

OCCUPATIONAL SEGREGATION

Kim A. Weeden

KEY FINDINGS

- The gender segregation of occupations is less pronounced among millennials than among any other generation in recent U.S. history.
- By contrast, millennials are experiencing just as much racial and ethnic occupational segregation as prior generations, even though millennials are less tolerant of overt expressions of racism.
- Both types of occupational segregation—gender and racial-ethnic—are very consequential for wages. Among millennials, occupational segregation accounts for 28 percent of the gender wage gap and 39 to 49 percent of racial wage gaps.

Today's new workers are entering a labor market in which high-paying skilled jobs are more scarce, work is less secure, economic inequalities are more extreme, and a college degree is no longer a ticket to a professional or managerial occupation. They also bring to the labor market higher levels of education, stronger preferences for an egalitarian household division of labor, and less tolerance for overt expressions of racism.

It might be concluded that, relative to past generations, millennials have very different tastes and sensibilities and are entering a very different type of economy and labor market. This standard “exceptionalist” characterization of millennials does not typically take into account the types of workplace segregation that millennials are experiencing. Are millennials breaking with the past by building a highly integrated occupational structure? Or is the millennial economy just as segregated as ever? This is an important line of questioning because workplace segregation is one of the key determinants of economic inequality and life chances more generally.

I focus in this article on occupational segregation among millennials, where this form of segregation refers to the uneven distribution of racial, ethnic, and gender groups across occupations. I examine whether millennials are more or less segregated than workers in prior generations and whether occupational segregation remains an important source of gender and racial wage inequalities among millennials.

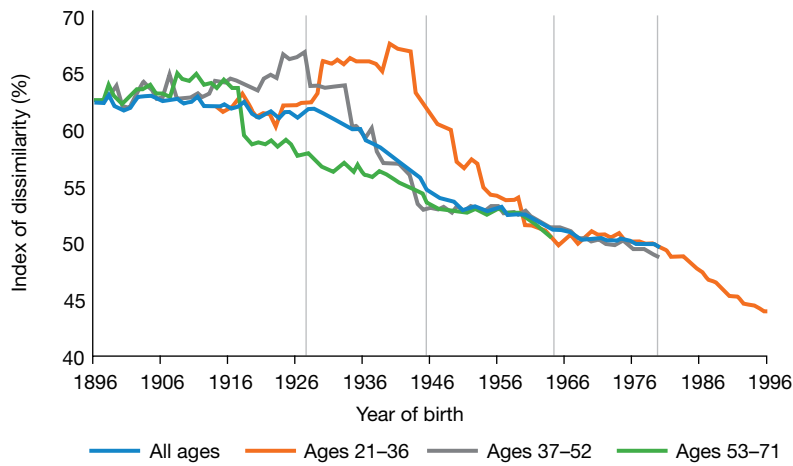
Gender segregation

Figure 1 shows levels of gender segregation by age group and birth year.¹ Segregation is measured by the index of dissimilarity, D , which indicates the percentage of women who would need to shift from a female-dominated occupation to a male-dominated occupation to have an equal share of women in all occupations. D can also be interpreted as the share of men who would need to move into female-dominated occupations.

In Figure 1, the blue line, representing workers of all ages, shows a marked decline in gender segregation over the last 100 years. Among workers ages 21–36 (the orange line), gender segregation increased for cohorts born in the first half of the 20th century, likely reflecting the resegregation that occurred as men returned to the civilian labor force after World War II. But segregation then declined for cohorts born after World War II.² Although workers ages 37–52 (gray line) and 53–71 (green line) show a similar rise and fall across birth cohorts, it is most pronounced for younger workers.

The key result is that the youngest millennials are experiencing less gender segregation than any other generation in recent U.S. history. In 2017, the youngest millennials were less segregated ($D=44\%$) than the youngest Gen Xers ($D=49\%$) or the youngest baby boomers ($D=51\%$). This result accords well with their stronger preferences for a more egalitarian household division of labor (although nothing in Figure 1 suggests that such

Figure 1. Millennials experience less occupational segregation by gender than prior generations.



Note: Vertical lines demarcate generations: Greatest (born before 1927), Silent (1927–1945), boomers (1946–1964), Gen X (1965–1980), millennials (1981–1996). The more recent birth cohorts are only observed at very young ages: for example, the 1996 birth cohort is only observed at age 21. It's possible that the apparent decline in segregation for younger millennials is not really a cohort effect at all, but an effect of being very young. However, for Generation X cohorts, where there is enough data to cover their entire early careers, the difference in segregation across age groups is very small. This suggests that segregation is indeed less pronounced among younger millennials.

preferences are a causal factor driving this result).

These generational differences could reflect period effects, if the strength of gender-based sorting that characterizes the labor market when workers first enter has a lasting effect throughout their careers. These generational differences could also reflect age effects, though, if new labor market entrants become more segregated as they leave stopgap occupations for adult careers that are more gender-typical, or change their labor force behaviors as they face the reality of combining work and child-rearing.

As with prior cohorts, millennials' patterns of gender segregation reflect "horizontal segregation," the segregation of men and women across occupations entailing different but equally desirable tasks (e.g., nurse versus electrician), and "vertical segregation," the segregation of men and women across occupations that are very clearly ordered in terms of average pay and other amenities (e.g., nurse versus doctor).³ Is the decline in gender segregation driven by a decline in both of these two types?

Let's consider horizontal segregation first. The main form of horizontal segregation is that

millennial women, like those in earlier generations, tend to be concentrated in nonmanual jobs (e.g., clerical occupations), while millennial men tend to be concentrated in manual jobs (e.g., craft occupations). The data reveal that this manual-nonmanual divide is in some cases eroding. For example, millennial women constitute a declining share of workers in clerical occupations, a result that's partly driven by a 15 percentage point decline (from 46% to 31%) in their share of stock clerks and order pickers. With the explosion of online shopping, this occupation has not only experienced rapid growth but shifted from administrative offices and sales floors to warehouses, historically a more male-typed domain. Although this shows up in our analyses as a lower value of *D*, it is of course best understood as a compositional shift in which the setting in which clerical work is increasingly performed (i.e., warehouses) happens to be a male-typed one.

What about vertical segregation? Although it is also pervasive for millennials, the evidence suggests that it may be weakening slightly. This can be seen in the size of the negative correlation between an occupation's mean wages and the share of workers in that occupation who are women. In pooled data from 2013 to 2016, this correlation is $r = -0.14$ across all 474 three-digit occupations among millennials, compared with $r = -0.23$ among older workers.

Racial segregation

These analyses reveal that millennials are in occupations that are less gender segregated than had been the case for prior generations. Are millennials also less segregated by race and ethnicity?⁴ Figure 2 presents the index of dissimilarity for sets of pairwise comparisons (e.g., blacks and whites, blacks and Asian Americans) for (a) workers from millennial and older generations in 2015–2017; and (b) Gen X and Boomer generations when they were 21 through 36 years old (the same age range as millennials in 2017).⁵

Levels of racial segregation vary depending on the two groups being compared. Figure 2 shows that self-reported "mixed race" individuals are only modestly segregated from whites ($D = 12\%$ among millennials); by contrast, blacks are highly segregated from Asian Americans ($D = 38\%$). Notably, though, even this most segregated race pair (i.e., blacks and Asian Americans) is more integrated than men are with women ($D = 44\%$; see above).

Although racial segregation is less extreme than gender segregation, there is not much evidence of any decline in racial segregation across cohorts. At $D=27$ percent, black-white segregation was the same for millennials, Gen Xers, and boomers in 2015–2017, and about the same as it was for Gen Xers ($D=26\%$) and boomers ($D=28\%$) when they were ages 21–36. To be sure, Hispanic-white segregation is lower for millennials ($D=22\%$) than for older Americans, likely reflecting plummeting rates of high school dropout and rising rates of college enrollment among Hispanics over the past two decades.⁶ However, this decline in Hispanic-white segregation seems to be an exception to a general rule of cross-cohort stagnation in racial segregation.

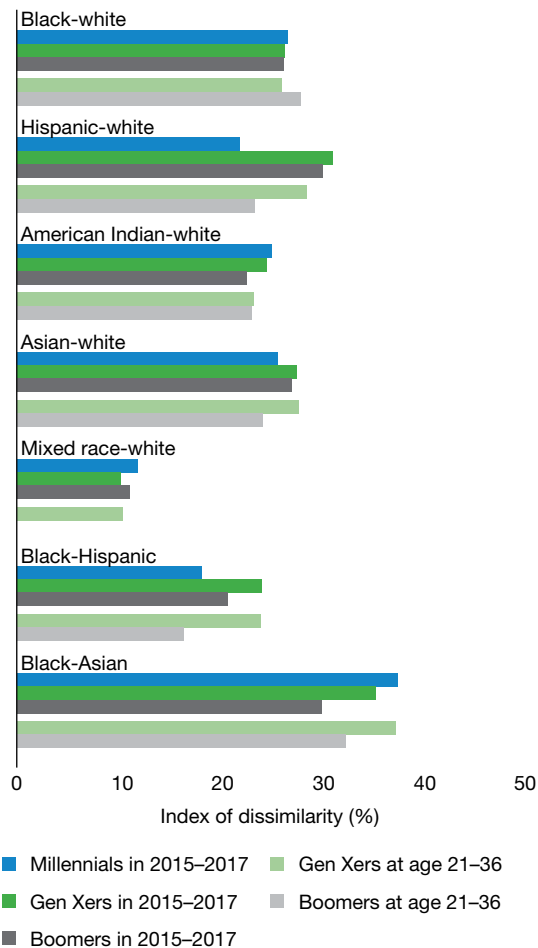
Occupational segregation and wage gaps

To what extent does occupational segregation predict gender and racial wage gaps? Among millennials, a college-educated woman who works 40 hours a week and has average years of experience has a predicted hourly wage that is \$2.74 less (about 7.4%) than a man with similar attributes.⁷ This gap decreases to \$1.98 after adjusting for occupation, implying that occupations “explain” about 25 percent of the gender gap in pay. Among older workers, the baseline gap is larger (about \$5.00, or 10%), but occupational segregation “explains” only about 18 percent of the gender gap in wages.

The impact of occupational segregation on racial wage gaps is even more substantial. Among millennials, whites have an estimated hourly wage that is \$2.40 more than blacks. About 39 percent of this gap is attributable to vertical segregation (i.e., black millennials’ underrepresentation in relatively highly paid occupations). Wage gaps between Hispanic and white workers, and between “other race” and white millennials, are smaller, but between 39 percent and 45 percent is due to occupational segregation. The Asian-white wage gap is reversed, such that Asian Americans earn \$1.46 more per hour than white workers, and nearly half of this gap is due to Asian-white occupational segregation.

This is all to say that the persistence of racial segregation is especially troubling because it is especially consequential in explaining racial wage gaps. Although gender segregation is more extreme than racial segregation, it is less consequential (at least in explaining wage

Figure 2. Occupations are not more racially integrated in the millennial generation than in earlier generations.



gaps) and has weakened among millennials. By contrast, there is no evidence that millennials are experiencing less racial segregation, which is very consequential for wages.

Conclusion

Watching segregation change across generations is a bit like watching grass grow in drought conditions: progress is slow, patchy, and easily stalled. Millennials are less segregated by gender than older birth cohorts, but gender segregation is still so extreme that it will take another 125 birth cohorts to reach full integration (if one projects out the pace of change observed between the oldest and youngest millennials). To be sure, millennials are less gender segregated than prior generations,

but it is not as if the difference is all that dramatic. As for racial segregation, the good news is that it is less pronounced than gender segregation, whereas the bad news is that it hasn't declined for any post-civil rights birth cohorts.

The policy lesson is clear: We cannot rely on “natural” processes of generational change to eliminate occupational segregation. If we are not content with merely watching grass grow, there is

likely no alternative to undertaking major reforms of the social processes (e.g., differential human capital investments) and workplace conditions (e.g., discrimination) that foster segregation.

Kim A. Weeden is Jan Rock Zubrow '77 Professor of the Social Sciences, chair of the department of sociology, and director of the Center for the Study of Inequality at Cornell University.

Notes

1. Most analyses in this article use Census data (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) and the American Community Survey (2001–2017; Ruggles et al. 2019) data. I use occupations coded into the 1990 occupation scheme, which IPUMS recommends for historical analyses. Analyses linking segregation to wages use 2013–2016 Current Population Survey data and the 2010 Census occupation classification scheme (Center for Economic and Policy Research. 2017. CPS ORG Uniform Extracts, Version s2.2.1. Washington, D.C.).
2. See, e.g., Weeden, Kim. 1998. “Revisiting occupational sex segregation in the United States, 1910–1990: Results from a log-linear approach.” *Demography* 35(4): 475–487.
3. 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. See also Charles, Maria, and David B. Grusky. 2004. *Occupational Ghettos: The Worldwide Segregation of Women and Men*. Stanford, CA.: Stanford University Press. See also 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>
4. For an analysis of racial differences in gender segregation, see Weeden’s article in the 2018 *Pathways: State of the Union* issue.
5. The index of dissimilarity can measure segregation for only two groups at a time. For simplicity, I present pairwise comparisons of racial groups using *D*. Races are mutually exclusive, and imputed in censuses collected before a racial group (e.g., Asian) was explicitly included in the race question; see IPUMS documentation for details. Because “mixed race” was not a category until the 2000 Census, there are too few “mixed race” baby boomers ages 21–36 to include in Figure 2.
6. Pew Research Center analysis of CPS data, <http://www.pewresearch.org/fact-tank/2017/09/29/hispanic-dropout-rate-hits-new-low-college-enrollment-at-new-high/>
7. Models predicting logged wages show similar results.