\dagger}p < 0.1$; $^{*}p<0.05$, $^{**}p<0.01$. A contact can be categorized in more than one way by the respondent. Network size indicates unique contacts only.

argument by using GSS data to compare the types of close relationships that men have against those that women have.

As Table 1 shows, women have slightly more kin ties than men, a gender gap that's marginally significant (p-value <0.1). The size of the gender gap in kin ties is closing: Whereas the 1985 GSS survey shows that kin figured much more prominently in women's networks than men's networks (i.e., 1.50 kin ties for men, 1.81 kin ties for women),[5] the 2010 survey shows that this difference in kin ties is now smaller (i.e., 1.33 kin ties for men, 1.48 kin ties for women). Kin comprise precisely the same proportion of women's and men's networks, or 58 percent of all ties.

The second panel of Table 1 reveals other gender differences. Women's core networks now have more friends than men's core networks, while men's core networks still have more coworkers. These gaps are both statistically different.

Is it important that men's networks include more coworkers? It indeed is. It's important mainly because work-related relationships can affect the likelihood of finding a job and career success.[6] For example, analysis of the 2010 GSS data suggests that women's earnings are affected by the size of their coworker network, whereas men's earnings are not. Coworker relationships are more important to the earnings of women than men, yet these are precisely the networks that women lack. This result has been the impetus for recent efforts to assist women in developing social contacts at work.[7]

But women's networks also provide some advantages. Although their networks lag behind men's on the job, they do serve them well in other respects. There is much evidence, for example, that kin and friends can provide valuable social support. It follows that women are advantaged, in some respects, insofar as their networks include more kin and friends.

Conclusions

As women streamed into the formal labor force, they gained networks with coworker ties and friends, with the result that their networks grew to be larger in overall size than those of men. This process is nonetheless incomplete. In recent survey data, we find that women haven't quite caught up with men in the number of coworker ties, a gender gap that can disadvantage women in finding jobs and raising earnings.

But women's networks provide some advantages as well. We find, for example, that women have a slight edge over men in the number of friendship and kin ties. This provides women with many sources of social support and should be viewed, therefore, as a gender gap that works to the advantage of women. Although we usually think of women's parallel obligations in the work and domestic spheres as a "double burden," their strong presence in both spheres ramps up the overall size of their networks.

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POLICY

Stanford Center on Poverty and Inequality

MARIANNE COOPER AND SHELLEY J. CORRELL

The trajectory of women's social and economic advancement over the last five decades follows an unsettling pattern: rapid progress until the 1990s and then a slowing or stalling in the pace of change.[1]

This pattern is revealed in the analyses throughout this issue. It shows up, for example, in patterns of labor force participation among women. Right after World War II, less than one-third of women were in the labor force. Through the 1980s, women's labor force participation rates rose quickly. But progress started to slow in the 1990s. The number of women employed peaked in 1999 at 60 percent and has since trended downward.[2] In 2015, 56.7 percent of women were employed.[3] The wage gap follows the same pattern of steep decline in the 1980s and a weakening in the pace of progress thereafter.[4] At a cultural level, even the upward trend in support for gender egalitarianism among men and women appears to have lost some steam.[5] Thus, despite significant steps forward, such as women moving into male-dominated occupations and women outpacing men in higher education, roadblocks remain on the path to equality.

But why has change stalled out? And what can be done about it?

Why Has Change Stalled Out?

A big part of the answer to the first of these two questions is that the major transformations in work and family life that have occurred over the last half century have not been matched by transformations in either public or organizational policy. As women flooded into the labor force (see Figure 1) and as families became more varied and complex, workplace policies stayed the same. Today, over a third of families with children are headed by a single parent, 70 percent of mothers work, and over 42 percent of mothers are the primary breadwinners for their families.[6] Many women work in low-paid service jobs, and women make up two-thirds of minimum-wage workers.[7]

KEY FINDINGS

- The ongoing decline in the gender wage gap and many other types of gender inequality slowed down or stalled entirely in the 1990s.
- Amid inaction by the federal government, some state and local governments have pursued policies to reduce gender inequality, such as raising the minimum wage and guaranteeing paid leave.
- Efforts by private organizations to address gender inequality often focus on reducing stereotypic biases, delivering unconscious or implicit bias training, or formalizing the employee evaluation process.

Policies have not kept pace with these changes. The United States remains the only developed country in the world without either a paid family leave policy[8] or a paid sick leave policy.[9] Although many families rely exclusively on a mother for the family's income, a mother working at a minimum-wage job is especially hard-pressed now to make ends meet. The current federal minimum wage of $7.25 has lost significant purchasing power, such that workers earning minimum wage today are earning 25 percent less, in inflation-adjusted dollars, than their counterparts did almost 50 years ago.[10]

This policy failure matters. As economists Francine Blau and Lawrence Kahn have shown, if the United States had adopted very standard policies to support women's employment, women's rates of labor force participation would be substantially higher.[11] Likewise, sexual harassment remains a pervasive problem and often pushes women to leave their jobs, leading to financial penalties and stymied career paths that set women—and their families—back.

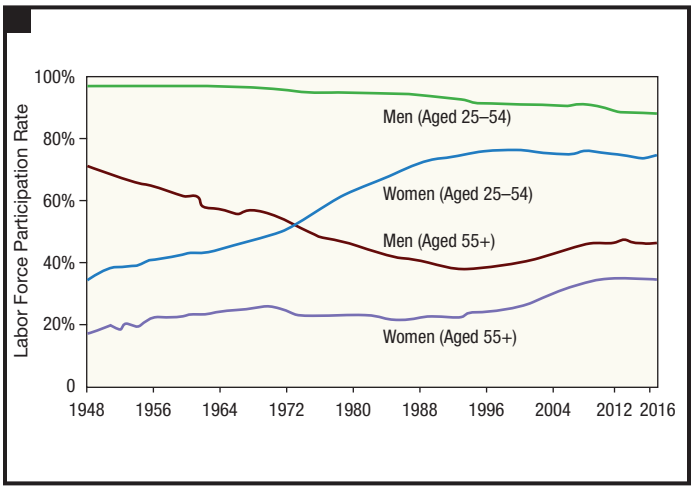
In addition to policy lapses, cultural beliefs and stereotypes are getting in the way of faster social change. Gender essentialism, or the belief that "men and women

are innately and fundamentally different in interests and skills," remains widespread and contributes to occupational sex segregation as both employers and individual men and women sort themselves into the "right" gender-conforming roles.[12] Gender stereotypes, the widely shared beliefs about how men and women "are" and "should be," continue to operate when people interact and differentially affect how men and women are evaluated, often in ways that disadvantage women.[13] Research has shown that, implicitly, people tend to think men are more competent than women, especially in traditionally male domains.[14]

Thus, in evaluative settings, even when men and women have comparable or identical skills and abilities, men can be deemed more worthy of hire than their female counterparts.[15] In these contexts, gender stereotypes function as cognitive shortcuts and influence decision makers' evaluations in ways that can give male candidates an edge. This error in evaluation is more likely to occur under conditions of ambiguity, such as when decision makers lack clear criteria or guidelines for making evaluations. Gender stereotypes, particularly in regard to competence, mean that women often have to provide more evidence of competence than men to be seen as similarly qualified. That women are held to higher standards than men is a key mechanism reproducing gender inequality and blocking women's advancement.[16]

While policy efforts to address gender inequality have been limited, those that do exist have focused on addressing the new demographic and economic realities of American families rather than blocking the impact of gender stereotypes. The Family and Medical Insurance Leave Act (paid family leave) and Raise the Wage Act (increase in minimum wage) were designed, for example, to strengthen the economic security of working families. But these proposals have not passed, and the Trump administration has pulled back efforts to close the wage gap by suspending an Obama-era policy that would require larger businesses to report on what they pay employees by race and gender.

FIGURE 1. Labor Force Participation Rate by Age and Gender, 1948–2016



Source: U.S. Bureau of Labor Statistics, Current Population Survey.

A New Way Forward

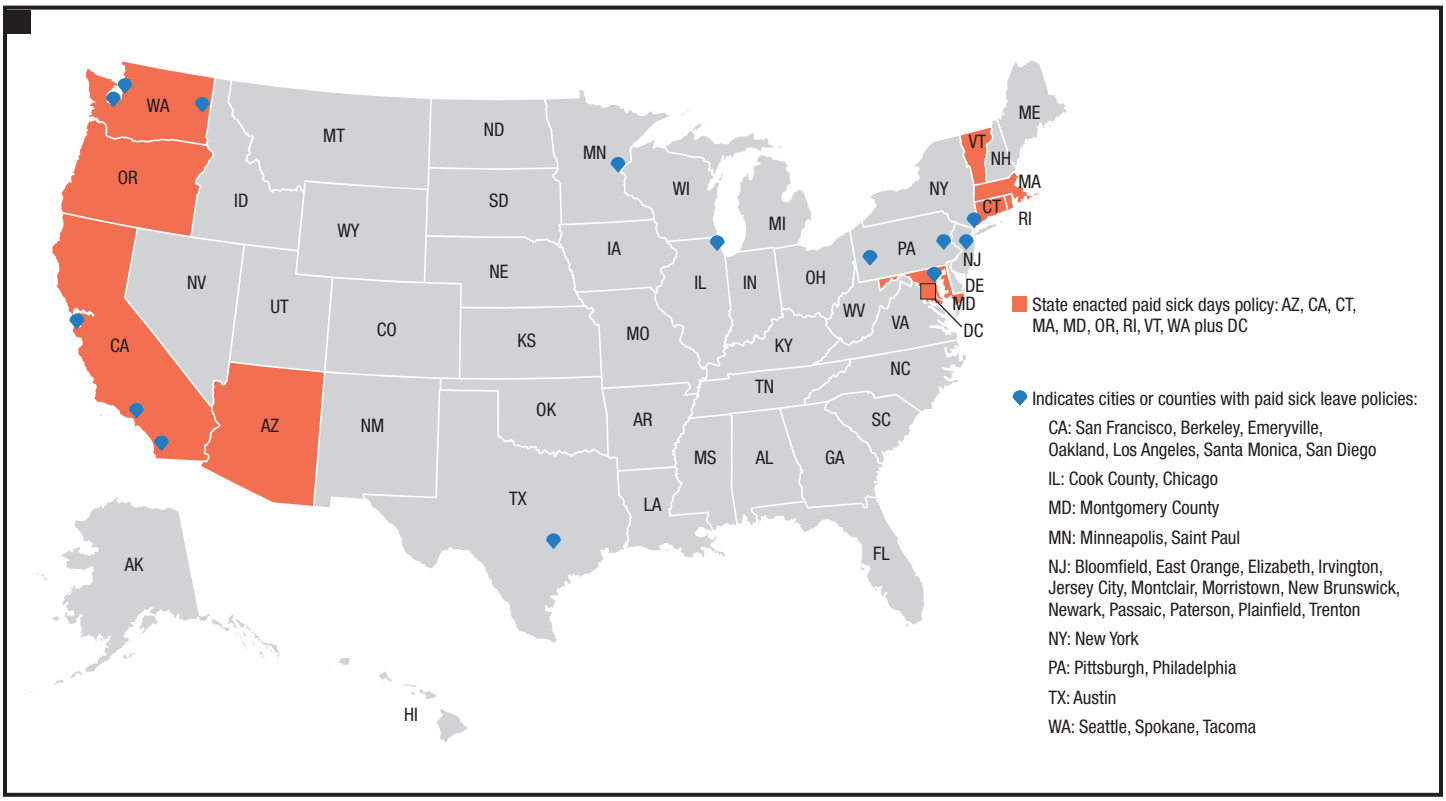
If federal policy is not likely to be forthcoming in the near future, are there other paths forward? The pattern of inaction at the federal level led then-President Barack Obama to call on states, localities, and the business community to press for change. At the Working Families Summit in 2014, he said, "If Congress will not act, we're going to need mayors to act. We'll need governors and state legislators to act. We need CEOs to act."

This approach has paid off. Indeed, while Congress remains gridlocked on gender and family issues, there are many promising developments at the state and local levels and in private industry. Five states, Washington D.C., and several cities have passed paid family leave policies.[17] Nine states, Washington, D.C., and 32 cities and counties have passed paid sick leave policies.[18] The finance, information, and technology industries are also increasingly supporting paid leave. Indeed, 30 percent or more of employees in these industries have access to paid leave, while overall only 14 percent of all civilian workers do. Many companies and business leaders, from Adobe to Levi Strauss & Co, have even endorsed the Family and Medical Insurance Leave Act, which is a proposal to provide 12 weeks of paid leave each year to qualifying workers for the birth or adoption of a new child, the serious illness of an immediate family member, or a worker's own medical condition.

States, localities, and businesses have also taken steps to increase pay and ensure fair pay. Twenty-nine states and Washington, D.C., have a minimum wage that is higher than the federal minimum wage, and 40 cities have adopted minimum wages that are higher than their state minimum wage. Many companies have focused more attention on equal pay. One hundred companies signed on to the Equal Pay Pledge that grew out of the Obama administration's call to action to America's businesses to close the gender wage gap. By signing on, companies agreed to actions like conducting an annual pay analysis and reducing unconscious bias in hiring and promotion processes.

Outside of government, efforts to level the playing field in organizations have often focused on reducing stereotypic biases. These efforts have taken two main forms: (a)

FIGURE 2. State and Local Policies on Paid Sick Days



Source: National Partnership for Women and Families.

unconscious or implicit bias training for employees, and (b) formalizing organizational processes that determine how individuals are evaluated for hire, promotion, and compensation. Both approaches have led to some improvements in the hiring and advancement of women, but neither has been the great leveler. Even when these approaches are adopted, gender stereotypes continue to bias evaluations.

For the past five years at the Clayman Institute for Gender Research, we have tested a new "small wins" model of change in several companies where we work with managers to co-develop tools to reduce gender biases.[19] For example, we partnered with the company GoDaddy to develop a "scorecard" for managers to use when they meet to discuss and calibrate employee performance ratings that affect pay and promotion decisions. Developing the scorecard required creating measurable criteria for evaluating employees that were aligned with the company's values and could be applied consistently across employees. The use of the scorecard produced immediate reductions in the gender gaps previously found in performance ratings. This type of small win, as we have shown, can motivate further actions that lead to larger organizational transformation, such as increased hiring of women. Last year, half of the new engineering graduate hires at GoDaddy were women. This led the *New York Times* to ask, "If GoDaddy can turn the corner on sexism, who can't?" The company had previously been known for its sexist television commercials. It is now garnering recognition for its significant progress toward being an employer of choice for women in tech.[20]

Conclusions

Overall, policies to advance gender equality have been uneven and limited. With little chance of passing new federal policies to reduce gender inequality, private industry and state and local governments will need to take the lead in developing and implementing policy innovations. Over time, analysis of these innovations can provide empirically validated insights into the kinds of public policies, approaches, and tools that will jump-start the stalled gender revolution.

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