



March 2023

WOMEN IN THE WORKFORCE

Underrepresentation
in Management
Positions Persists,
and the Gender Pay
Gap Varies by
Industry and
Demographics

GAO Highlights

Highlights of [GAO-23-106320](#), a report to congressional requesters

Why GAO Did This Study

Research has shown that women in the U.S. workforce earn less than men and face challenges in advancing their careers. For example, in 2022, GAO reported that women were underrepresented in management positions. GAO was asked to further assess disparities for women in the U.S. workforce, including women's representation and pay by industry.

This report examines (1) women's representation in management positions, by industry, and the key characteristics of women and men in these positions; (2) differences in pay between women and men, by industry, for managers and non-managers; and (3) how pay differences between women and men vary based on key characteristics, for managers and non-managers.

GAO analyzed the U.S. Census Bureau's record-level American Community Survey (ACS) data from 2018, 2019, and 2021 (the most recent data available at the time of GAO's review). GAO did not analyze ACS data from 2020 because they were not sufficiently reliable due to data collection challenges early in the COVID-19 pandemic. To analyze pay differences, GAO used average pay for full-time, year-round workers. Because the ACS is a sample survey, all results presented in this report are estimates. All differences in this report are statistically significant at the 95 percent confidence level, unless otherwise noted. GAO's analysis is descriptive, and neither confirms nor refutes the presence of discriminatory practices. GAO did not control for any variables, including those that would be expected to affect pay and representation, such as hours worked beyond full time.

View [GAO-23-106320](#). For more information, contact Thomas Costa at (202) 512-4769 or costat@gao.gov.

March 2023

WOMEN IN THE WORKFORCE

Underrepresentation in Management Positions Persists, and the Gender Pay Gap Varies by Industry and Demographics

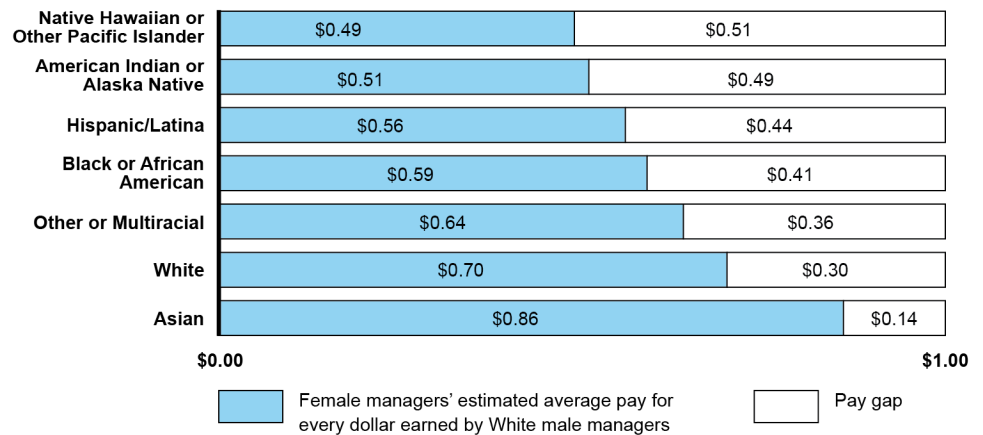
What GAO Found

In recent years, women remained underrepresented in management positions in most industries, and female and male managers had different demographic characteristics, according to GAO's analysis of U.S. Census Bureau data. For example, GAO estimated that in 2021, across all industries combined, 42 percent of managers were women, which was less than the percentage of women in non-management positions (48 percent). However, women's representation in management positions increased slightly, by less than 2 percentage points, between 2018 and 2021. In addition, in 2021, female managers were more likely than male managers to be under age 40 and have at least a bachelor's degree. Female managers were also less likely than male managers to be White, married, or have at least one child in their household.

GAO found that the gender pay gap varied widely across industries, and was greater for managers than non-managers, in recent years. In 2021, women working full time earned an estimated 76 cents for every dollar that men earned, on average, across all industries combined. Women's pay by industry ranged from an estimated 57 cents on the dollar in the Health Care and Social Assistance industry to 93 cents on the dollar in the Construction industry. Across all industries combined, the pay gap was greater for managers than for non-managers (an estimated 71 cents and 77 cents on the dollar, respectively).

GAO also found that the gender pay gap was greater in recent years for women with certain demographic characteristics. Among full-time managers in 2021, the pay gap varied considerably across racial and ethnic groups. For example, for every dollar earned by White men, on average, Native Hawaiian or Other Pacific Islander women earned an estimated 49 cents, and Asian women earned an estimated 86 cents. In addition, the pay gap was greater for female managers who were age 40 and older, had at least a bachelor's degree, were married, and had at least one child in their household. These findings were similar for women who were not managers.

Full-Time Female Managers' Estimated Average Pay for Every Dollar Earned by Full-Time, White Male Managers, by Race and Ethnicity, 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

Contents

Letter		1
	Background	4
	Women Remain Underrepresented in Management Positions, and Female and Male Managers Have Different Demographic Characteristics	7
	The Gender Pay Gap Varies Widely across Industries, and Is Greater for Managers than for Non-Managers	15
	The Gender Pay Gap Is Greater for Full-Time Female Managers and Non-Managers with Certain Demographic Characteristics	19
	Agency Comments	24
Appendix I	Objectives, Scope, and Methodology	25
Appendix II	Federal Government Datasets with Information on Women’s Workforce Representation and Pay	32
Appendix III	Women’s Estimated Representation by Industry, 2021	34
Appendix IV	GAO Contact and Staff Acknowledgments	36
Related GAO Products		37
Table		
	Table 1: Federal Government Datasets with Information on Women’s Workforce Representation and Pay	32

Figures

Figure 1: Women’s Estimated Representation in Management Compared to Non-Management Positions, by Industry, 2021	9
Figure 2: Industries with Increases in the Percentage of Female Managers from 2018 to 2021	11
Figure 3: Estimated Percentage of Female and Male Managers, by Key Characteristics, 2021	14
Figure 4: Women’s Estimated Average Pay for Every Dollar Earned by Men, for Full-Time Workers in the Overall Workforce and in Each Industry, 2021	16
Figure 5: Female Managers’ Estimated Average Pay for Every Dollar Earned by Male Managers, for Full-Time Workers in the Overall Workforce and Each Industry, 2021	18
Figure 6: Full-Time Female Managers’ Estimated Average Pay for Every Dollar Earned by Full-Time, White Male Managers, by Race and Ethnicity, 2021	20
Figure 7. Full-Time Female Managers’ Estimated Average Pay for Every Dollar Earned by Full-Time Male Managers, by Selected Demographic Characteristics, 2021	23
Figure 8. Estimated Percentage of Women in Each Industry, for Full-Time and Part-Time Workers, 2021	34

Abbreviations

ACS	American Community Survey
BLS	U.S. Bureau of Labor Statistics
DOL	U.S. Department of Labor
EEOC	U.S. Equal Employment Opportunity Commission
EEO-1	Employer Information Report
PUMS	Public Use Microdata Sample

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



March 14, 2023

The Honorable Jamie Raskin
Ranking Member
Committee on Oversight and Accountability
House of Representatives

The Honorable Debbie Dingell
House of Representatives

Prior research has shown that women in the U.S. workforce earn less than men and face challenges in advancing their careers.¹ Our December 2022 interim report found that women were underrepresented in management positions in the overall workforce.²

You asked us to further assess disparities for women in the U.S. workforce, including women’s representation and pay by industry. This report examines (1) women’s representation in management positions, by industry, and the key characteristics of women and men in these positions; (2) differences in pay between women and men, by industry, for managers and non-managers; and (3) how pay differences between women and men vary based on key characteristics, for managers and non-managers.³

To address all three objectives, we analyzed record-level data from the U.S. Census Bureau’s American Community Survey (ACS) for 2018,

¹See, for example, U.S. Census Bureau, Current Population Reports, P60-273, *Income and Poverty in the United States: 2020*, U.S. Government Publishing Office, Washington, DC, September 2021.

²For the purposes of that report, we considered women to be underrepresented in management positions when the percentage of women in management positions was smaller than the percentage of women in the overall workforce. See GAO, *Women in the Workforce: The Gender Pay Gap Is Greater for Certain Racial and Ethnic Groups and Varies by Education Level*, [GAO-23-106041](#) (Washington, D.C.: Dec. 15, 2022). Our March 2022 report had similar findings. See *Women in Management: Women Remain Underrepresented in Management Positions and Continue to Earn Less than Male Managers*, [GAO-22-105796](#) (Washington, D.C.: Mar. 7, 2022). For a complete list of our previous work in this area, see the Related GAO Products page at the end of this report.

³For the purposes of this report, we defined key characteristics as race, ethnicity, age, level of education, marital status, and the presence of at least one child in the household.

2019, and 2021.⁴ Because we analyzed record-level ACS data, the estimates in this report are not directly comparable to the estimates in our December 2022 interim report, for which we reviewed summary-level ACS data.⁵ We included ACS data on workers across 14 industries, which represent the entire civilian workforce.⁶ We defined “managers” as all individuals classified under the “manager occupation” category in the ACS.⁷ Our results may not be directly comparable to analyses using ACS data prior to 2018, when the classification system the Census Bureau uses to identify “manager occupations” was revised. For example, some of our estimates may not be directly comparable to those in our 2010 report.⁸ However, to provide context for our results, we have noted our relevant prior work as appropriate. For a complete list of our previous work in this area, see the Related GAO Products page at the end of this report.

To examine women’s representation in management positions, we compared the percentage of managers who were women to the percentage of non-managers who were women and the percentage of

⁴Specifically, we analyzed ACS 1-year estimates for each of these three years. At the time of our review, 2021 data were the most recent ACS data available. Due to data collection disruptions early in the COVID-19 pandemic, the Census Bureau determined that the estimates produced in the 2020 ACS did not meet statistical quality standards. We did not include the 2020 ACS data in this report.

⁵The two reports also analyze different measures of pay. For the December 2022 report, we analyzed published ACS data, which used median pay; see [GAO-23-106041](#). For this report, we analyzed record-level ACS data on average pay. Because the two reports analyzed different measures of pay, the specific pay estimates are slightly different.

⁶For the purposes of this report, we analyzed 14 industries, which generally align with the broad industry groups in the Census Bureau’s published ACS data. However, we separated “Educational Services and Health Care and Social Assistance” into two groups (“Educational Services” and “Health Care and Social Assistance”) to align with our prior work in this area. The 14 industries we analyzed were: Agriculture and Mining, Construction, Educational Services, Financial Activities, Health Care and Social Assistance, Information and Communications, Leisure and Hospitality, Manufacturing, Other Services, Professional and Business Services, Public Administration, Retail Trade, Transportation and Utilities, and Wholesale Trade. For more information, see appendix I.

⁷This category includes a range of occupations across industries, such as chief executives, food service managers, education and childcare administrators, emergency management directors, and construction managers.

⁸GAO, *Women in Management: Analysis of Female Managers’ Representation, Characteristics, and Pay*, [GAO-10-892R](#) (Washington, D.C.: Sept. 20, 2010).

women in the overall workforce.⁹ To describe key characteristics of female and male managers, we analyzed data on race, ethnicity, age, level of education, marital status, and the presence of at least one child in the household. To examine differences in pay between female and male managers and non-managers in the overall workforce and in each industry, we analyzed average wages or salary income over the prior 12 months for full-time, year-round workers. To examine how pay differences for women and men varied based on key characteristics, we generally compared women to men with the same demographic characteristics, such as women and men under age 40.¹⁰

We did not control for any variables in our analysis of pay differences or representation within management, including variables that would be expected to affect pay or representation, such as hours worked beyond full time.¹¹ Because the ACS is a sample survey, all of the ACS analysis results presented in this report are estimates and we express our confidence in the estimates with a 95 percent confidence interval.¹² All of the differences that we discuss in this report are significant at the 95 percent confidence level, unless otherwise noted. We characterized statistically significant differences smaller than 3 percentage points as “slight.” Our analysis is descriptive in nature, and neither confirms nor refutes the presence of discriminatory practices.

⁹The ACS asks survey respondents to identify their sex (male or female). In this report, we use the term “gender” to refer to these data, and we generally use the terms “men” and “women” to refer to individuals who identified their sex as male or female, respectively. However, for brevity, we describe women who were managers as “female managers” and men who were managers as “male managers.” The ACS does not ask about respondents’ gender identity. In some cases, a respondent’s gender identity may not align with the sex they identified in the ACS.

¹⁰For our analysis of pay differences by race and ethnicity, we compared average pay for women in each racial and ethnic group to average pay for White men.

¹¹By not controlling for factors that could or are expected to affect pay or representation, we were not able to isolate potential causes of differences in pay and managerial representation by gender. Since we did not control for factors such as hours worked, the differences between women and men in pay and managerial representation likely also partly reflect these differences.

¹²For more information about this confidence interval, see appendix I. Unless otherwise noted, all percentage estimates have a 95 percent margin of error that is within 1.7 percentage points, all average estimates have a 95 percent margin of error that is within 0.8 percent of the estimate itself, and all ratios (comparisons) of women’s estimated average pay for every dollar earned by men have a margin of error within \$0.04.

We assessed the reliability of the ACS data by reviewing documentation on the general design and methods of the ACS and on the specific elements of the data that we used in our analysis. We also completed our own electronic data testing to assess the accuracy and completeness of the data, and spoke with knowledgeable Census Bureau officials. Based on these efforts, we determined that the 2018, 2019, and 2021 data were sufficiently reliable for our purposes. For more information on our methodology, see appendix I. For information about other federal government data sources on women’s workforce representation and pay, see appendix II.

We conducted this performance audit from October 2022 to March 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Changes in Women’s Employment in Recent Years

The size of the overall U.S. workforce—including both full-time and part-time workers—declined from an estimated 158.8 million workers in 2019 to an estimated 156.5 million workers in 2021, according to ACS data. Of the estimated 2.3 million workers who left the workforce, about 1.5 million (or about 65 percent) were women, and about 820,000 (or about 35 percent) were men.¹³

These data are consistent with research conducted during the COVID-19 pandemic, which found larger initial declines in employment among women than men.¹⁴ For example, one study found that the initial negative effect of the pandemic on employment was larger for women than for men, even when controlling for industry and occupation, but those

¹³Each of these percentage estimates (65 percent and 35 percent) has a margin of error of plus or minus 4.8 percentage points at the 95 percent confidence level.

¹⁴For example, see Titan Alon, Sena Coskun, Matthias Doepke, David Koll, and Michèle Tertilt, “From Mancession to Shecession: Women’s Employment in Regular and Pandemic Recessions,” National Bureau of Economic Research Working Paper 28632 (2021).

different effects for women and men disappeared by February 2021.¹⁵ Another study found that, in 2020, women’s employment dropped further from pre-pandemic levels than men’s employment, and the gender gap was largest among workers with children.¹⁶ A third study found that the effects of the pandemic on employment were greater for women than for men and greater for younger workers than for older workers.¹⁷

Research has also found that some groups of women experienced greater employment declines than others during the pandemic. For example, the U.S. Bureau of Labor Statistics (BLS) found that early in the pandemic, employment declined more for Asian, Hispanic, and Black or African American women than for White women.¹⁸ In addition, BLS found that employment declined the most for women with less than a high school diploma, and declined the least for women with at least a college degree. Researchers continue to study the long-term impacts of the pandemic on women’s employment.

Factors that May Contribute to the Gender Pay Gap

Our 2020 report on the gender pay gap in the federal workforce found that differences between men and women in various factors—such as occupation, education, work experience, race and ethnicity, and veteran status—helped explain a small portion of the gender pay gap for federal workers.¹⁹ We found that the remaining portion of the pay gap for federal

¹⁵See Sang Yoon (Tim) Lee, Minsung Park, and Yongseok Shin. “Hit Harder, Recover Slower? Unequal Employment Effects of the COVID-19 Shock.” *Federal Reserve Bank of St. Louis Review*, Fourth Quarter 2021, 103(4), pp.367-83.

¹⁶See Stefania Albanesi and Jiyeon Kim. “Effects of the COVID-19 Recession on the US Labor Market: Occupation, Family, and Gender.” *Journal of Economic Perspectives* 35, no. 3 (2021): 3-24.

¹⁷See Amy Y. Guisinger, Laura E. Jackson, and Michael Owyang. “Age and Gender Differentials in Unemployment and Hysteresis.” Federal Reserve Bank of St. Louis Working Paper 2022-015 (2022).

¹⁸U.S. Bureau of Labor Statistics, *Spotlight on Statistics: Demographic Changes in Employment during the COVID-19 Pandemic*, February 2022, accessed on February 7, 2023, <https://www.bls.gov/spotlight/2022/demographic-changes-in-employment-during-the-pandemic/home.htm>.

¹⁹See GAO, *Gender Pay Differences: The Pay Gap for Federal Workers Has Continued to Narrow, but Better Quality Data on Promotions Are Needed*, [GAO-21-67](#) (Washington, D.C.: Dec. 3, 2020).

workers was not explained by gender differences in these factors.²⁰ Our report did not determine the reasons why race and ethnicity and veteran status contributed to the pay gap, or whether pay differences based on these and other factors reflected discrimination. By including race and ethnicity and veteran status in that analysis, we were not implying that pay differences based on these factors were justified or unaffected by discrimination. As part of our 2020 report, we also reviewed research on other factors that may help explain gender differences in pay in the overall workforce.²¹ The factors we identified in our literature search that affect pay differences included:

- differences in gender representation by occupation;
- parental status;
- the extent to which women and men negotiate starting salaries;
- performance-based pay systems, which are intended to be fair, but may not always be applied in objective ways;²² and
- overwork, or working 50 or more hours per week.

However, there may be other factors that contribute to the gender pay gap that we did not identify as part of our prior literature review.

²⁰This unexplained portion of the pay gap may be due to factors that were not captured in the data we analyzed, such as work experience outside the federal government, discrimination, and individual career choices.

²¹See [GAO-21-67](#).

²²We have previously reported on the importance of transparent and performance-based compensation systems. See GAO, *Results-Oriented Cultures: Modern Performance Management Systems Are Needed to Effectively Support Pay for Performance*, [GAO-03-612T](#) (Washington, D.C.: April 1, 2003).

Women Remain Underrepresented in Management Positions, and Female and Male Managers Have Different Demographic Characteristics

Women Remain Underrepresented in Management Positions, but the Percentage of Female Managers Increased at Least Slightly in Most Industries

In recent years, women were underrepresented in management positions across all U.S. industries combined, compared to their representation in non-management positions and in the overall workforce, according to our analysis of data from the Census Bureau's American Community Survey (ACS).²³ For example, we estimated that in 2021, 42.1 percent of managers were women. This was less than the percentage of women in non-management positions (48.1 percent) and the percentage of women in the overall workforce (47.4 percent). Women were also underrepresented in management positions in 2018 and 2019.²⁴ However, the percentage of female managers increased slightly, from 40.6 percent in 2018 to 42.1 percent in 2021.²⁵

²³For the purposes of this report, we considered women to be underrepresented in management positions when the percentage of women in management positions was smaller than the percentage of women in non-management positions. For our analysis of women's representation in management positions, we included women who worked both full time and part time. The results were generally similar when we limited the analysis to full-time workers. Because the ACS is a sample survey, all of the ACS analysis results presented in this report are estimates. All of the differences that we discuss in this report are significant at the 95 percent confidence level, unless otherwise noted.

²⁴In two prior reports, we similarly found that women were underrepresented in management positions. See [GAO-22-105796](#) and [GAO-10-892R](#). Due to data collection disruptions early in the COVID-19 pandemic, the Census Bureau determined that the estimates produced in the 2020 ACS did not meet statistical quality standards. We did not analyze data from 2020.

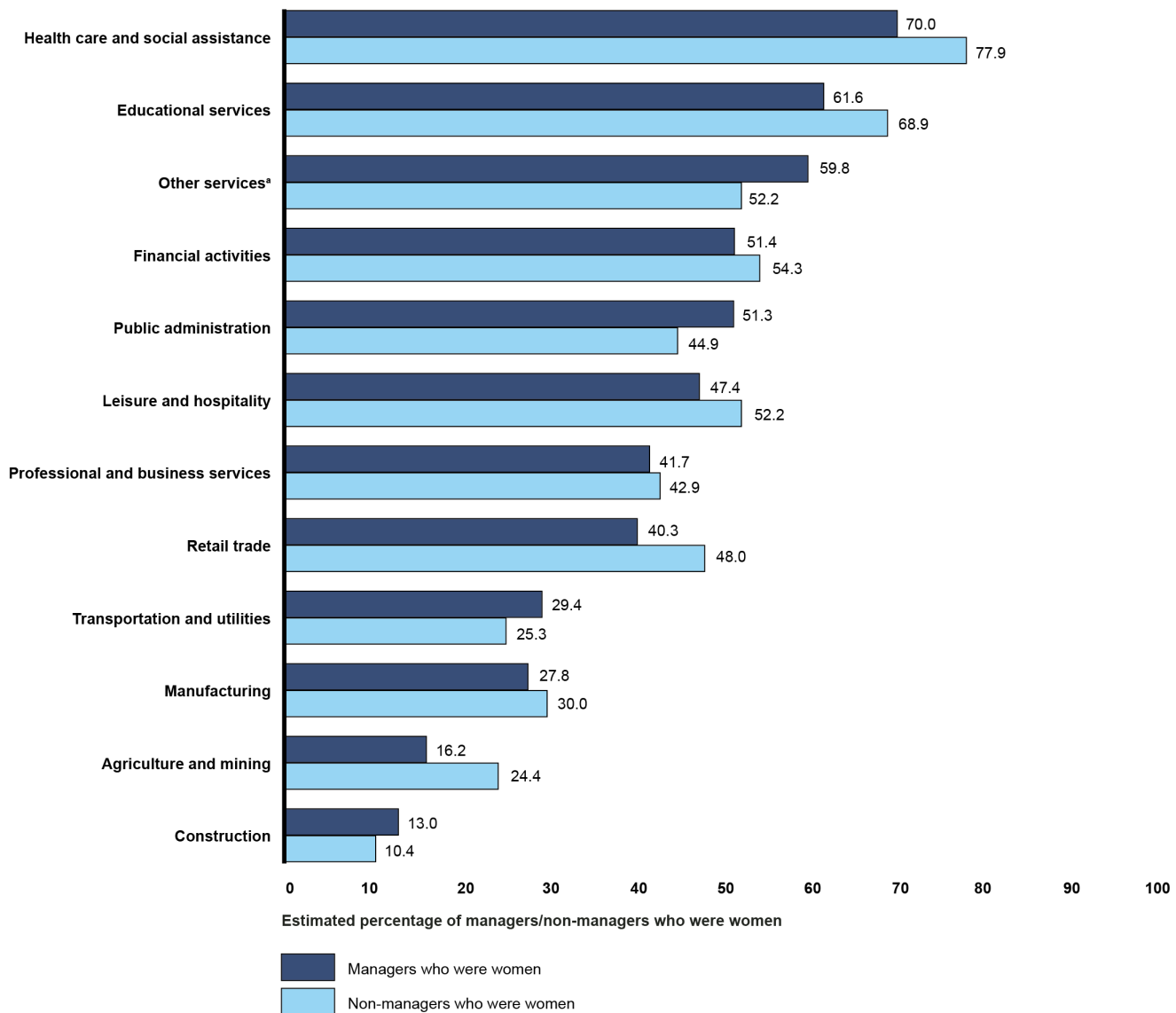
²⁵For the purposes of this report, we defined a slight increase as an increase of less than 3 percentage points. In our 2010 report, we found that the percentage of female managers was about 40 percent in 2007. See [GAO-10-892R](#).

At the industry level, women were underrepresented in management positions in most industries in recent years, compared to their representation in non-management positions, according to our analysis of ACS data. In 2021, women's representation in management positions varied by industry, from 13 percent in the Construction industry to 70 percent in the Health Care and Social Assistance industry. For that year, we estimated that women were underrepresented in management positions in eight of the 14 industries we analyzed.²⁶ See figure 1. Conversely, we estimated that the percentage of women in management positions was larger than the percentage of women in non-management positions in four industries. In the remaining two industries, women's representation in management positions was similar to their representation in non-management positions.²⁷

²⁶The 14 industries we analyzed were Agriculture and Mining, Construction, Educational Services, Financial Activities, Health Care and Social Assistance, Information and Communications, Leisure and Hospitality, Manufacturing, Other Services, Professional and Business Services, Public Administration, Retail Trade, Transportation and Utilities, and Wholesale Trade.

²⁷In these two industries (Information and Communications and Wholesale Trade), the difference between the percentage of female managers and the percentage of female non-managers was not statistically significant at the 95 percent confidence level.

Figure 1: Women’s Estimated Representation in Management Compared to Non-Management Positions, by Industry, 2021



Source: GAO analysis of the U.S. Census Bureau’s American Community Survey (ACS) data. | GAO-23-106320

Note: We analyzed ACS data for the full-time and part-time civilian workforce age 16 and over. All estimates in this figure have a margin of error within plus or minus 1.6 percentage points at the 95 percent confidence level. Differences in women’s representation between managers and non-managers were statistically significant at the 95 percent confidence level for all industries in the figure. These differences were not statistically significant for the Information and Communications and Wholesale Trade industries, which are not included in the figure.

^aOther Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

According to our analysis of ACS data, the industries in which women were underrepresented in management positions included most industries in which women made up the majority of the workforce. For example, in 2021, women made up the majority of the workforce in five of the 14 industries: Educational Services, Financial Activities, Health Care and Social Assistance, Leisure and Hospitality, and Other Services.²⁸ In all of these industries except Other Services, women were underrepresented in management positions, compared to their representation in non-management positions.²⁹ For example, in the Educational Services industry, 61.6 percent of managers were women, and 68.9 percent of non-managers were women.³⁰

Although women remained underrepresented in management positions overall, women's representation in management positions has increased at least slightly in most industries in recent years, according to our analysis of ACS data. Specifically, we estimated that between 2018 and 2021, in 10 of the 14 industries, the increase in the percentage of female managers ranged from 1.3 percentage points (in the Construction industry) to 5.3 percentage points (in the Other Services industry). See figure 2. In the other four industries, the percentage of female managers remained similar over that period.³¹

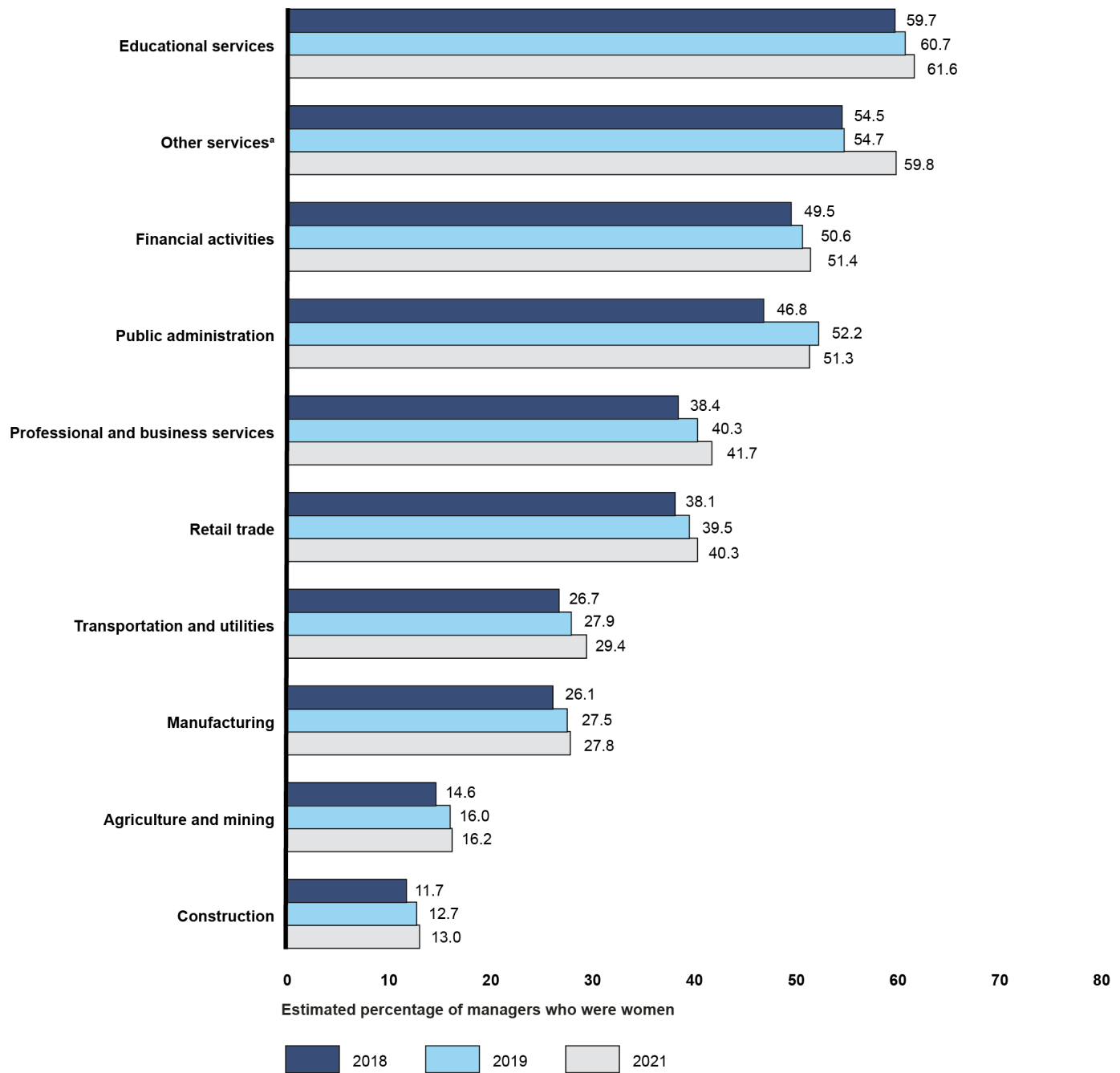
²⁸For the percentage of women in each industry in 2021, see appendix III.

²⁹Other Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

³⁰In the Financial Activities industry, women comprised about 51.4 percent of managers, and 54.3 percent of non-managers. In the Health Care and Social Assistance industry, women comprised about 70 percent of managers, and 77.9 percent of non-managers. In the Leisure and Hospitality industry, women comprised about 47.4 percent of managers and 52.2 percent of non-managers. In the Other Services industry, women comprised about 59.8 percent of managers and 52.2 percent of non-managers.

³¹None of the other four industries had a statistically significant increase or decrease in the percentage of female managers between 2018 and 2021.

Figure 2: Industries with Increases in the Percentage of Female Managers from 2018 to 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

Note: We analyzed ACS data for the full-time and part-time civilian workforce age 16 and over. All estimates in this figure have a margin of error within plus or minus 1.7 percentage points at the 95

percent confidence level. Differences between 2018 and 2021 in women's representation in management positions in the 10 industries shown were statistically significant at the 95 percent confidence level. Changes between 2018 and 2021 in women's representation in the other four industries—Health Care and Social Assistance; Information and Communications; Leisure and Hospitality; and Wholesale Trade—were not statistically significant at the 95 percent confidence level.

³Other Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

Female Managers Were More Likely than Male Managers to Be under 40 and Have at Least a Bachelor's Degree, among Other Differences

As shown in figure 3, our analysis of ACS data shows that in 2021, as compared to male managers:³²

- **Female managers were more likely to be under 40.** We estimated that in 2021, 38.1 percent of female managers were under 40, compared to 31.2 percent of male managers. The percentages of female managers who were under 40 in 2018 and 2019 were similar to those in 2021.³³
- **Female managers were more likely to have at least a bachelor's degree.** We estimated that in 2021, 59.8 percent of female managers had a bachelor's degree or higher, compared to 55.2 percent of male managers. The percentage of female managers who had at least a bachelor's degree increased slightly, by about 2 percentage points, from 2018 to 2021.
- **Female managers were less likely to be White.** We estimated that in 2021, 66.2 percent of female managers were White, compared to 71.9 percent of male managers.³⁴ Furthermore, the percentages of male and female managers who were White declined between 2019 and 2021. Specifically, we estimated that the percentage of female managers who were White decreased from about 69.3 percent in 2019 to 66.2 percent in 2021. Similarly, the percentage of male

³²For our analysis of demographic characteristics of female and male managers, we included managers who worked both full time and part time. The results were generally similar when we limited the analysis to full-time workers.

³³The differences between the percentages of female managers who were under 40 between 2018 and 2021 and between 2019 and 2021 were not statistically significant at the 95 percent confidence level.

³⁴In our analysis, the White category included only respondents who did not identify as Hispanic. Similarly, the American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and Other or Multiracial categories included only non-Hispanic respondents.

managers who were White fell from about 74.6 percent in 2019 to 71.9 percent in 2021.³⁵

- **Female managers were less likely to be married.** We estimated that in 2021, 58.4 percent of female managers were married, compared to 71.6 percent of male managers. The percentages of female managers who were married in 2018 and 2019 were similar to those in 2021.³⁶
- **Female managers were less likely to have at least one child in their household.** We estimated that in 2021, 35.5 percent of female managers had at least one child in their household, compared to 38.2 percent of male managers.³⁷ The percentages of female managers who had at least one child in their household in 2018 and 2019 were similar to those in 2021.³⁸

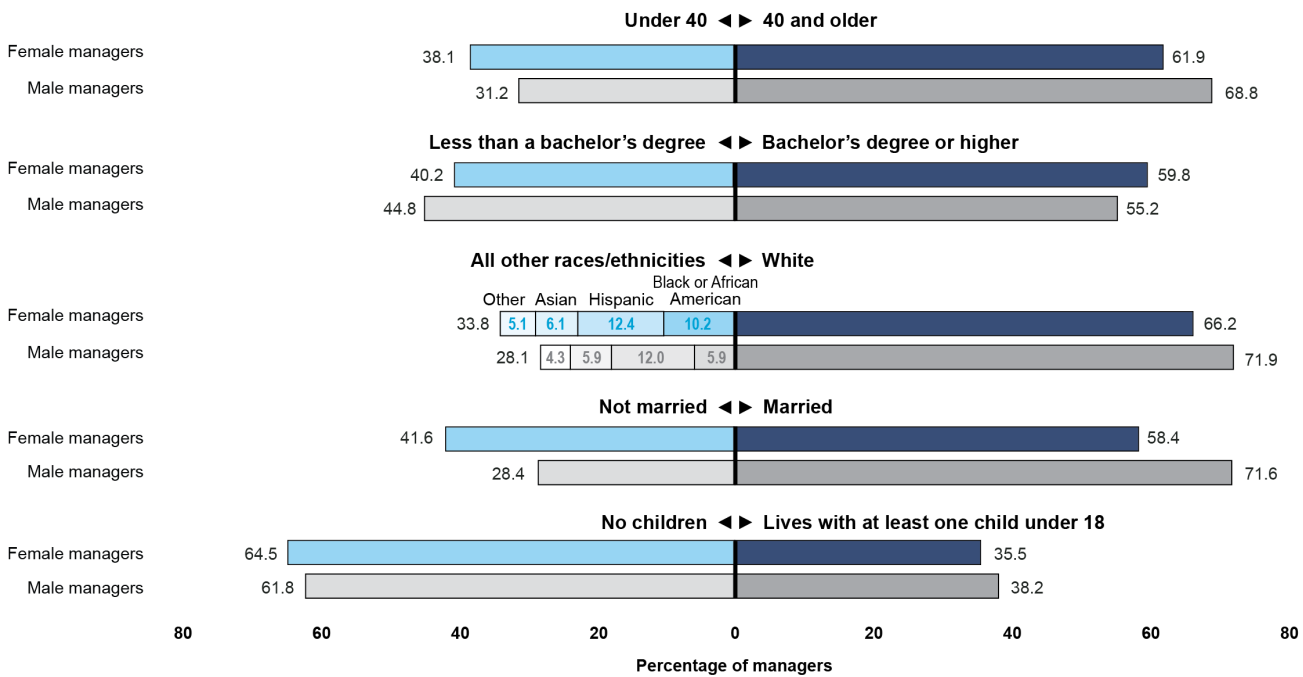
³⁵During the same time period, the percentages of female and male managers who identified as Other or Multiracial increased by 2.2 and 2.1 percentage points, respectively. The percentages of female and male managers who identified as American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and Hispanic (any race) remained about the same in 2019 and 2021.

³⁶The difference between the percentage of female managers who were married in 2019 and 2021 was not statistically significant at the 95 percent confidence level.

³⁷For the purposes of this report, we define “had at least one child in their household” to mean living in a household with at least one of their own children under the age of 18. The Census Bureau defines the presence of one’s own children as the presence of the respondent’s biological, adopted, or stepchildren under the age of 18 in the same household as the respondent.

³⁸The percentage of female managers with at least one child in their household was 34.5 percent in 2018 and 34.8 in 2019. The difference in this percentage between 2018 and 2019 was not statistically significant at the 95 percent confidence level. However, the differences in this percentage between 2018 and 2021, and between 2019 and 2021, were statistically significant.

Figure 3: Estimated Percentage of Female and Male Managers, by Key Characteristics, 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

Note: We analyzed ACS data for the full-time and part-time civilian workforce age 16 and over. All estimates in this figure have a margin of error within plus or minus 0.5 percentage points at the 95 percent confidence level. Differences between the percentage of female and male managers with each characteristic were statistically significant at the 95 percent confidence level, except for differences between (1) the percentage of female and male managers who were Asian and (2) the percentage of female and male managers who were Hispanic or Latino.

The Asian, Black or African American, Other, and White categories include only non-Hispanic respondents. The Other category includes the following groups: American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and Other or Multiracial.

Living with at least one child under 18 refers to a respondent's "own children," which the Census Bureau defines as biological, adopted, or stepchildren under the age of 18.

The Gender Pay Gap Varies Widely across Industries, and Is Greater for Managers than for Non-Managers

Across Industries, Women Working Full Time Earned between 57 and 93 Cents for Every Dollar Earned by Men Working Full Time

Our analysis of ACS data on full-time workers shows that women earned less than men in recent years across all industries combined.³⁹ For example, we estimated that, in 2021, women who worked full time earned about 76 cents for every dollar that men earned (an overall pay gap of 24 cents on the dollar), on average.⁴⁰ That year, women earned an estimated \$19,944 less than men, on average (women earned an estimated \$61,715, compared to an estimated \$81,659 for men). This overall gender pay gap was about the same in 2018 and 2019, when women earned about 75 cents for every dollar earned by men (an overall pay gap of about 25 cents on the dollar).⁴¹

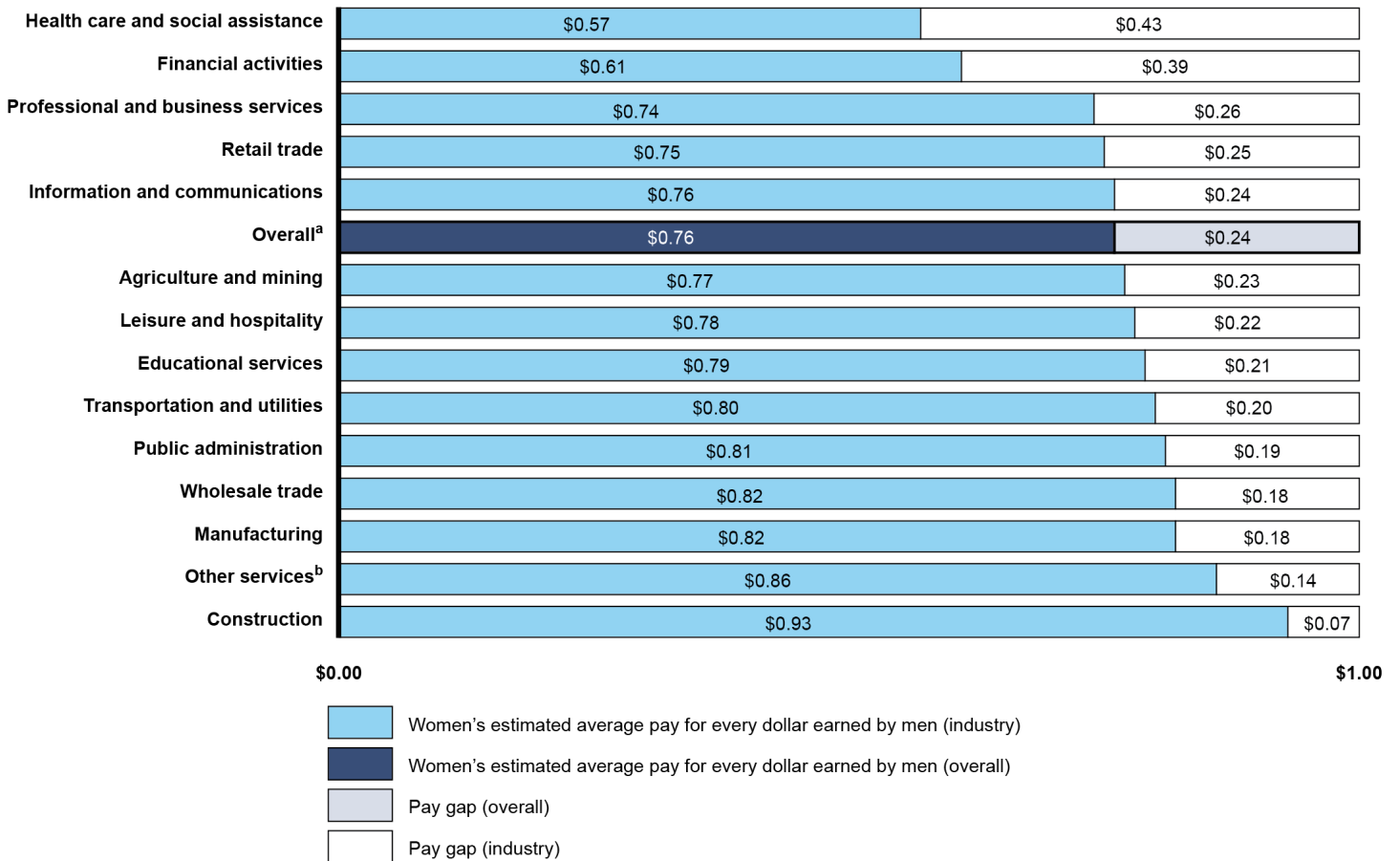
At the industry level, the size of the gender pay gap varied widely across industries in recent years. As shown in figure 4, for every dollar earned by men in 2021, we estimated that women earned between 57 cents (in the Health Care and Social Assistance industry) and 93 cents (in the Construction industry), on average. In other words, the pay gap was greatest in the Health Care and Social Assistance industry (43 cents on the dollar) and smallest in the Construction industry (7 cents on the dollar).

³⁹For our analysis of the gender pay gap across all industries combined, we included all full-time workers, whether they were managers or non-managers.

⁴⁰The pay gap can be estimated using average pay or median pay. For the purposes of this report, we estimated the pay gap using average pay.

⁴¹The differences between the overall pay gap in 2018, 2019, and 2021 were not statistically significant at the 95 percent confidence level.

Figure 4: Women’s Estimated Average Pay for Every Dollar Earned by Men, for Full-Time Workers in the Overall Workforce and in Each Industry, 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

Note: We analyzed ACS data for the full-time, year-round civilian workforce age 16 and over. All estimates in this figure have a margin of error within plus or minus \$0.03 at the 95 percent confidence level. Women's estimated average pay was significantly less than men's estimated average pay at the 95 percent confidence level for all industries and for the overall workforce. Differences in women's estimated average pay for every dollar earned by men between each industry and the overall workforce were statistically significant at the 95 percent confidence level in all cases except in the Agriculture and Mining, Information and Communications, and Retail Trade industries. We did not assess the statistical significance of the differences in women's estimated average pay for every dollar earned by men between industries.

^aThe Overall category includes all industries combined.

^bOther Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

In recent years, the gender pay gap was greater in three industries than the overall pay gap, smaller in eight industries than the overall pay gap, and about the same in three industries as the overall pay gap, according to our analysis of ACS data.⁴² For example, in 2021, in the Educational Services industry, women earned an estimated 79 cents for every dollar earned by men—a pay gap of 21 cents on the dollar, which was smaller than the overall pay gap of 24 cents on the dollar, on average. However, in the Financial Activities industry, women earned an estimated 61 cents for every dollar earned by men—a pay gap of 39 cents on the dollar, which was larger than the overall pay gap.

The Gender Pay Gap Was Greater for Managers than for Non-Managers in the Overall Workforce

Our analysis of ACS data shows that female managers continued to earn less than male managers across all industries combined, and within each industry, in 2021.⁴³ In addition, across all industries, the gender pay gap for managers was greater than the pay gap for non-managers. Specifically, we estimated that female managers earned about 71 cents for every dollar that male managers earned (a pay gap of 29 cents on the dollar), and female non-managers earned 77 cents for every dollar that male non-managers earned (a pay gap of 23 cents on the dollar), on average. That year, female managers earned an estimated \$37,022 less than male managers, on average (female managers earned an estimated \$90,197, compared to an estimated \$127,219 for men). Across all industries, the gender pay gaps for managers and for non-managers were similar in 2018 and 2019.

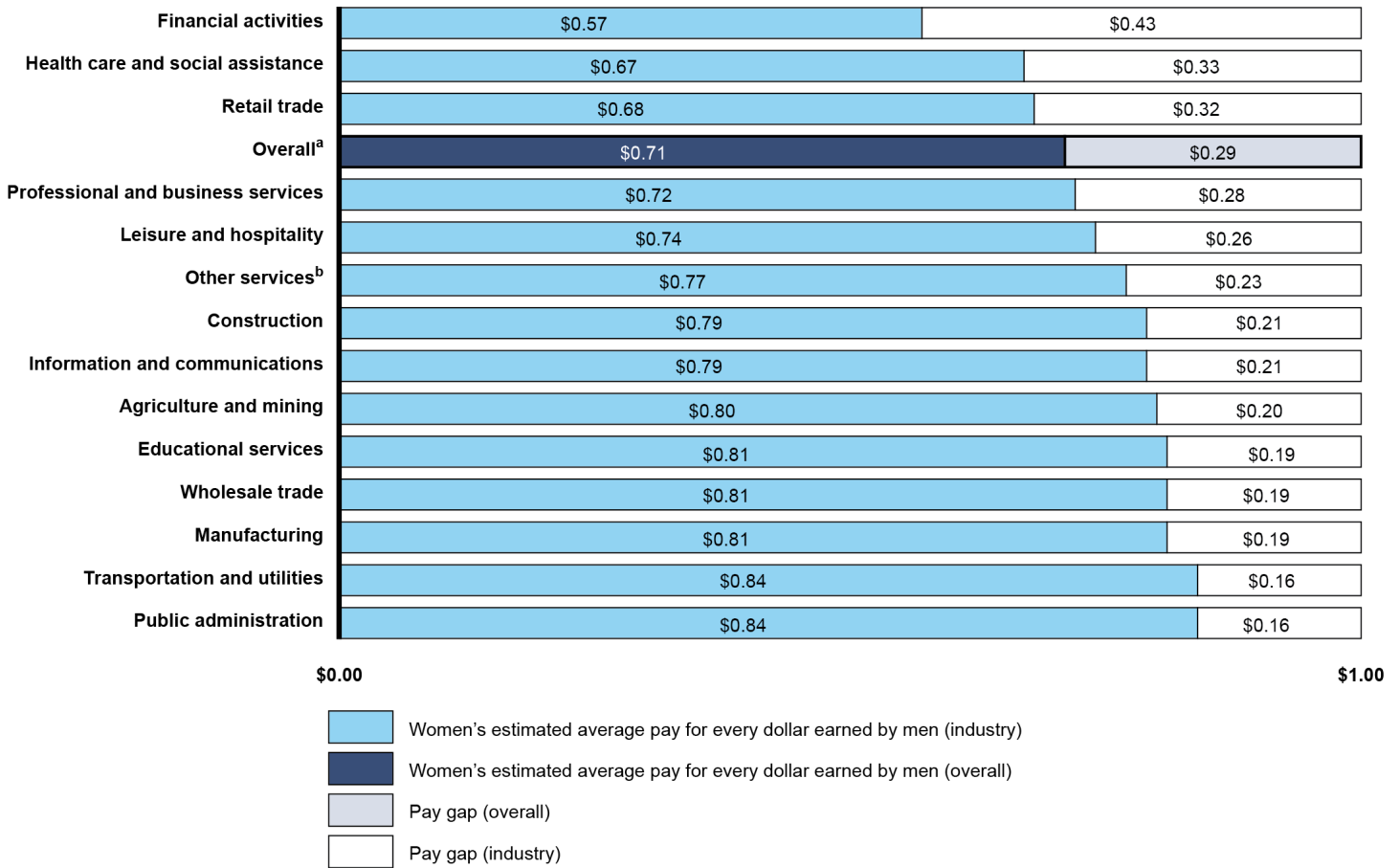
Like the overall pay gap, the gender pay gaps for managers and non-managers varied widely by industry. Specifically, across the 14 industries in 2021, for every dollar earned by male managers, we estimated that female managers earned between 57 cents in the Financial Activities industry (a pay gap of 43 cents on the dollar) and 84 cents in both the Public Administration and Transportation and Utilities industries (a pay

⁴²The three industries in which the pay gap was greater than the overall pay gap had an estimated 21.1 million full-time female workers combined in 2021. The eight industries in which the pay gap was smaller than the overall pay gap had an estimated 20.1 million full-time female workers combined in 2021. However, we did not establish a causal link between the size of the pay gap and the number of female workers in these groups of industries.

⁴³In our 2022 and 2010 reports, we similarly found that female managers earned less than male managers across all industries combined. See [GAO-22-105796](#) and [GAO-10-892R](#). In our 2010 report, we also found that female managers earned less than male managers in 13 of the 14 industries we analyzed for this report. We did not analyze the Agriculture and Mining industry for our 2010 report.

gap of 16 cents on the dollar).⁴⁴ See figure 5. In the same year, for every dollar earned by male non-managers, we estimated that female non-managers earned between 56 cents in the Health Care and Social Assistance industry (a pay gap of 44 cents on the dollar) and 94 cents in the Construction industry (a pay gap of 6 cents on the dollar).

Figure 5: Female Managers’ Estimated Average Pay for Every Dollar Earned by Male Managers, for Full-Time Workers in the Overall Workforce and Each Industry, 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

⁴⁴The pay gap for managers was greater than the overall pay gap for managers in two industries, which had an estimated 2 million full-time female managers combined in 2021. The pay gap for managers was smaller than the overall pay gap for managers in nine industries, which had an estimated 2.5 million full-time female managers combined in 2021. However, we did not establish a causal link between the size of the pay gap and the number of female workers in these groups of industries.

Note: We analyzed ACS data for the full-time, year-round civilian workforce age 16 and over. All estimates in this figure have a margin of error within plus or minus \$0.04 at the 95 percent confidence level, except for Wholesale Trade (\$0.07), Agriculture and Mining (\$0.07), Transportation and Utilities (\$0.06), and Information and Communications (\$0.06). Women's estimated average pay was significantly less than men's estimated average pay at the 95 percent confidence level for all industries and for the overall workforce. Differences in women's estimated average pay for every dollar earned by men between each industry and the overall workforce were statistically significant at the 95 percent confidence level in all cases except in the Leisure and Hospitality, Professional and Business Services, and Retail Trade industries. We did not assess the statistical significance of the differences in women's estimated average pay for every dollar earned by men between industries.

^aThe Overall category includes all industries combined.

^bOther Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

The Gender Pay Gap Is Greater for Full-Time Female Managers and Non-Managers with Certain Demographic Characteristics

According to our analysis of ACS data, the gender pay gap was greater for women with certain demographic characteristics, including women in some racial and ethnic groups, women who were 40 and older, women who were married, and women who had at least one child in their household.

Race and Ethnicity

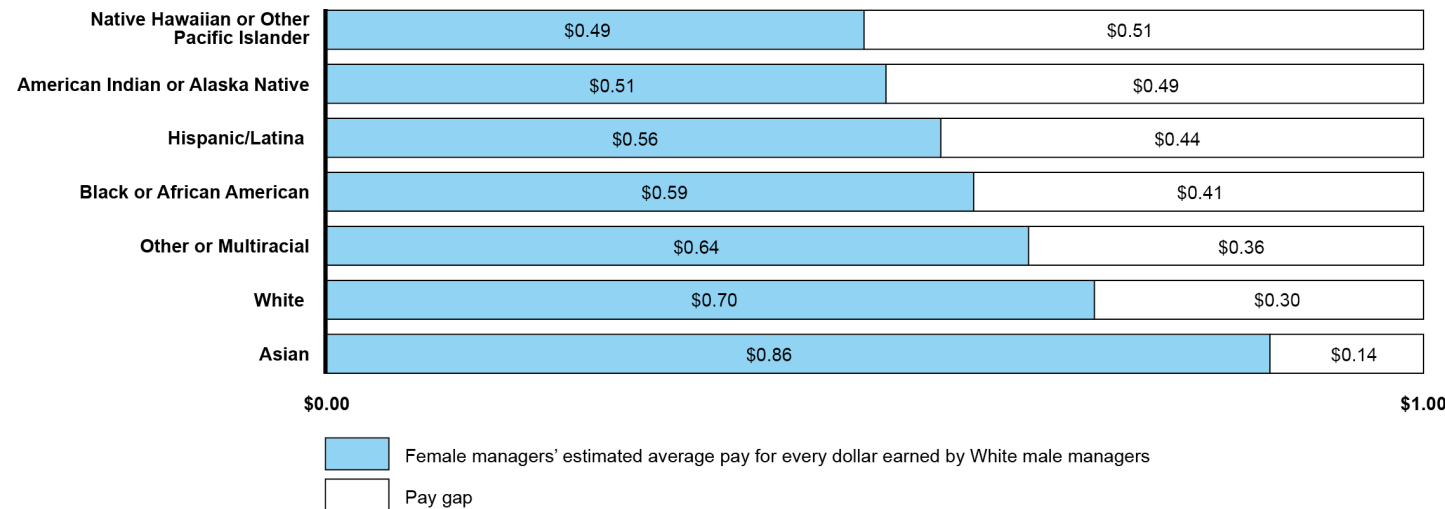
In recent years, among managers who worked full time, the gender pay gap varied considerably across racial and ethnic groups, according to our analysis of ACS data. We compared average pay for female managers in each racial and ethnic group to average pay for White male managers (see fig. 6).⁴⁵ For example, among female managers in 2021, we found that the pay gap was greatest for Native Hawaiian or Other Pacific Islander women, who earned an estimated 49 cents for every dollar earned by White male managers (a pay gap of 51 cents).⁴⁶ That year, the pay gap was smallest for Asian female managers, who earned an estimated 86 cents for every dollar earned by White male managers (a

⁴⁵We used ACS data on full-time managers to calculate women's estimated average pay by race and ethnicity as a percentage of White men's estimated average pay in 2018, 2019, and 2021. These data are for year-round workers with pay, who were 16 and older, across all industries.

⁴⁶This estimate has a margin of error of plus or minus \$0.08 at the 95 percent confidence level.

pay gap of 14 cents on the dollar).⁴⁷ Among managers in 2018 and 2019, compared to White men, the differences in the gender pay gap by race and ethnicity were generally similar to these differences in 2021. Our 2022 and 2020 reports had similar findings regarding variation in the pay gap by race and ethnicity.⁴⁸

Figure 6: Full-Time Female Managers' Estimated Average Pay for Every Dollar Earned by Full-Time, White Male Managers, by Race and Ethnicity, 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

Notes: For all of the race categories (Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native, Black or African American, Other or Multiracial, White, and Asian), we included only those who did not identify as Hispanic or Latina. The Hispanic or Latina category includes Hispanics of all races.

Women's estimated average pay for each group was significantly less than White men's estimated average pay at the 95 percent confidence level. Estimated differences in women's average pay for every dollar earned by White men between the following groups were not statistically significant at the 95 percent confidence level (1) Native Hawaiian or Other Pacific Islander women and American Indian or Alaska Native women, and (2) Native Hawaiian or Other Pacific Islander women and Hispanic/Latina women. All estimates in this figure had a margin of error within plus or minus \$0.04 at

⁴⁷While researchers have found that the pay gap for Asian women as a group is smaller than for White women, compared to White men, researchers have also found variation in the pay gap among subgroups of Asian people. For example, researchers analyzed data from the Census Bureau's ACS and Current Population Survey and found that from 2015 to 2019, Taiwanese women earned about \$1.21 for every dollar earned by White men, while Vietnamese women earned about 63 cents for every dollar earned by White men. Center for American Progress: *The Economic Status of Asian American and Pacific Islander Women* (Washington, D.C.: Mar. 4, 2021).

⁴⁸See [GAO-21-67](#), [GAO-22-105796](#), and [GAO-23-106041](#).

the 95 percent confidence level, except the estimate for Native Hawaiian or Other Pacific Islander women, which had a margin of error of \$0.08.

Similarly, compared to White male non-managers, the pay gap for female non-managers varied across racial and ethnic groups in recent years, based on our analysis of ACS data.⁴⁹ For example, in 2021, the pay gap ranged from an estimated 29 cents on the dollar for female non-managers who identified as Other or Multiracial to 6 cents on the dollar for those who were Asian.⁵⁰ Compared to White male non-managers, differences in the pay gap by race and ethnicity for female non-managers in 2018 and 2019 were similar to these differences in 2021.

Age, Education Level, Marital Status, and Presence of at Least One Child in the Household

In recent years, compared to full-time male managers with the same demographic characteristics, the gender pay gap for full-time, female managers was greater for women 40 and older, women with higher levels of education, married women, and women with children, according to our analysis of ACS data. As shown in figure 7, in 2021, the pay gap was greater for:

- **Women 40 and older.** Among managers who were 40 and older, women earned an estimated 71 cents for every dollar earned by men (a pay gap of 29 cents). Among managers under 40, women earned an estimated 77 cents for every dollar earned by men (a pay gap of 23 cents).
- **Women who had at least a bachelor's degree.** Among managers with a bachelor's degree or higher, women earned an estimated 69 cents for every dollar earned by men (a pay gap of 31 cents). Among managers with less than a bachelor's degree, women earned an

⁴⁹We used ACS data on full-time non-managers to calculate women's estimated average pay by race and ethnicity as a percentage of White men's estimated average pay in 2018, 2019, and 2021. These data are for year-round workers with pay who were age 16 and over, across all industries.

⁵⁰Among non-managers in 2021, the differences in average pay (for every dollar earned by White men) between the following groups were not statistically significant at the 95 percent confidence level: (1) American Indian or Alaska Native women and Hispanic or Latina women, and (2) Black or African American women and Native Hawaiian or Other Pacific Islander women.

estimated 71 cents for every dollar earned by men (a pay gap of 29 cents).⁵¹

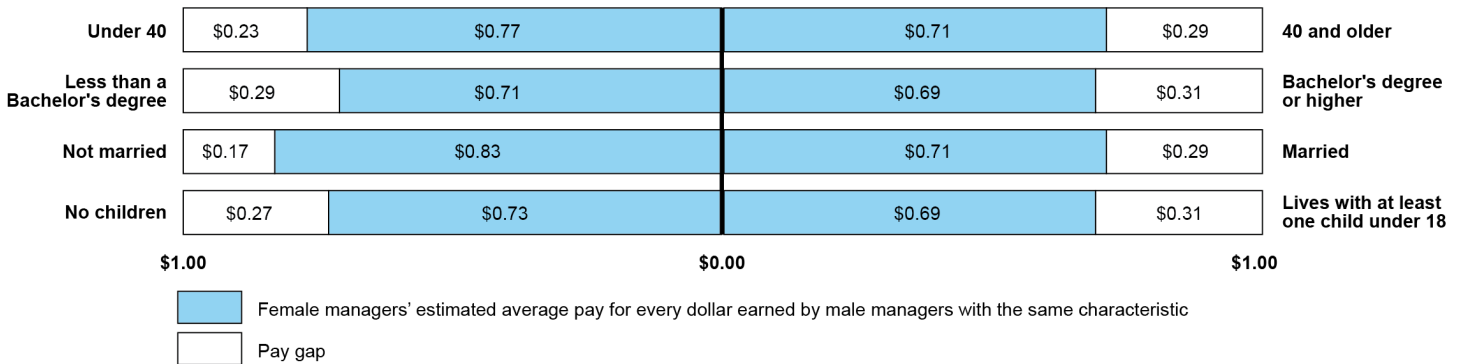
- **Women who were married.** Among managers who were married, women earned an estimated 71 cents for every dollar earned by men (a pay gap of 29 cents). Among managers who were not married, women earned an estimated 83 cents for every dollar earned by men (a pay gap of 17 cents).
- **Women who had at least one child in their household.** Among managers who had at least one child in their household, women earned an estimated 69 cents for every dollar earned by men (a pay gap of 31 cents).⁵² Among managers who did not have a child in their household, women earned an estimated 73 cents for every dollar earned by men (a pay gap of 27 cents).

In 2018 and 2019, the pay gap was greater for the same groups of female managers as in 2021, based on our analysis of ACS data.

⁵¹While this report found that the pay gap was greater for female managers with at least a bachelor's degree than for those with less than a bachelor's degree, our December 2022 report on this topic found that the pay gap was greatest for women with less than a high school diploma or equivalent. See [GAO-23-106041](#). The difference between these findings is likely due to differences in the type of data we analyzed and in the analysis we conducted. Specifically, this report analyzed record-level ACS PUMS data, using average pay for full-time workers, and categorized workers into two groups by education level. Our December 2022 report analyzed published ACS data, using median pay for full-time and part-time workers, and categorized workers into five groups by education level. For more information on our methodology, see appendix I.

⁵²As previously noted, for the purposes of this report, we define "had at least one child in their household" to mean living in a household with at least one of their own children under the age of 18. The Census Bureau defines the presence of one's own children as the presence of the respondent's biological, adopted, or stepchildren under the age of 18 in the same household as the respondent.

Figure 7. Full-Time Female Managers' Estimated Average Pay for Every Dollar Earned by Full-Time Male Managers, by Selected Demographic Characteristics, 2021



Source: GAO analysis of the U.S. Census Bureau's American Community Survey (ACS) data. | GAO-23-106320

Note: Among managers with the same demographic characteristics, women's estimated average pay was significantly less than men's estimated average pay at the 95 percent confidence level. In addition, differences between women's estimated average pay for each dollar earned by men were significantly different within each characteristic we analyzed (age, level of education, marital status, and presence of children in the household). For example, the difference between women's estimated average pay for every dollar earned by men for managers under 40 and for managers 40 and older was statistically significant at the 95 percent confidence level. All estimates in this figure have a margin of error within plus or minus \$0.02 at the 95 percent confidence level.

Living with at least one child under 18 refers to a respondent's "own children," which the Census Bureau defines as biological, adopted, or stepchildren under the age of 18.

Furthermore, the pay gap for full-time, female non-managers was greater for the same groups of women in recent years, compared to full-time, male non-managers with the same demographic characteristics. For example, in 2021, the gender pay gap among non-managers was greater for:

- **Women 40 and older.** Among non-managers, the pay gap was 26 cents on the dollar for women 40 and older, and 16 cents on the dollar for women under 40.
- **Women who had at least a bachelor's degree.** Among non-managers, the pay gap was 30 cents on the dollar for women who had at least a bachelor's degree, and 23 cents on the dollar for women who had less than a bachelor's degree.
- **Women who were married.** Among non-managers, the pay gap was 26 cents on the dollar for women who were married, and 10 cents on the dollar for women who were not married.
- **Women who had at least one child in their household.** Among non-managers, the pay gap was 30 cents on the dollar for women

who had a least one child under 18 in their household, and 18 cents on the dollar for women who did not have a child in their household.

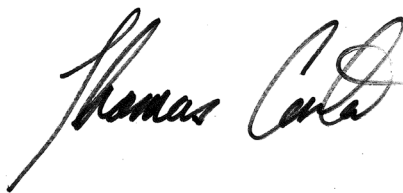
These results were similar in 2018 and 2019, based on our analysis of ACS data.

Agency Comments

We provided a draft of this report to the U.S. Department of Commerce, which includes the Census Bureau, for review and technical comment. The Census Bureau provided technical comments, which we incorporated as appropriate. We also provided a draft of appendix II to the U.S. Department of Labor (DOL) and the U.S. Equal Employment Opportunity Commission (EEOC) for review and technical comment. DOL and EEOC both provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees. In addition, the report is available at no charge on the GAO website at <https://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-4769 or costat@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.



Thomas M. Costa, Director
Education, Workforce, and Income Security

Appendix I: Objectives, Scope, and Methodology

This report examines (1) women’s representation in management positions, by industry, and the key characteristics of women and men in these positions, (2) differences in pay between women and men, by industry, for managers and non-managers, and (3) how pay differences between women and men vary based on key characteristics, for managers and non-managers. In this appendix, we describe the data we included in our analysis, how we assessed the reliability of the data, and the limitations of our analysis.

To address all three objectives, we analyzed record-level data from the U.S. Census Bureau’s American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS) data files from 2018, 2019, and 2021.¹ We chose to analyze data from the ACS because it has a large sample size and contains data on respondents’ industry and management status, which are key aspects of our research questions.² For information about other federal government data sources on women’s workforce representation and pay, see appendix II. The PUMS data are a set of records from individual people or housing units, with disclosure protection enabled so that individuals or housing units cannot be identified.³ The ACS is an ongoing survey based on a probability sample of about 3.5 million housing unit addresses, which is selected from all counties and county-equivalents in the U.S. The data we analyzed are based on interviews conducted during a calendar year. For example, the 2021 data are based on interviews conducted from January 1, 2021 through December 31, 2021. The response rates for the ACS were approximately 92 percent in 2018, 86 percent in 2019, and 85 percent in 2021. Because we analyzed record-level ACS data, the estimates in this report are not

¹At the time of our review, 2021 data were the most recent ACS data available. We did not analyze ACS data from 2020; see discussion below.

²The ACS asks survey respondents to identify their sex (male or female). In this report, we use the term “gender” to refer to these data, and we generally use the terms “men” and “women” to refer to individuals who identified their sex as male or female, respectively. However, for brevity, we describe women who were managers as “female managers” and men who were managers as “male managers.” The ACS does not ask about respondents’ gender identity. In some cases, a respondent’s gender identity may not align with the sex they identified in the ACS.

³For information about the ACS PUMS files, see <https://www.census.gov/programs-surveys/acs/microdata.html>.

directly comparable to the estimates in our December 2022 interim report, for which we reviewed summary-level ACS data.⁴

Because the ACS is a sample survey, all of the ACS analysis results presented in this report are estimates and we express our confidence in the estimates with a 95 percent confidence interval. The sample is only one of a large number of samples that might have been drawn. Since each sample could have provided different estimates, we express our confidence in the precision of the particular sample's results as a 95 percent confidence interval (i.e., the estimate plus or minus a margin of error). This is the interval that would contain the actual population value for 95 percent of the samples that could have been drawn. Unless otherwise noted, all percentage estimates have a 95 percent margin of error that is within 1.7 percentage points, all average estimates have a 95 percent margin of error that is within 0.8 percent of the estimate itself, and all ratios (comparisons) of women's estimated average pay for every dollar earned by men have a margin of error within \$0.04. All of the differences that we discuss in this report are significant at the 95 percent confidence level, unless otherwise noted. We characterized statistically significant differences smaller than 3 percentage points as "slight."

For additional context, we also reviewed academic research on women's representation in management positions and the gender pay gap during the COVID-19 pandemic and our past reports.

Analysis of the Census Bureau's American Community Survey Data

We analyzed the 2018, 2019, and 2021 PUMS data on managers and non-managers across 14 industries, which represent the entire civilian workforce.⁵ We excluded certain observations from our analysis of pay differences, such as individuals who did not report any wage or salary income in the prior year.

In all of our analyses, we accounted for the sample representation and design by using the identified person weight present in the ACS data. We

⁴The two reports also analyze different measures of pay. For the December 2022 report, we analyzed published ACS data, which used median pay. See GAO, *Women in the Workforce: The Gender Pay Gap Is Greater for Certain Racial and Ethnic Groups and Varies by Education Level*, [GAO-23-106041](#) (Washington, D.C.: Dec. 15, 2022). For this report, we analyzed record-level ACS data on average pay. Because the two reports analyzed different measures of pay, the specific pay estimates are slightly different.

⁵For the purposes of this report, we analyzed 14 industries, which generally align with the broad industry groups in the Census Bureau's published ACS data. See below for more information.

used the successive difference replication method to estimate the 95 percent confidence interval for any population estimate. When we compared estimates that had overlapping confidence intervals, we used z-tests to assess the statistical significance of the difference between the estimates.

Definition of Managers

We defined “managers” as all individuals classified under the “manager occupation” category in the ACS. This includes the following occupation classifications: Chief Executives and Legislators; General and Operations Managers; Advertising and Promotions Managers; Marketing Managers; Sales Managers; Public Relations and Fundraising Managers; Administrative Services Managers; Facilities Managers; Computer and Information Systems Managers; Financial Managers; Compensation and Benefits Managers; Human Resources Managers; Training and Development Managers; Industrial Production Managers; Purchasing Managers; Transportation, Storage, and Distribution Managers; Farmers, Ranchers, and Other Agricultural Managers; Construction Managers; Education and Childcare Administrators; Architectural and Engineering Managers; Food Service Managers; Entertainment and Recreation Managers; Lodging Managers; Medical and Health Services Managers; Natural Sciences Managers; Property, Real Estate, and Community Association Managers; Social and Community Service Managers; Emergency Management Directors; and Other Managers.

Our results may not be comparable to analyses using ACS data prior to 2018, when the Standard Occupational Classification system, which the Census Bureau uses to classify workers into occupational categories, including “manager occupations,” was revised. For example, some of our estimates may not be comparable to those in our 2010 report.⁶

Data Used for Analysis

- **Age.** We grouped workers into the following categories: (1) under age 40 and (2) age 40 and above.
- **Education.** We grouped workers into the following categories: (1) less than a bachelor’s degree and (2) bachelor’s degree or higher.
- **Full-time status.** We defined full-time status as working 50 or more weeks over the prior 12 months, and usually working 35 hours or more each week.⁷

⁶GAO, *Women in Management: Analysis of Female Managers’ Representation, Characteristics, and Pay*, [GAO-10-892R](#) (Washington, D.C.: Sept. 20, 2010).

⁷Our definition of full-time status is the same as the Census Bureau’s definition.

- **Industry.** We grouped workers into the following industries: “Agriculture, Forestry, Fishing, Hunting, and Mining”; “Arts, Entertainment, Recreation, Accommodation, and Food Services”; “Construction”; “Educational Services”; “Finance, Insurance, Real Estate, Rental and Leasing”; “Health Care and Social Assistance”; “Information”; “Manufacturing”; “Other Services, Except Public Administration”; “Professional, Scientific, Management, Administrative, and Waste Management Services”; “Public Administration;” “Retail Trade”; “Transportation, Warehousing, and Utilities”; and “Wholesale Trade.”⁸ We shortened the names of some of these industries for the purposes of this report.
- **Marital status.** We grouped workers into the following categories: (1) married and (2) not married.
- **Presence of children.** We grouped workers into the following categories: (1) with at least one own child under age 18 and (2) with no own children under the age of 18. The Census Bureau defines “own child” as a child under 18 years old who is a son or daughter by birth, a stepchild, or an adopted child.⁹
- **Race and ethnicity.** In the ACS survey, individuals are first asked about their ethnicity (Hispanic or non-Hispanic), and then asked about their race. We combined the race and ethnicity categories into a single variable with the following categories: (1) American Indian or Alaska Native (non-Hispanic), (2) Asian (non-Hispanic), (3) Black or African American (non-Hispanic), (4) Hispanic/Latino (any race), (5) Native Hawaiian or Other Pacific Islander (non-Hispanic), (6) White (non-Hispanic), and (7) Other or Multiracial (non-Hispanic).
- **Income.** We analyzed wages or salary income over the past 12 months, which we inflation-adjusted to constant 2021 dollars using the Consumer Price Index for all urban consumers.

⁸The industries we analyzed generally align with the broad industry groups in the Census Bureau’s published ACS data. However, we separated “Educational Services and Health Care and Social Assistance” into two groups (“Educational Services” and “Health Care and Social Assistance”) to align with our prior work in this area.

⁹The PUMS includes a derived variable for the presence of own children for women older than 16 outside group quarters settings. In consultation with Census Bureau officials, we used several ACS variables including age, relationship, subfamily number, subfamily relationship, and “own child” to derive a comparable variable for both men and women. A limitation of this variable is that it only captures children of the individuals who own or rent the house and their spouses; thus, unmarried partners of such individuals with children could not be identified. Group quarters are also excluded.

Methods

For our first objective, which examines women's representation in management positions, we used the ACS to estimate the percentage of managers who were women compared to the percentage of non-managers who were women. To describe key characteristics of female and male managers, we used the ACS to generate descriptive statistics on female and male managers' race, ethnicity, age, level of education, marital status, and the presence of at least one child in the household.¹⁰ All analyses for this objective included both full-time and part-time workers.¹¹

For our second objective, which examines gender differences in pay, we used the ACS to estimate differences in pay between men and women in the overall workforce, between female and male managers in the overall workforce and in each industry, and between female and male non-managers in the overall workforce and in each industry. Specifically, we analyzed average wages or salary income over the prior 12 months (average pay) for full-time, year-round workers. Because the number of hours worked affects pay, we limited the analyses for this objective to full-time workers to ensure that the groups of women and men that we compared were as similar as possible.

For our third objective, which examines how gender pay differences varied based on key characteristics, we used the ACS to estimate differences in average pay between women and men—for managers and for non-managers—based on race, ethnicity, age, level of education, marital status, and the presence of at least one child in the household. We generally compared women to men with the same demographic characteristics, such as women and men under age 40. However, for our analysis of pay differences by race and ethnicity, we compared average pay for women in each racial and ethnic group to average pay for White men. All analyses for this objective were for full-time, year-round workers. Because the number of hours worked affects pay, we limited the analyses for this objective to full-time workers to ensure that the groups of women and men that we compared were as similar as possible.

¹⁰For the purposes of this report, we defined key characteristics as race, ethnicity, age, level of education, marital status, and the presence of at least one child in the household.

¹¹We also analyzed women's representation in management positions for full-time workers only and found our results were similar to those we obtained for both full-time and part-time workers.

Data Reliability

We assessed the reliability of these data by reviewing documentation, interviewing and obtaining written responses from Census Bureau officials, and testing the data for inaccuracies. We determined that the data were sufficiently reliable for our purposes. Specifically, we:

- reviewed technical documentation on the data elements included in the ACS that were critical to our analyses, as well as general design and methods of the ACS;
- interviewed and obtained written responses from U.S. Census Bureau officials who were knowledgeable about the ACS; and
- conducted our own electronic data testing to assess the accuracy and completeness of the data used in our analyses.

Limitations of the Analysis

The ACS, like any other sample survey, is subject to sampling and non-sampling error (e.g., coverage error and nonresponse error). The Census Bureau takes several steps to mitigate non-sampling errors, such as following up for non-response and adjusting the weights to account for non-responding housing units.

We did not control for any variables in our analysis of pay differences or representation within management, including variables that would be expected to affect pay or representation, such as hours worked beyond full time. By not controlling for factors that could or are expected to affect pay or managerial representation, we were not able to isolate potential causes of differences in pay and managerial representation by gender. Since we did not control for factors such as hours worked, the differences between women and men in pay and managerial representation likely also partly reflect these differences. Our analysis is descriptive in nature, and neither confirms nor refutes the presence of discriminatory practices.

2020 Data

The 2020 ACS was conducted throughout the year, and the Census Bureau had to change its data collection strategies due to the COVID-19 pandemic. Despite its efforts to mitigate the data collection disruptions and modify the weighting adjustments focused on known sources of bias, the Census Bureau determined that the estimates produced in the 2020 ACS did not meet statistical quality standards. We did not analyze ACS data from 2020.

We conducted this performance audit from October 2022 to March 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our

findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Federal Government Datasets with Information on Women’s Workforce Representation and Pay

Several federal government datasets contain information on women’s workforce representation and pay. These datasets are administered by the U.S. Census Bureau, the U.S. Department of Labor’s Bureau of Labor Statistics, and the U.S. Equal Employment Opportunity Commission. These datasets have different data sources and sample sizes, and include different demographic and workforce information. See table 1.

Table 1: Federal Government Datasets with Information on Women’s Workforce Representation and Pay

Dataset	Agency	Data source, collection method, and sample size	Key demographic information ^a	Key workforce information ^b
American Community Survey	U.S. Census Bureau ^c	Annual survey of nationally representative sample of over 3.5 million households ^d	Sex ^e Age Race/ethnicity Level of education	Occupation Industry Hours worked Pay or wages
Current Employment Statistics	U.S. Bureau of Labor Statistics ^f	Monthly survey of approximately 122,000 businesses and government agencies, representing approximately 666,000 individual worksites	None	Industry Hours worked Pay or wages
Current Population Survey – Annual Social and Economic Supplement	U.S. Census Bureau and U.S. Bureau of Labor Statistics	Annual survey of nationally representative sample of more than 85,000 households	Sex Age Race/ethnicity Level of education	Occupation Industry Hours worked Pay or wages
Current Population Survey – Monthly	U.S. Census Bureau and U.S. Bureau of Labor Statistics	Monthly survey of nationally representative sample of approximately 60,000 households	Sex Age Race/ethnicity Level of education	Occupation Industry Hours worked Pay or wages
Employer Information Report (EEO-1) Data Collection ^g	U.S. Equal Employment Opportunity Commission	Mandatory annual data collection from private employers with 100 or more employees	Sex Race/ethnicity	Occupation Industry
Occupational Employment and Wage Statistics	U.S. Bureau of Labor Statistics	Two semiannual surveys of approximately 180,000-185,000 nonfarm establishments ^h	None	Occupation Industry Pay or wages
Survey of Income and Program Participation	U.S. Census Bureau	Nationally representative longitudinal survey of approximately 40,000 households annually	Sex Age Race/ethnicity Level of education	Occupation Industry Hours worked Pay or wages

Source: GAO analysis of information from the U.S. Census Bureau, U.S. Bureau of Labor Statistics (BLS), and U.S. Equal Employment Opportunity Commission (EEOC), including publicly available information and information provided by agency officials. | GAO-23-106320

Note: This table includes datasets that are administered by federal agencies. It does not include datasets that are administered by non-federal entities but receive federal funding, such as the Panel Study of Income Dynamics and the General Social Survey.

**Appendix II: Federal Government Datasets with
Information on Women’s Workforce
Representation and Pay**

^aWe identified the following key demographic information for studying women’s managerial representation and pay: sex, age, race/ethnicity, and level of education. This table focuses on this key information, and does not provide a comprehensive list of all data elements in each dataset.

^bWe identified the following key workforce information for studying women’s managerial representation and pay: occupation, industry, hours worked, and pay or wages. This table focuses on this key information, and does not provide a comprehensive list of all data elements in each dataset.

^cThe U.S. Census Bureau is located within the U.S. Department of Commerce.

^dResults from a survey using a nationally representative sample can be generalized to the entire U.S. population.

^eThe datasets listed in this table that include key demographic information capture only binary sex categories (male and female), meaning they may not capture information on non-binary or transgender individuals.

^fThe U.S. Bureau of Labor Statistics is located within the U.S. Department of Labor.

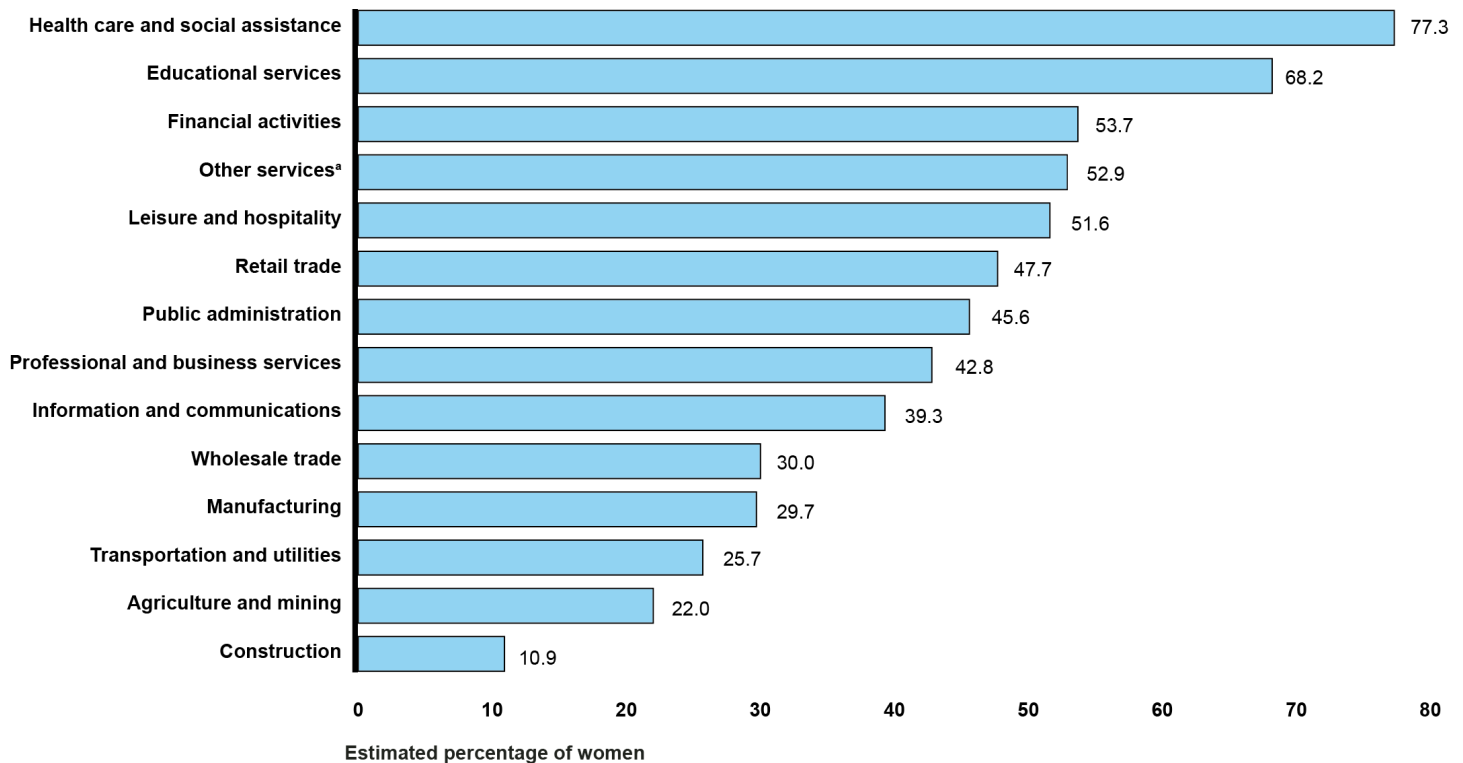
^gAs part of the EEO-1 Data Collection, EEOC collects demographic data known as Component 1. In 2019 and 2020, EEOC also temporarily collected data on measures of pay and hours worked for the years 2017 and 2018. This data is known as Component 2. In July 2022, the National Academies of Sciences, Engineering, and Medicine issued a report that evaluated the Component 2 compensation data and made recommendations for any future pay data collections.

^hFor the Occupational Employment and Wage Statistics, BLS defines an establishment as “generally a single physical location at which economic activity occurs (e.g., store, factory, restaurant, etc.). When a single physical location encompasses two or more distinct economic activities, it is treated as two or more separate establishments if separate payroll records are available and certain other criteria are met.”

Appendix III: Women’s Estimated Representation by Industry, 2021

Despite changes in women’s employment during the pandemic, women’s estimated representation by industry has generally remained consistent in recent years.¹ In 2021, women made up over one-half of the workforce in five industries: Health Care and Social Assistance; Educational Services; Financial Activities; Other Services; and Leisure and Hospitality (see fig. 8).²

Figure 8. Estimated Percentage of Women in Each Industry, for Full-Time and Part-Time Workers, 2021



Source: GAO analysis of the U.S. Census Bureau’s American Community Survey (ACS) data. | GAO-23-106320

¹According to ACS data, the size of the overall U.S. workforce—including both full-time and part-time workers—declined from an estimated 158.8 million workers in 2019 to an estimated 156.5 million workers in 2021. Of the estimated 2.3 million workers who left the workforce, about 1.5 million (or about 65 percent) were women, and about 820,000 (or about 35 percent) were men. Each of these percentage estimates (65 percent and 35 percent) has a margin of error of plus or minus 4.8 percentage points at the 95 percent confidence level.

²Other Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

**Appendix III: Women's Estimated
Representation by Industry, 2021**

Note: All estimates in this figure have a margin of error within plus or minus 0.9 percentage points at the 95 percent confidence level.

^aOther Services includes a wide variety of services and organizations, such as automotive repair and maintenance, barber shops and beauty salons, dry cleaning and laundry services, funeral homes, religious organizations, civic organizations, and labor unions.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

Thomas M. Costa, (202) 512-4769, costat@gao.gov

Staff Acknowledgments

In addition to the contact named above, Rebecca Woiwode (Assistant Director), Caitlin Croake (Analyst in Charge), Nisha Hazra, Abigail Loxton, and Miranda Richard made key contributions to this report. Also contributing to this report were Julie Anderson, Denise Cook, Alissa Czyz, Cliff Douglas, Suzanne Kaasa, Kay Kuhlman, Anjalique Lawrence, Ying (Sophia) Liu, Amy MacDonald, Zina Merritt, James Rebbe, Monica Savoy, Joy Solmonson, Curtia Taylor, Sonya Vartivarian, and Adam Wendel.

Related GAO Products

Women in the Workforce: The Gender Pay Gap Is Greater for Certain Racial and Ethnic Groups and Varies by Education Level.

[GAO-23-106041](#). Washington, D.C.: December 15, 2022.

Women in Management: Women Remain Underrepresented in Management Positions and Continue to Earn Less Than Male Managers.

[GAO-22-105796](#). Washington, D.C.: March 7, 2022.

Financial Services Industry: Using Data to Promote Greater Diversity and Inclusion. [GAO-21-448T](#). Washington, D.C.: March 8, 2021.

Gender Pay Differences: The Pay Gap for Federal Workers Has Continued to Narrow, but Better Quality Data on Promotions Are Needed.

[GAO-21-67](#). Washington, D.C.: December 3, 2020.

Retirement Security: Older Women Report Facing a Financially Uncertain Future. [GAO-20-718T](#). Washington, D.C.: September 24, 2020.

Retirement Security: Older Women Report Facing a Financially Uncertain Future. [GAO-20-435](#). Washington, D.C.: July 14, 2020.

Financial Services Industry: Representation of Minorities and Women in Management and Practices to Promote Diversity, 2007-2015.

[GAO-19-398T](#). Washington, D.C.: February 27, 2019.

Diversity in the Technology Sector: Federal Agencies Could Improve Oversight of Equal Employment Opportunity Requirements. [GAO-18-69](#).

Washington, D.C.: November 16, 2017.

Corporate Boards: Strategies to Address Representation of Women Include Federal Disclosure Requirements. [GAO-16-30](#). Washington, D.C.:

December 3, 2015.

Gender Pay Differences: Progress Made, but Women Remain Overrepresented among Low-Wage Workers. [GAO-12-10](#). Washington,

D.C.: October 12, 2011.

Women in Management: Analysis of Female Managers' Representation, Characteristics, and Pay. [GAO-10-892R](#). Washington, D.C.: September 20, 2010.

Women's Pay: Converging Characteristics of Men and Women in the Federal Workforce Help Explain the Narrowing Pay Gap. [GAO-09-621T](#). April 28, 2009.

Women's Pay: Gender Pay Gap in the Federal Workforce Narrows as Differences in Occupation, Education, and Experience Diminish. [GAO-09-279](#). Washington, D.C.: March 17, 2009.

Women's Earnings: Federal Agencies Should Better Monitor Their Performance in Enforcing Anti-Discrimination Laws. [GAO-08-799](#). Washington, D.C.: August 11, 2008.

Women and Low-Skilled Workers: Efforts in Other Countries to Help These Workers Enter and Remain in the Workforce. [GAO-07-989T](#). Washington, D.C.: June 14, 2007.

Women and Low-Skilled Workers: Other Countries' Policies and Practices That May Help These Workers Enter and Remain in the Labor Force. [GAO-07-817](#). Washington, D.C.: June 14, 2007.

Women's Earnings: Work Patterns Partially Explain Difference between Men's and Women's Earnings. [GAO-04-35](#). Washington, D.C.: October 31, 2003.

Women in Management: Analysis of Selected Data from the Current Population Survey. [GAO-02-156](#). Washington, D.C.: October 23, 2001.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through our website. Each weekday afternoon, GAO posts on its [website](#) newly released reports, testimony, and correspondence. You can also [subscribe](#) to GAO's email updates to receive notification of newly posted products.

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <https://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).
Subscribe to our [RSS Feeds](#) or [Email Updates](#). Listen to our [Podcasts](#).
Visit GAO on the web at <https://www.gao.gov>.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact FraudNet:

Website: <https://www.gao.gov/about/what-gao-does/fraudnet>

Automated answering system: (800) 424-5454 or (202) 512-7700

Congressional Relations

A. Nicole Clowers, Managing Director, ClowersA@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

Strategic Planning and External Liaison

Stephen J. Sanford, Managing Director, spel@gao.gov, (202) 512-4707
U.S. Government Accountability Office, 441 G Street NW, Room 7814,
Washington, DC 20548

