

The Intersection of Gender and Race: African American and Asian American Women in the United States, 1980-2018 and Gendered Racism

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Because of their gender and their race, scholars believe that women of color suffer from both gender and race discrimination. The way race and gender interact is complex, however, mitigated by class and changing depending on the occupation, time period, and location (Browne and Misra, 2003). Researchers believe that the effects of gender and race depend on the economic and social outcome studied and particular groups examined (King, 1993), and that their effects will change, with race being more prominent in some circumstances and gender in others. (King, 1993: 298). In still other situations, the interaction of race and gender may lead to unique outcomes (Bell and Nkomo, 1993; Browne and Kennelly, 1999).

Theorists believe that the discrimination these women experience is not necessarily additive. That is, the total amount they experience may not equal the sum of the separate race and gender parts (Reskin and Charles, 1999; King, 1995; Bell et al., 1993; Kilbourne et al., 1994; McGuire and Reskin, 1993). There may be a positive interaction, so that the effect of race and gender is less than the sum of the two. This can occur if employers view these women as counting for affirmative action twice and consequently prize them more than either white women or black men (Bell et al., 1993). Alternatively, a positive interaction may result if race and gender work in similar ways. For example, being a racial minority or female may be so devalued that the second characteristic may be inconsequential (McGuire and Reskin, 1993). On the other hand, there may be a negative interaction, so that the total amount of discrimination these women face is greater than the sum of the race and gender parts. This can result if the combination of being a racial

minority and female is so undesirable that the interaction of race and sex “produces further disadvantages than those which accrue from the sum of the variables taken individually” (Almquist, 1975:130).

Some scholars have argued that it is impossible to quantify the extent to which these women suffer from gender discrimination separately from race discrimination and the interaction of gender and race (McGuire and Reskin, 1993). As a result, most research on minority women examines only racial earnings penalties¹; whereas a few examine the extent to which both gender and race contributes to lower earnings by comparing their earnings to those of white men (see for example, McGuire and Reskin, 1993).²

Kim (2009), however, used an econometric technique that investigated the separate effects of gender and race in black women’s earnings. She found that black women’s earnings are 9 percent lower due to their race, 15 percent due to their gender, and 3 percent because of the intersection of their gender and race. In other words the intersection of race and gender adds an additional penalty beyond race and gender, such that being black and a woman is worse than the sum of these separate parts. This negative interaction appeared to result from the types of jobs in which black women work.

This research expands this area of research by examining the race, gender, and intersectional penalties over time for African American and Asian American women. I posit that the intersection of race and gender continues to be negative--adding an additional interaction penalty beyond those of race and gender, and that the startling results that I find can only be explained by gendered racism.

Research Methodology

Earnings can vary for many different reasons, including different preferences, productivity differences, and discrimination. Econometric studies typically try to account for any non-discriminatory reasons for earnings differences by using human capital models, in which productivity differences, such as education, work experience, and other non-discriminatory factors are taken into consideration. Many studies then add dummy variables for race (or sex) to see if these explain earnings differences after accounting for these non-discriminatory variables. The problem with these studies is that unmeasured characteristics that are correlated with race or gender can account for earnings differences. In addition, the coefficients on the explanatory variables cannot vary by the race or gender variable of interest.

Other studies use the Blinder-Oaxaca decomposition, in which the coefficients on the control variables are allowed to vary by gender and or race. Typically the results are similar using these two methods, but because the coefficients do vary by gender and race, we use this latter method in our research. I follow Kim (2009) by using a twist of the Blinder-Oaxaca decomposition. I first perform a human capital regression analysis by running the following human capital regressions:

$$1) \quad \ln(w_{ij}) = \mathbf{B}\mathbf{X}_{ij} + e_{ij}$$

where w_{ij} is hourly earnings of the i th individual in group j , \mathbf{X}_{ij} is a vector of human capital characteristics for the i th individual in group j , and e_{ij} is the error term.

Groups (j) includes four groups: white men (wm), white women (ww), African American men (bm), and African American women (bw). Thus, four separate regressions

will be run on four populations: African American women, white men, white women, and African American men.

The second step of this decomposition is to calculate the earnings of African American women if they had faced the same wage structure as white men, white women, and African American men. This measure will be used to estimate the earnings disparities. Thus, if \bar{X}_{bw} is the mean of the independent variables for African American women and $\hat{\beta}$ is the coefficients on the variables derived from the regression analyses in equation 1 for the given race/gender groups, then

2a) $1 - [(\sum \bar{X}_{bw} \hat{\beta}_{bw}) / (\sum \bar{X}_{bw} \hat{\beta}_{bm})] \times 100 = g_{woc}$ is the earnings difference because of gender. It first takes the estimated coefficients of African American men and the characteristics of African American women to measure what African American women would earn had they had the same returns, $\hat{\beta}$ to their characteristics as African American men; i.e. if they faced the same wage structure as African American men. It then compares this to the actual earnings of African American women to estimate the wage disparity by gender.

2b) $1 - [(\sum \bar{X}_{bw} \hat{\beta}_{bw}) / (\sum \bar{X}_{bw} \hat{\beta}_{ww})] \times 100 = r_{bw}$ is the earnings difference because of race. This takes the estimated coefficients of white women and the characteristics of African American women to measure what African American women would earn had they faced the same wage structure as white women and had the same returns to these characteristics as do white women. It then compares this to the

actual earnings of African American women to estimate the wage disparity by race.

2c) $1 - [(\sum \bar{X}_{bw} \hat{\beta}_{bw}) / (\sum \bar{X}_{bw} \hat{\beta}_{wm})] \times 100 = t_{bw}$ is the total earnings difference because of the combined effect of race and gender. Here the estimated coefficients of white men and the characteristics of African American women measure what African American women would earn had they faced the same wage structure as white men and the same returns as the latter. This is compared to the actual earnings of African American women to estimate the wage disparity by both race and gender.

The results from 2a through 2c will be compared. This allows a comparison of the earnings disparities for African American women because of their gender separately from their race, as well as the extent to which both gender and race depress their earnings. If $2a > 2b$, or $g_{bw} > r_{bw}$, then the earnings disparity because of gender would be greater than that of race.

The effect of the intersection of race and gender on earnings will be assessed by comparing the sum of the race and gender penalties ($g_{bw} + r_{bw}$) to their combined effect, t_{bw} , i.e. if $2a + 2b \leq 2c$, or

$$3a) \quad g_{bw} + r_{bw} \geq t_{bw}$$

$$3b) \quad \text{Let } i_{bw} = g_{bw} + r_{bw}$$

Then if $g_{bw} + r_{bw} = t_{bw}$, or

$$[1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{bw})) \times 100] + [1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{wm})) \times 100] = [1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{wm})) \times 100],$$

the intersection of race and gender, $i_{bw} = 0$, and the total amount of race and gender penalties equals the sum of their separate parts.

Alternatively, If $g_{bw} + r_{bw} < t_{woc}$, or

$$[1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{bw})) \times 100] + [1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{ww})) \times 100] < [1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{wm})) \times 100],$$

then the intersection of race and gender, $i_{bw} < 0$, or the interaction between race and gender is negative, i.e., the total amount of earnings penalties from race and gender are greater than the sum of their separate parts.

Finally, if $g_{bw} + r_{bw} > t_{bw}$, or

$$[1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{bw})) \times 100] + [1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{ww})) \times 100] > [1 - (\sum (\bar{X}_{bw} \hat{\beta}_{bw}) / \sum (\bar{X}_{bw} \hat{\beta}_{wm})) \times 100],$$

then the interaction between race and gender, $i_{bw} > 0$, is positive; i.e. the total amount of penalties black women face because of their race and gender is less than the sum of the separate effects of race and gender.

I also decompose the earnings differences from equation 1 between African American women and other workers into two parts, the explained and unexplained components:

$$4a) \quad \sum (\bar{X}_o \hat{\beta}_o) - \sum (\bar{X}_{bw} \hat{\beta}_{bw}) = \sum \hat{\beta}_o (\bar{X}_o - \bar{X}_{bw}) + \sum \bar{X}_{bw} (\hat{\beta}_o - \hat{\beta}_{bw})$$

The log earnings gap = the explained portion of the gap + the unexplained gap

Where \bar{X}_{bw} is the means of the independent variables for African American women, \bar{X}_o

the means of the independent variables for other workers, $\hat{\beta}_{bw}$ the coefficients on the

variables for African American women, and $\hat{\beta}_o$ the coefficients on these variables for

other workers.

The first argument on the right side of equation 4a is the portion of the log earnings difference attributed to different levels of observable human capital. It is called the "explained" or non-discriminatory component of the wage gap, since differences in the characteristics of workers can explain the difference in earnings. The second argument on the right side of equation 4a is the difference in the log earnings gap attributed to different returns to the control variables. It is the "unexplained" portion of the wage gap. Because this portion is due to black workers receiving lower returns to their human capital than other workers, it is a measure of discrimination, the effect of unmeasured variables, or both.³

Decomposing the log earnings gap into these two components allows an examination of the extent to which differences in earnings between African American and other workers are due to differences in observable human capital or other characteristics, such as regional distributions, that are associated with higher earnings (called "human capital" in the remainder of this paper), versus the extent to which they are due to rewarding these traits differently by race or gender.⁴

This decomposition is performed for the gender, race, and total (combined race and gender) wage differences, are thus as follows:

$$4b) \quad \sum \bar{X}_{bw} \hat{\beta}_{bw} - \sum (\bar{X}_{bw} \hat{\beta}_{bw} = \sum \hat{\beta}_{bw} (\bar{X}_{bw} - \bar{X}_{bw}) + \sum \bar{X}_{bw} (\hat{\beta}_{bw} - \hat{\beta}_{bw}) \quad \text{for the gender gap}$$

$$4c) \quad \sum \bar{X}_{ww} \hat{\beta}_{ww} - \sum (\bar{X}_{bw} \hat{\beta}_{bw} = \sum \hat{\beta}_{ww} (\bar{X}_{ww} - \bar{X}_{bw}) + \sum \bar{X}_{bw} (\hat{\beta}_{ww} - \hat{\beta}_{bw}) \quad \text{for the race gap}$$

$$4d) \quad \sum \bar{X}_{wm} \hat{\beta}_{wm} - \sum (\bar{X}_{bw} \hat{\beta}_{bw} = \sum \hat{\beta}_{wm} (\bar{X}_{wm} - \bar{X}_{bw}) + \sum \bar{X}_{woc} (\hat{\beta}_{wm} - \hat{\beta}_{bw}) \quad \text{for the total}$$

(combined) race and gender gap.

Data

I use the 5% 1980 sample from the 1980 census, 1990 1% metro sample from the census, 2000 5% sample from the census, and the 2010 and 2017 American Community survey (5 year) samples from IPUMS for this analysis. Wage and salary workers between the ages of 24 and 64 with earnings between above \$1 and who worked full-time year-round were included in the sample. Hispanics and those in the Armed forces were excluded. Standard control variables are used, such as potential work experience and its square, and dichotomous variables for educational attainment, marital status, region of the country, residence in a central city, residence in a metropolitan area, the number of children, and the number of children under five, and broad industry and occupational groups.⁵

Previous research suggests that part of the race and gender earnings differences are the result of holding different jobs. Women have historically worked in jobs such as clerical occupations that pay less for their skills than the jobs that men hold, and black workers have historically been shut out of many industries that pay higher wages (Reskin and Roos, 1990; Reskin and Padavic, 1994; Amott and Matthei, 1991). Thus to examine the extent to which holding different jobs causes wage differences, I control for industry or occupation⁶ and whether or not one works in the government sector⁷. Working in different jobs can result from discrimination in hiring and promotion, but it can also result from a preference for working in different jobs or from holding different skill levels.⁸ Although examining the cause of occupational differences is beyond the scope of this paper, including controls for occupations allows an examination of the extent to which wage differences are caused by holding different jobs versus other factors (Blau and Beller, 1992).

Empirical Results

The results of the regressions from 1a were standard. Higher education levels, greater potential work experience, and living in a metropolitan area were correlated with higher earnings. Being female and African American were correlated with lower earnings. The results from the equations 2 are presented in Table 1. Notice that the gender penalties have declined over time, which is similar to the findings from other research. In 2017 these penalties fell to 12% from 20 to 21% in 1980. Notice also that the gender penalty is higher than the race penalty, which is 10-11% in 2017. It's unclear if the race penalty increases over time because of a real increase since 2000 (see Wilson and Rodgers, 2016) or because of the change in datasets used.

The total penalty of 33% is greater than the sum of both the race and gender penalties, leaving interaction penalties of 10-11 percent. This supports Kim (2009) that there is a negative interaction between race and gender, and that the intersection of race and gender imparts an additional penalty. Examining the decompositions in equation 4 (not shown) indicate that the race penalty is due to both explained and unexplained components. Different education levels and occupational segregation contributes to these earnings differences. But the unexplained portion indicates that African American women receive lower returns to their potential work experience, educational attainment, and industry employed compared to white women.

In contrast, for both the gender and total penalties, the unexplained component dominates. Their different returns to potential work experience and educational levels explain the total wage penalty; whereas there is no explanation for the gender component at all—this is mostly due to having a different constant (intercept) for African American

women compared to men. What is intriguing is that throughout this period of time, there remain gender, race and interaction penalties, with the sum of race and gender penalties less than the total black women face. These results indicate that African American women fare particularly poorly in labor markets in the US.

Asian American Women in the United States

A similar analysis was run for Asian American women born in the United States. These results are quite different, however. As Table 2 shows, there is no race penalty. The sign is negative, indicating that Asian American women hold an advantage over white women, and this advantage may be increasing slightly over time (although this slight increase could be the result of switching datasets in 2000). The gender penalty declines slightly over time, although it holds at approximately 16% for the past 17 years. The total wage gap also declines over time and remains at 10 percent.

The total gap is greater than the sum of the race and gender gaps. Although there is no race gap, there remains an intersectional component of approximately 3%, which has declined over time. How does one interpret these odd findings? How can there be an intersectional component of race and gender when there is no race penalty? The answer can be found in examining the decompositions in Equations 4. Technically, in calculating the racial penalty, I am comparing Asian women with white women. But most of the wage difference between these women is accounted for by the explained gap. Moreover, Asian women are more likely to attain a college degree or an advanced degree compared to white women. They are more likely to work in professional and managerial occupations, live in the Western region, and in metropolitan areas that pay higher wages.

Hence their wage advantage stems from these factors. The unexplained gap is very small, and very little is explained by differential returns to the variables in the regression.

The gender gap is calculated by comparing Asian women to Asian men. All of the earnings difference is attributed to the unexplained gap; especially the family variables: being married and the number of children reduces the earnings of women and rewards the earnings of men. Similarly, when examining the total gender gap for Asian women, the wage differences between Asian women and white men are all due to the unexplained portion of the wage decomposition. Besides potential work experience, being married and the number of children rewards white men and penalizes Asian women.

Stereotypes that are associated with social categories such as race also reflect common underlying dimensions that are gendered. Asians are associated with female—even Asian men are seen as effeminate. In contrast, African Americans—both men and women—are seen as masculine. This leads to Asian men and women as being seen as more competent than warm, and women and white Americans are perceived as less competent but having greater warmth. Asian Americans and women are perceived as shy, family orientated, and soft spoken. In contrast, African Americans and men are perceived as aggressive, dominant, athletic, and competitive. Asian American men, therefore, are less likely to be picked for leadership positions compared to African American men. (See Johnson et al., 2012; Galinski et al., 2013)

The result is that the race component in these findings are intertwined with the gender component. The absence of a racial component is because Asians are seen as effeminate. Asian Americans—both men and women—are perceived as feminine,

submissive, and docile. In addition, research indicates that there is more patriarchy in Asian cultures (Das, 2006; Hanson and Gilbert, 2012; Kibria, 1990). Thus the marriage penalty and penalty for having children is larger for foreign born Asians, resulting in larger estimated gender gaps (see Table 3). Thus the racial component is absent but present in the total penalty and in the intersectional penalty—because race is gendered and intertwined with gender and cannot be separated for Asian American women.

Conclusion

African American women continue to suffer from gender, race and intersectional penalties in their earnings in the US. Although Asian American women appear not to suffer from race penalties, they nevertheless face penalties from their gender and from the intersection of their gender and race. I find that gendered racism explain the gender, race, intersectional and total wage gaps for African American and Asian American women in the US. Whereas African Americans are perceived as inferior workers and Asian Americans as competent workers, these racial groups are gendered—with African Americans portrayed as masculine and Asian Americans as effeminate.

These play out in very different ways, with Asian American women's earnings depressed from patriarchy, from different expectations in the family, and/or from different expectations in the labor markets that lead to gendered and intersectional penalties. African American women, however, continue to suffer from all three penalties—from their race, gender, and intersectional penalties of race and gender. This research confirms that the intersection of gender and race is indeed complex and that it plays out quite differently for different racial/gender groups in remarkable ways.

References

- Almquist, Elizabeth M. 1975. "Untangling the Effects of Race and Sex: The Disadvantaged Status of Black Women." *Social Science Quarterly* 56(June): 130-142.
- Amott, Teresa L. and Julie Matthei. 1991. *Race, Gender and Work: A Multicultural History of Women in the United States*. Boston: South End Press.
- Bell, Ella L., Toni C. Denton, and Stella Nkomo. 1993. "Women of Color in Management: Toward an Inclusive Analysis." In *Women in Management: Trends, Issues, and Challenges in Managerial Diversity*, edited by Ellen A. Fagenson, pp. 105-130. Newbury Park, CA: Sage Publications.
- Bjerk, David. 2007. "The Differing Nature of Black-White Wage Inequality Across Occupational Sectors." *Journal of Human Resources* 42(Spring): 398-434.
- Blau, Francine D. and Andrea H. Beller. 1992. "Black-White Earnings Over the 1970s and 1980s: Gender Differences in Trends." *Review of Economics and Statistics*, 74(May): 276-86.
- Blau, Francine D., Marianne A. Ferber and Anne E. Winkler. 2006. *The Economics of Women, Men and Work*. Upper Saddle River, NJ: Pearson.
- Blinder, Alan S. 1973. "Wage Discrimination: Reduced Form and Structural Elements." *Journal of Human Resources* 8(fall): 436-55.
- Browne, Irene. 1999. *Latinas and African American Women at Work: Race, Gender, and Economic Inequality*. Russell Sage, NY.
- Browne, Irene and Joya Misra. 2003. "The Intersection of Gender and Race in the Labor Market." *Annual Review of Sociology*, 29: 487-513.

- Browne, Irene and Ivy Kennelly. 1999. "Stereotypes and Realities: Images of Black Women in the Labor Market." In *Latinas and African American Women at Work: Race, Gender, and Economic Inequality*, edited by Irene Browne, pp. 302-326. NY: Russell Sage.
- Cunningham, James S. and Nadja Zalokar, 1992. "The Economic Progress of Black Women, 1940-1980: Occupational Distribution and Relative Wages." *Industrial and Labor Relations Review* 45(April): 540-555.
- Darity, William A. Jr. and Patrick L. Mason. 1998. "Evidence on Discrimination in Employment: Codes of Color, Codes of Gender." *Journal of Economic Perspectives* 12(Spring): 63-90.
- Darity, William A. Jr., David K. Guilkey and William Winfrey. 1996. "Explaining Differences in Economic Performance Among Racial and Ethnic Groups in the USA: The Data Examined." *American Journal of Economics and Sociology* 55(October):411-425.
- Das, Sudipta. 2006. "Life in a Salad Bowl! Marriage, Family Life, and Economic Choices in Asian-American Communities in the United States." *Race, Gender and Class*, 13(1-2). 248-272.
- Farkas, George, Paula England, Keven Vicknair, and Barbara Stanek Kilbourne. 1997. "Cognitive Skill, Skill Demands of Jobs, and Earnings among Young European American, African American, and Mexican American Workers." *Social Forces* 75(March): 913-938.

- Galinsky, Adam, Erika Hall, and Amy Cuddy. 2013. "Gendered Races: Implications for Interracial Marriage, Leadership Selection, and Athletic Participation" *Psychological Science* 24(4): 498-506.
- Goldsmith, Arthur H., Darity, William Jr., and Veum, Jonathan R. 1998. "Race, Cognitive Skills, Psychological Capital and Wages." *Review of Black Political Economy* 26(fall): 9-21.
- Hanson, Sandra L. and Emily Gilbert. 2012. "Family, Gender and Science Experiences: The Perspective of Young Asian Americans." *Race, Gender & Class*, 19(3/4): 326-347
- Johnson, Kerri, Jonathan Freeman, and Kristn Pauker. 2012. "Race is Gendered: How Covarying Phenotypes and Stereotypes Bias Sex Categorization," *Journal of Personality and Social Psychology* 102(1): 116-131.
- Kibria, Nazli. 1990, "Power, patriarchy, and gender conflict in the Vietnamese immigrant community." *Gender & Society*, Vol 4(1): 9-24.
- Killingsworth, Mark R. 1987. "Heterogeneous Preferences, Compensating Wage Differentials and Comparable Worth." *Quarterly Journal of Economics*, 102(Nov.): 727-742.
- Kilbourne, Barbara, Paula England and Kurt Beron. 1994. "Effects of Individual, Occupational, and Industrial Characteristics on Earnings: Intersections of Race and Gender." *Social Forces* 72(June): 1149-1176.
- Kim, Marlene. 2002. "Has the Race Penalty for Black Women Disappeared in the United States?" *Feminist Economics* 8(July): 115-124.

- Kim, Marlene. 2009. "Race and Gender Differences in the Earnings of Black Women," *Industrial Relations* (July). 48(3): 466-88.
- Lang, Kevin and Manove, Michael. 2006. "Education and Labor-Market Discrimination," *National Bureau of Economic Research Working Paper Series* 12257(May).
- Neal, Derek A. and William R. Johnson. 1996. "The Role of Premarket Factors in Black-White Wage Differences." *Journal of Political Economy* 104 (Oct.): 869-893.
- Oaxaca, Ronald L. 1973. "Male-Female Differentials in Urban Labor Markets." *International Economic Review* 14(Oct.): 693-709.
- O'Neill, June. 1990. "The Role of Human Capital in Earnings Differences Between Black and White Men." *Journal of Economic Perspectives* 4(fall):25-45.
- Polacheck, Solomon W. 1979. "Occupational Segregation Among Women: Theory, Evidence, and a Prognosis." In *Women in the Labor Market*, edited by Cynthia B. Lloyd, Emily S. Andrews, and Curtis L. Gilroy, pp. 137-157. New York: Columbia University Press.
- Polacheck, Solomon W. 1981. "Occupational Self-Selection: A Human Capital Approach to Sex-Differences in Occupational Structure." *Review of Economics and Statistics* 58(Feb.): 60-69.
- Ragins, Belle Rose, Bickley Townsend, and Mary Mattis. 1998. "Gender Gap in the Executive Suite: CEOs and Female Executives Report on Breaking the Glass Ceiling." *Academy of Management Executive* 12(Feb.): 28-42.
- Reskin, Barbara F. and Irene Padavic. 1994. *Women and Men at Work*. Thousand Oaks, CA: Pine Forge Press.

- Reskin, Barbara F. and Patricia A. Roos. 1986. *Women's Work, Men's Work: Sex Segregation on the Job*, Washington, D.C: National Academy Press.
- Rodgers, William III, William E. Spriggs, and Elizabeth Waaler. 1998. "Education and the AFQT Score: What's Their Role in Explaining the Lower Relative Earnings of Blacks?" Mimeo.
- Rodgers, William III and William E. Spriggs. 1996. "What Does AFQT Really Measure: Race, Wages, Schooling and the AFQT Score." *Review of Black Political Economy* 24(Spring): 13-46.
- Schur, Lisa. 2003. "Contending with the "Double Handicap" Political Activism Among Women with Disabilities, *Women and Politics*, 25(1/2): 31-62
- Tomaskovic-Devey, Donald. 1993a. "The Gender and Race Composition of Jobs and the Male/Female, White/Black Pay Gaps." *Social Forces* 72(Sept.): 45-76.
- , 1993b. "Labor-Process Inequality and the Gender and Race Composition of Jobs." *Research in Social Stratification and Mobility*, 12: 215-247.
- Weinberger, Catherine and Lois Joy. 2007. "The Relative Earnings of Black College Graduates, 1980-2001. In *Race and Economic Opportunity in the Twenty-First Century*, edited by Marlene Kim, pp. 50-72. New York: Routledge.
- Wilson, Valerie and William Rodgers III. September 2016. Black-white wage gaps expand with rising wage inequality. Washington, D.C: Economic Policy Institute.
- Zalokar, Nadja. 1990. *The Economic Status of Black Women: An Exploratory Investigation*. Washington D.C.: US Commission on Civil Rights.

Table 1. African Americans in the US

	Year	1980	1990	2000	2010	2017
race gap		.0112513****	.0149537****	.0255768****	.0813617****	.1047861****
(s.e.)		0.0017179	0.0028761	0.0012022	0.0011026	0.0011503
gender gap		.2038925****	.1517788****	.1188837****	.1185322****	.1192653****
(s.e.)		0.0017337	0.0029128	0.0012086	0.0011043	0.0011504
race+ gender gap		.2151438****	.1667326****	.1444605****	.1998939****	.2240514****
(s.e.)		0.0034302	0.0057333	0.0023999	0.0021984	0.0022933
intersection estimate		.1446054****	.1229133****	.1148085****	.1069455****	.1067099****
(s.e.)		0.001723	0.0028831	0.001204	0.4852418	0.0011527
total gap		.3597492****	.2896459****	0.259269****	.3068394****	.3307613****
(s.e.)		0.0017527	0.0029229	0.0012187	0.0011224	0.001165
**** significant at 0.1 of 1%						

Table 2. US Born Asian

Asian Population Study:						
US born	Year	1980	1990	2000	2010	2017
race gap		-.0584496****	.0721999****	.0545763****	.0688576****	.0827444****
(s.e.)		0.0061166	0.0110117	0.0050119	0.0041701	0.0037165
gender gap		.2767832****	.218432****	.1618998****	.1410515****	.1561016****
(s.e.)		0.0063351	0.0111919	0.005097	0.0042221	0.0037255
race+ gender gap		.21833336****	.1462321****	.1073235****	.0721938****	.0733572****
(s.e.)		0.0122633	0.0219099	0.0100586	0.0083552	0.0073986
intersection estimate		.0791577****	.0508047****	.0508102****	.0516401****	.0302273****
(s.e.)		0.0061145	0.0110703	0.0050292	0.0041668	0.0036882
total gap		.2974913****	.1970368****	.1581337****	.1238339****	.1035845****
(s.e.)		0.0063967	0.0113642	0.0051552	0.0042929	0.0037864
**** significant at 0.1 of 1%						

Table 3. Foreign Born Asian

Asian Population Study:				
	Year	2000	2010	2017
race gap		-0.0153724****	-.0214353****	-0.0228559****
(s.e.)		0.002451	0.002037	0.0019837
gender gap		.1851042****	.1725827****	.1819525****
(s.e.)		0.0024386	0.0020205	0.0019746
race+ gender gap		.1697319****	.1511474****	.1590967****
(s.e.)		0.0048577	0.004024	0.0039228
intersection estimate		.0873548****	.089106****	.0803902****
(s.e.)		0.0024495	0.0020101	0.0019572
total gap		.2570867****	.2402534****	.2394869****
(s.e.)		0.0025082	0.0020859	0.0020179
**** significant at 0.1 of 1%				

Endnotes

¹ In the United States, much research has investigated race discrimination in earnings for black Americans (see Darity and Mason, 1999 for a summary of this literature). Typically these studies find that black men earn less than white men. Black men are paid less in part because they have lower skills than white men; in particular, they are less likely to have college degrees (Weinberger and Joy, 2007). But even when black men have the same observable educational and skill levels as white men, they still receive lower wages (Darity, Guilkey and Winfrey, 1996; Weinberger and Joy, 2007; see Darity and Mason, 1998, for a review of these studies). Research on the effects of race on black women's earnings has found similar results: black women earn less than white women who have the same skills (see Kim 2002, 2009 and Zalokar 1990; see however O'Neill, 1990)

² Tomaskovic-Devey (1993a, 1993b) examines the extent to which individual and job characteristics account for gender and race differences in earnings. Similarly, Kilbourne, England, and Beron (1994) examine whether the same factors (such as individual and job characteristics) that contribute to earnings differences by race affect men and women differently, and whether the factors that affect earnings differences by gender affect blacks and whites differently. Although these studies are important in suggesting the factors that contribute to wage differences, none of them examine the total wage disparities black women may face because of both their race and gender and thus how race and gender interact particularly for black women. They also neglect to examine the extent to which differential returns to human capital characteristics accounts for these wage disparities.

³ In research that examines earnings penalties by race or gender, a controversy exists regarding how to interpret such measures of earnings differences: whether these differences result from discriminatory treatment or from unmeasured variables. For research that uses race(gender) dummy variables to measure the effect of race (gender) on earnings, characteristics such as productivity or skill that are not included in the regression and that are also correlated with race(gender) would explain some of the differences attributed to race(gender). For example, if blacks have lower skill levels than white workers, and these differences are not fully captured by education or work experience controls, the race dummy variable may be measuring the effect of unmeasured skill level, not race, on earnings differences. This is why the debate on AFQT scores is important. If AFQT scores measure intelligence or skill, it is important to include them in regressions. However, if they are only correlated with race but fail to measure skill or intelligence, it is improper to include them. Much of the debate thus involves which variables should be included as controls.

A similar, but more complex argument exists for the results using the decomposition technique, since the measure of racial(gender) earnings penalties is the amount by which blacks(women) are receiving lower wage increases than whites(men) for higher increments of the control variables. Thus critics of these studies argue that blacks may be receiving lower returns to having a college degree compared to whites because they go to inferior schools. For studies of gender disparities, the argument is that women may be receiving lower returns to having a college education than white men because they major in the liberal arts rather than more lucrative areas such as engineering. Similarly, women may have lower returns to being married and having children than men because compared to men, women are working fewer hours per week or take off more time to raise children. It is very difficult to discern, without perfect control variables, whether these measures are due to unmeasured variables or differential treatment (although see Weinberger and Joy, forthcoming, for the persistence of race and gender disparities even when college major and educational institution are controlled for).

For purposes of this study, even if one assumes that black women have inferior educations compared to white women or white men, it would be difficult to argue that this is the case when comparing black women to black men. Thus although educational differences may be explained by racial differences in the quality of education, this would not explain the gender gap. Similarly, work hours or more precise measures of work experience may explain the gender gap in earnings between black men and black women, but it would not explain the racial gap in earnings between black women and white women. One can surmise that the persistent gender gaps may be explained by work hours and race gaps by educational quality, but it is difficult to explain the additional gap I find that is attributed to the intersection of race and gender this way.

⁴The decomposition technique is used for this analysis because it allows me to distinguish between these two effects; alternative methods, such as using dummy variables for race and gender, cannot distinguish between these. In addition, this technique is useful because I can estimate the wages black women would earn if they retained their mean characteristics but received the same returns to their observable human capital characteristics as black men, white women, and white men. Studies that examine earnings penalties by using dummy variables for race and gender cannot do this because by design they do not allow the slopes to vary by race and gender groups for the independent variables.

⁵ In NLSY samples the industry categories basically are defined as follows: 1. Agriculture, forestry, and fishers, mining, construction, manufacturing; 2. utilities, information and communications; 3. Wholesale and retail trade; 4. Transportation and warehousing; 5. Information and communications; 6. Finance, real estate, and insurance; 7. Professional and related services; 8. educational, health and social services; 9. Arts entertainment recreation accommodations and food services; 10. Other services; 11. public administration; 12. industry is uncodable (omitted group).

NLSY occupation categories: totally 21 groups defined according to their wage levels. The omitted group is the executive, administrative, and managerial occupations. Details are as follows: 1. executive, administrative, and managerial occupations; 2. management related occupations; 3. mathematical and computer scientists, engineers, architects and surveyors, physical scientists; 4. engineering and related technicians, life, physical and social science technicians; 5. counselors, social and religious workers; 6. lawyers, judges and legal support workers; 7. teachers; 8. education, training and library workers; 9. entertainers and performers, sports and related workers, media and communication workers; 10. health diagnosing and treating practitioners, entertainment attendants and related workers; 11. health care technical and support occupations; 12. protective service occupations; 13. food preparation and serving related occupations; 14. cleaning and building service occupations; 15. personal care and service workers, food preparation occupations; 16. sales and related workers; 17. office administrative support workers; 18. construction trades and extraction occupations, installation, maintenance and repairs workers; 19. production and operating workers; 20. setter, operators and tenders; 21. transportation and material moving workers.

⁶ Similar to Blau and Beller (1992), I had to combine some major occupations, due to such a small sample in some cells. Due to multicollinearity in my sample, I could not control for both occupation and industry.

⁷ This includes federal, state, and local government employees as well as those in the Post Office; they are designated as working in the “public administration” sector in the industrial codes.

⁸ There is a large debate around the cause of occupational segregation by race and gender. For segregation by gender, researchers posit that women may prefer different jobs than men (Killingsworth, 1987; Polachek, 1979, 1981) perhaps in order to have more flexible hours and more time with their children (see the discussion in chapter 6 of Blau et al., 2006; see also chapter 3 in Reskin and Roos, 1986). Anecdotal reports of women who graduated from Ivy League schools and worked in high level jobs but who drop out of the labor force to raise kids, either permanently or who return to work in very different jobs, often part-time and self-employed, support this premise (Conlin et al., 2002). Yet other evidence argues that women are not treated the same as men and for that reason many quit and start their own businesses or end up on lower career trajectories than men (Fierman, 1990; Bergmann, 1986; Ragins, 1998). Audit and correspondence studies indicate that women are less likely to be hired, promoted, or trained than similarly-qualified men, and they are less likely to be evaluated as well as similar men (see Bergmann, 1996 and Darity and Mason, 1998, for reviews of these studies; see also Goldin and Rouse, 1997; Neumark et al., 1995). In addition, if women but not men are expected to care for children, one cannot argue that women opting to work in jobs that allow them to care for children is entirely out of choice (Darity and Mason, 1998; Blau et al., 2006; Reskin and Roos, 1986). For segregation by race, researchers posit that differences in education and skill levels explain some occupational differences (see Farkas et al., 1997). Proof of this contention is that the education level of blacks is lower than that of whites. On the other hand, audit and correspondence studies indicate that blacks are less likely to be hired or interviewed for jobs than similar white applicants, supporting the premise that discrimination plays a role in occupational segregation (Bertrand and Mullainathan, 2004).