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WOMEN ARTISTS: 1990 TO 2005

In May 2008, the National Endowment for the Arts published *Artists in the Workforce: 1990-2005*, a comprehensive report on the demographic and employment patterns of workers who are artists as their primary occupation. Although women artists in particular were not the focus of that study, it did allow for basic comparisons between men and women in artist jobs. This paper gives a more detailed view of women artists, including patterns in the female composition of various artist jobs and in the earnings discrepancies between men and women.

This analysis also builds on historical NEA research on women artists, beginning with the 1979 report, *Minorities and Women in the Arts: 1970*. The topic resurfaced in two NEA Research Notes from the following decade.¹

The findings presented here draw from the United States Census Bureau's American Community Surveys conducted in 2003-2005, and the Census Bureau's 1990 and 2000 decennial censuses.

Key Findings

1. Women make up just under half of all artists nationwide (46 percent), comparable to their percentage of the U.S. workforce. But they are underrepresented in many artist professions.

- In 2003-2005, nearly 8 out of 10 announcers and architects were men, making these artist occupations the most male-concentrated.
- Women were only 35 percent of producers and directors, and 36 percent of musicians.
- Yet women represent 75 percent of all dancers, and more than half of all designers and writers.

2. Women have achieved a greater presence in some artist occupations, including architects—the highest-paying and most male-concentrated artist job.

- By 2003-2005, women made up 22 percent of all architects—a gain of seven percentage points from 1990.
- Women also increased their representation of photographers and actors, gaining 11 points and 7 points, respectively.

3. In the male-concentrated occupations where they have made the largest gains, women are substantially younger.

- The median age of women architects is 38—six years younger than for men in this occupation.
- Between men and women photographers, the age gap is even greater. Women in this field are typically 31, while the median age of men photographers is 43.

4. Women artists are as likely to be married as female workers on the whole, but they are less likely to have children.

- In 2003-2005, 54 percent of women artists and 53 percent of all women workers were married.
- Twenty-nine percent of women artists had children under age 18, almost six percentage points lower than for women workers in general.

5. Female artists cluster in low-population states.

- Women make up more than 55 percent of the artist labor force in Iowa, Alaska, New Hampshire, and Mississippi.
- They represent well below half of all artists in New York (45.8 percent) and in California (42.6 percent).

6. Female artists earn less than male artists. They approach parity only in the performing arts.

- A greater percentage of women artists work part-time than male artists and, therefore, might be expected to earn less than male artists in general. Yet even those women artists who work full-year, full-time, earn \$0.75 for every dollar made by men artists.
- The median earning of female performing artists is \$40,000—\$0.92 for every dollar earned by male performers.
- Non-performing female artists earn only \$0.72 for every dollar males earn.

Female Composition of Artist Occupations

Totaling almost 919,000 artists in 2005, women represented 46 percent of the artist labor force, comparable to their percentage of all civilian workers. This parity, however, is not matched in several detailed artist occupations.² Men make up a large majority of announcers, architects, musicians, and producers and directors. Women artists, meanwhile, are concentrated in dance, design, and writing occupations.

In 2003-2005, nearly 8 out of 10 announcers and architects were men, making these artist occupations the most male-concentrated. In fact, these are the only two artist occupations that meet the U.S. Department of Labor's definition of non-traditional occupations for women.³

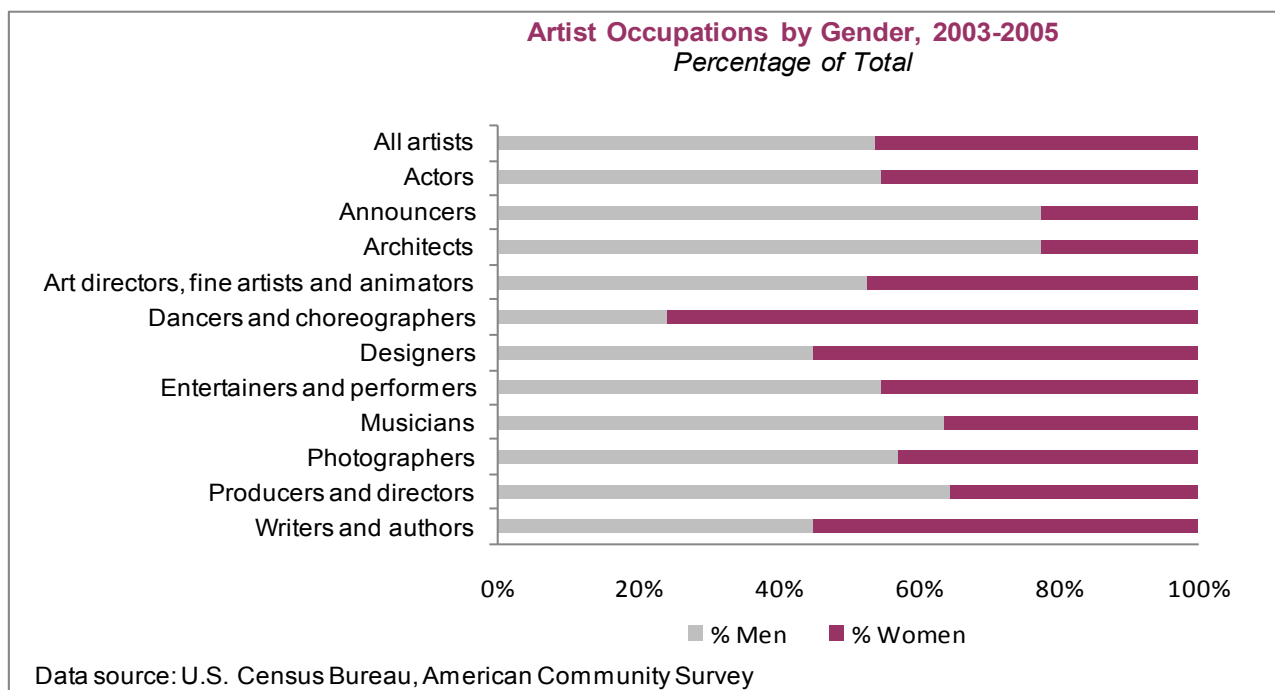
Close behind are producers/directors and musicians—women held only 35 percent and 36 percent, respectively, of these jobs. At the other end of the scale are dancers and choreographers: more than 7 out of 10 of these workers were women. To a lesser degree, women also made up the majority of designers and writers/authors—55 percent of both occupations.

The compositions of actors and entertainers and performers show only a slight gender difference when compared with those of all artists or civilian workers. In 2003-2005, about 45 percent of workers in both occupations were women. By gender, visual artists (art directors, fine artists, and animators) are also close to par with the labor market and all artists—47 percent were women.

Artist Occupations by Gender, 2003-2005

	Total	Men		Women	
		Number	Percentage of occupation	Number	Percentage of occupation
Civilian labor force	144,898,471	77,630,434	53.6%	67,268,037	46.4%
All artists	1,999,474	1,080,767	54.1%	918,707	45.9%
Actors	39,717	21,787	54.9%	17,930	45.1%
Announcers	55,817	43,295	77.6%	12,522	22.4%
Architects	198,498	154,457	77.8%	44,041	22.2%
Art directors, fine artists, and animators	216,996	114,091	52.6%	102,905	47.4%
Dancers and choreographers	25,651	6,172	24.1%	19,479	75.9%
Designers	779,359	351,740	45.1%	427,619	54.9%
Entertainers and performers	41,128	22,578	54.9%	18,550	45.1%
Musicians	169,647	108,324	63.9%	61,323	36.1%
Photographers	147,389	84,235	57.2%	63,155	42.8%
Producers and directors	139,996	90,540	64.7%	49,456	35.3%
Writers and authors	185,276	83,547	45.1%	101,729	54.9%

Data source: U.S. Census Bureau, American Community Survey



Index of Dissimilarity

Gender disparity in occupations is typically measured by researchers using the Index of Dissimilarity (ID), which is based on the absolute deviation in the percentages of men and women across occupations. The index, ranging from 0 to 1, shows the percentage of men or women that need to shift occupations for the two distributions to be equal. The closer the ID is to 0, the more equal is the occupational distribution.⁴

Among employed artists tracked by the American Community Survey, the ID was 19.6 percent in 2003-2005, suggesting that roughly 20 percent of women artists would need to switch artist occupations to match the percentage distribution by occupation of men artists.⁵

Calculation of the Index of Dissimilarity

The ID is calculated as the sum of the absolute difference in the percentages of men and women across occupations:

$$\frac{1}{2} \sum_{j=1}^J |P_{jm} - P_{jw}|$$

(where P_{jm} and P_{jw} measure the percentages of men (m) and women (w) in occupational category j .)

Employed Artists by Occupation and Gender, 2003-2005

Occupation	Men		Women	
	Number	Percentage of all men artists employed in each occupation	Number	Percentage of all women artists employed in each occupation
All artists	1,014,729	100.0%	858,072	100.0%
Actors	15,992	1.6%	11,719	1.4%
Announcers	39,381	3.9%	11,945	1.4%
Architects	150,966	14.9%	42,849	5.0%
Art directors, fine artists and animators	106,724	10.5%	95,306	11.1%
Dancers and choreographers	5,630	0.6%	17,237	2.0%
Designers	332,584	32.8%	404,014	47.1%
Entertainers and performers	20,253	2.0%	16,999	2.0%
Musicians	101,104	10.0%	58,679	6.8%
Photographers	77,767	7.7%	57,944	6.8%
Producers and directors	85,328	8.4%	46,133	5.4%
Writers and authors	79,000	7.8%	95,247	11.1%

The Index of Dissimilarity across artist occupations is 19.6%.

Data source: U.S. Census Bureau, American Community Survey

Trends in Artist Occupations by Gender

Women have made gains in a number of artist occupations, including architects, an occupation traditionally held by men.⁶ In 1990, only 15 percent of architects were women. By 2003-2005, the percentage had gained seven points, so that women, though still a small minority of all architects, represented 22 percent.

Women also increased their representation of photographers and actors, gaining 11 points and 7 points, respectively. In 1990, women were 50 percent of writers and authors, but almost 55 percent of the profession in 2003-2005.

The producers-and-directors occupation remains as concentrated among men as it was in 1990. In both time periods, women were only about 35 percent of that field. Similarly, less than 25 percent of announcers were women in 1990 and in 2003-05.

Women retained their huge presence in the dance profession—three quarters of the combined dancers-and-choreographers occupation are women—as true today as it was in 1990.

Percentage Female, 1990 and 2003-2005

	1990	2003-2005	Change (pp)
All artists	43.2%	45.9%	+2.7
Actors	38.1%	45.1%	+7.0
Announcers	24.4%	22.4%	-1.9
Architects	15.3%	22.2%	+6.9
Art directors, fine artists, and animators	46.2%	47.4%	+1.2
Dancers and choreographers	76.7%	75.9%	-0.8
Designers	55.0%	54.9%	-0.1
Entertainers and performers	49.4%	45.1%	-4.3
Musicians	32.9%	36.1%	+3.3
Photographers	31.5%	42.8%	+11.3
Producers and directors	36.2%	35.3%	-0.8
Writers and authors	50.3%	54.9%	+4.6

(pp)=percentage points (rounded)

Small percentage point changes may be statistically insignificant.

Data source: U.S. Census Bureau, Census 1990 Special Equal Employment Opportunity tabulations and American Community Survey

Demographics of Women Artists

Age and Education

In 2003-2005, the median age for all artists, men and women, was 40—the same median age reported for all men and women civilian workers. There were, however, male and female age differences in several specific artist occupations.

The average female photographer, for example, was 12 years younger than the typical male photographer, while the median age for women architects was 38—six years younger than for men architects. Female entertainers were also, on average, six years younger than male entertainers, and women actors were typically five years younger.

By contrast, women musicians and visual artists (fine artists, art directors, and animators) were usually five to six years older than men in those artist occupations.

For a majority of artist occupations, there were no significant age differences between men and women. These occupations included announcers, dancers and choreographers, designers, producers and directors, and writers and authors.

Median Age, 2003-2005

	Men	Women	Difference ¹
Civilian labor force	40	40	0
All artists	40	40	0
Actors	38	33	-5
Announcers	34	35	+1
Architects	44	38	-6
Art directors, fine artists and animators	41	46	+5
Dancers and choreographers	28	25	-3
Designers	38	40	+2
Entertainers and performers	37	31	-6
Musicians	42	48	+6
Photographers	43	31	-12
Producers and directors	39	36	-3
Writers and authors	45	43	-2

¹ Difference is median age of women artists minus median age of men artists.

Small age differences may be statistically insignificant.

Data source: U.S. Census Bureau, American Community Survey

Men and women artists have similar levels of education. Among all artists, 54 percent of workers of each gender held bachelor's or advanced degrees. But here, too, certain artist occupations display key educational differences between men and women. Most notably, 59 percent of women musicians have bachelor's degrees or higher levels of education—20 points higher than the percentage of men musicians with this level of education. Almost 77 percent of female producers and directors have college degrees, versus 65 percent of men producers. Women visual artists and announcers, also, are

generally better educated than men in these occupations.

On the other hand, male photographers are significantly better educated than women photographers. More than 43 percent have bachelor's or advanced degrees—14 points higher than the percentage of female photographers with this level of training. Further, 20 percent of male dancers and choreographers have college degrees, well above the 13 percent of the women dancers and choreographers in this category.

Educational Attainment, 2003-2005
(Percentage of Occupation)

	Not high school graduate		High school graduate		Some college		Bachelor's degree or higher	
	Men	Women	Men	Women	Men	Women	Men	Women
Civilian labor force	15.3%	11.2%	29.3%	27.6%	27.8%	32.9%	27.6%	28.3%
All artists	3.7%	3.8%	11.8%	13.9%	30.3%	27.4%	54.3%	54.8%
Actors	5.2%	5.5%	8.9%	11.1%	28.6%	23.2%	57.2%	60.3%
Announcers	8.2%	3.4%	24.6%	17.7%	37.9%	42.4%	29.3%	36.5%
Architects	0.1%	0.0%	2.2%	1.0%	8.9%	7.3%	88.8%	91.7%
Art directors, fine artists and animators	4.1%	3.0%	12.3%	10.9%	36.5%	30.4%	47.2%	55.6%
Dancers and choreographers	7.7%	18.8%	46.2%	35.0%	26.5%	33.4%	19.6%	12.8%
Designers	3.6%	4.1%	12.6%	16.4%	39.6%	31.7%	44.2%	47.8%
Entertainers and performers	9.1%	14.5%	23.2%	23.5%	34.3%	30.3%	33.3%	31.6%
Musicians	8.4%	2.1%	19.6%	13.4%	32.9%	25.5%	39.0%	59.0%
Photographers	3.7%	5.8%	15.1%	25.3%	37.8%	40.0%	43.4%	28.9%
Producers and directors	2.5%	1.9%	8.4%	6.1%	24.0%	15.1%	65.2%	76.9%
Writers and authors	1.2%	0.7%	3.6%	3.6%	13.7%	11.2%	81.5%	84.4%

Data source: U.S. Census Bureau, American Community Survey

Marital Status and Children

Although women artists are as likely to be married as women in the civilian workforce, fewer women artists have children under age 18.

In 2003-2005, 54 percent of women artists were married—comparable to the 53 percent reported for civilian women workers. However, 29 percent of women artists had children under age 18, almost six percentage points lower than the share reported for civilian women workers.

Marital Status and Presence of Children, 2003-2005 (Percentage of Women)

	Civilian labor force	Artists
Married	52.5%	53.8%
Widowed, divorced, or separated	20.1%	16.9%
Never married	27.4%	29.3%
With children	34.9%	29.1%
With children under 6 years only	7.3%	7.9%
With children 6 to 17 years only	21.4%	17.1%
With children under 6 years and 6 to 17 years	6.2%	4.2%
No children	65.1%	70.9%

Data source: U.S. Census Bureau, American Community Survey

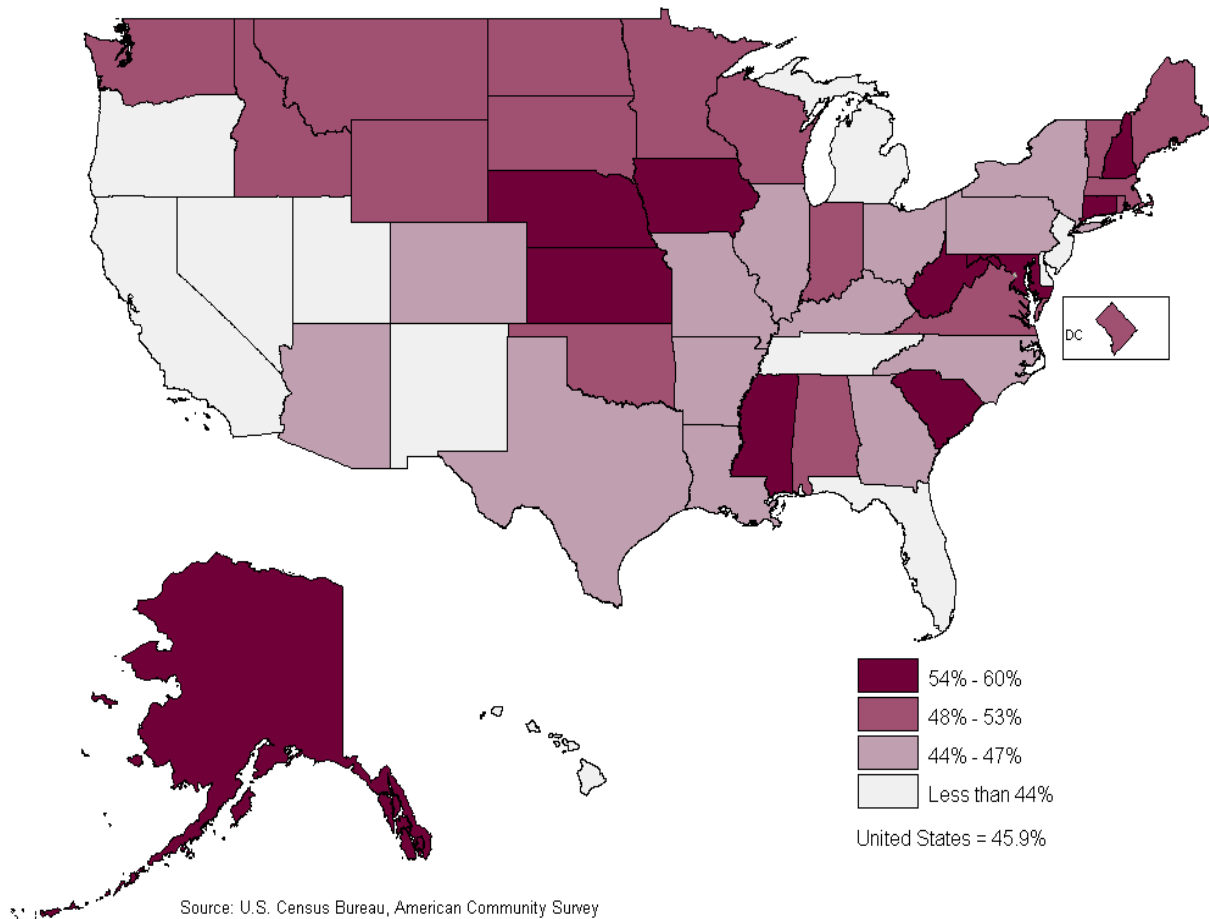
Women Artists by State

As a percentage of the artist labor force, estimates of women artists vary greatly by state. In 2003-2005, this percentage ranged from a high of almost 60 percent in Nebraska to a low of just under 34 percent in Nevada. Despite this considerable range, a pattern emerges: women artists tend to concentrate in low-population states.

Beyond Nebraska, women made up more than 55 percent of the artist labor force in Iowa, Alaska, New Hampshire, and Mississippi.

They topped 50 percent in Kansas, West Virginia, and Wyoming. The percentages of women artists were comparatively lower in many high-population states, including California (42.6 percent), Michigan and New Jersey (42.9 percent), Florida (43.3 percent), Texas (44.2 percent), and New York (45.8 percent).

Women Artists as a Percentage of the Artist Labor Force, 2003-2005



Women Architects

Of all the artist occupations outlined in this note, architects receive the highest pay. In 1999, average median earnings for architects were \$61,600.⁷ The profession is heavily concentrated among men (only 22 percent of architects in 2003-2005 were women), and it pays women significantly less (about \$0.76 for every dollar earned by men architects).

But conditions appear to be improving for women architects. As a share of all architects, women rose from 15 percent of the profession in 1990 to 22 percent in 2003-2005. Additionally, women architects are, on average, six years younger than men architects (the median age of women architects is 38). These findings suggest that more young women professionals are entering the architectural field. If this trend continues, it could change the occupational dissimilarity and earnings gap now present in the profession.

Earnings Differences between Men and Women Artists

Part-Time Women Artists

Artists in the Workforce reported that women artists earned an average *income* of \$27,300 in 2005—\$14,700 less than the average income received by men artists. Given this finding, it seems reasonable to wonder if higher percentages of women artists working part-time contributed to this discrepancy. After all, in 2003-2005, almost 37 percent of women artists worked part-time versus 21 percent of men artists. The gap between men and women working part-time is even greater for certain detailed artist occupations. For example, nearly half of all women photographers worked part-time in 2003-2005, compared to 23 percent of men.

To gain a clearer understanding of earnings differentials between men and women artists, this analysis examines only those artists working full-year (50 to 52 weeks in 2003-2005) and full-time (at least 35 hours per week). It is also restricted to earnings from work performed, as opposed to “income,” which includes other receipts such as interest or dividend income.⁸

Controlling the data to these criteria does, indeed, reduce the income gap between men and women artists, but only by \$0.10. **Among full-year, full-time employed workers, women artists earn \$0.75 for every \$1 earned by men in the arts.** (Women artists earn \$0.02 less than women workers in general.)

Percentage Working Part-Time, 2003-2005

	Men	Women	Difference (pp)
Civilian labor force	15.1%	29.7%	+14.6
All artists	20.6%	36.5%	+15.9
Actors	44.6%	54.6%	+10.0
Announcers	37.6%	45.0%	+7.4
Architects	7.6%	21.5%	+13.9
Art directors, fine artists, and animators	20.8%	39.4%	+18.6
Dancers and choreographers	60.0%	48.1%	-11.9
Designers	11.9%	30.3%	+18.3
Entertainers and performers	45.4%	53.3%	+7.9
Musicians	50.8%	71.1%	+20.3
Photographers	22.5%	49.0%	+26.5
Producers and directors	11.3%	14.1%	+2.8
Writers and authors	24.4%	38.5%	+14.0

(pp)=percentage points (rounded)

Small differences may be statistically insignificant.

Data source: U.S. Census Bureau, American Community Survey

Occupational Groups: Non-performing and Performing Artists

Further analysis reveals that the \$0.25 earnings discrepancy for women artists stems from comparatively low earnings by women working in the nonperforming arts.⁹

In 2003-2005, non-performing artists (combining both genders) earned an average median of \$2,000 more than performing artists (\$43,400 vs. \$41,400). But men in this job category made considerably more—\$50,000 on average, or almost \$14,000 more than

women non-performing artists. As a share of male earnings, women non-performing artists received just \$0.72 for every \$1 earned by men in those jobs.

In the lower-paying performing arts sector, men and women come much closer to earnings parity. In 2003-2005, women performing artists made an average of \$40,000, only \$3,000 less than men. As a ratio, women performing artists earned a full \$0.92 for every dollar earned by men performers.

Earnings of Artists Employed Full-Year, Full-Time by Gender: 2003-2005

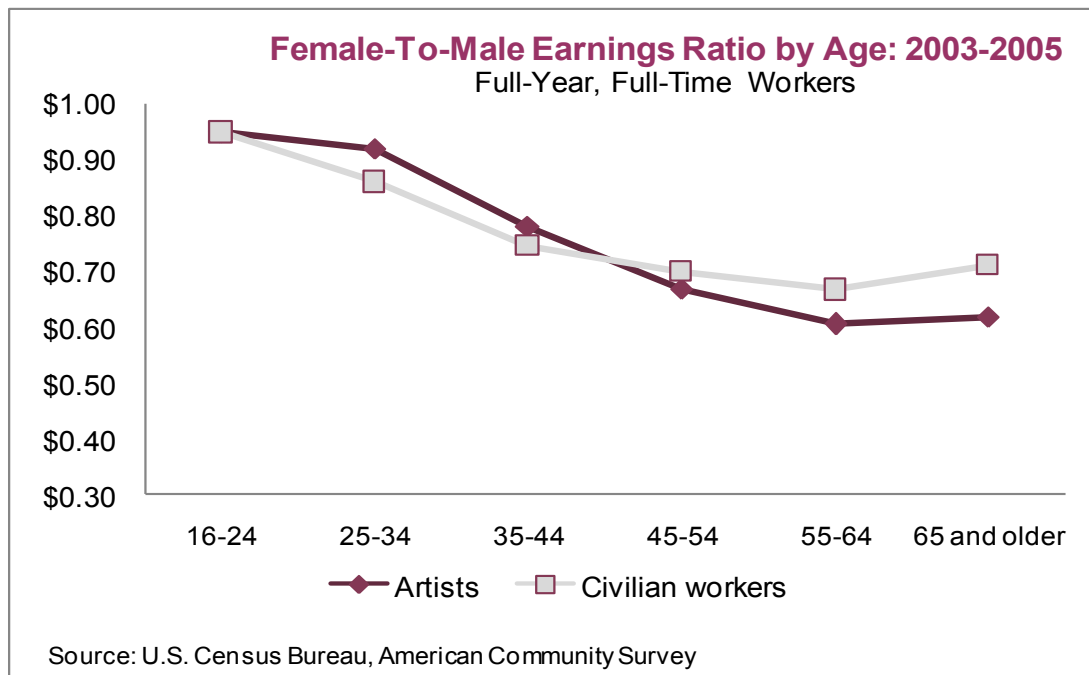
	Men		Women			
	Median earnings		Median earnings		Percentage of every \$1 earned by men	
	90% confidence interval (+-)		90% confidence interval (+-)		90% confidence interval (+-)	
	Estimate		Estimate		Estimate	
Civilian workers	\$42,010	\$49	\$32,269	\$35	\$0.77	\$0.00
All artists	\$48,903	\$751	\$36,900	\$541	\$0.75	\$0.02
Non-performing artists	\$50,000	\$791	\$36,186	\$573	\$0.72	\$0.02
Performing artists	\$43,423	\$1,372	\$40,000	\$2,481	\$0.92	\$0.06

Source: U.S. Census Bureau, American Community Survey

Earnings by Age

Earnings discrepancies between male and female artists increase with age. In 2003-2005, women artists aged 18 to 24 earned \$0.95 for every \$1 made by young men artists. This ratio fell to \$0.78 for artists aged 35 to 44, and

to \$0.67 for 45-to-54-year-olds. Women artists aged 55 to 64 earned only \$0.60 for every dollar earned by men artists in that age group. Similar discounts to female earnings by age are found in the overall labor market.



Detailed Artist Occupations

The preceding analysis of earnings by artist occupational groups used recent data from the American Community Survey. Although the ACS is large (approximately 3 million households in 2005), it is nonetheless insufficient to provide reliable estimates of earnings by detailed artist occupations, which are often characterized by small numbers of workers with wide-ranging earnings. This analysis, therefore, requires the larger sample (14.5 million people) provided by the 5 percent Census 2000 Public Use Micro Sample.¹⁰

The data show that earnings differences between men and women workers in detailed artist occupations vary considerably. However, as discussed earlier, the gender earnings gap tends to be smaller for performing artists and larger for non-performing artists.¹¹ For example, women musicians and women announcers earned \$0.88 to \$0.87 for

every dollar earned by men. Women producers/directors fared almost as well, earning \$0.85. The exception to this pattern was the non-performing artist occupation of writers and authors, where women earned \$0.87.

At the other end of the scale are women in several non-performing arts occupations, including women photographers, who made less than 66 percent of what men photographers earned, and women designers, who earned 75 percent. The female-to-male earnings ratio for architects (among the highest-paying artist occupations) was less than 76 percent.

Earnings of Artists Employed Full-Year, Full-Time by Gender, 1999

(Detailed Artist Occupations)

Occupation	Men		Women			
	Median earnings		Median earnings		Percentage of men's earnings	
	Estimate	90% confidence interval (+-)	Estimate	90% confidence interval (+-)	Estimate	90% confidence interval (+-)
Civilian workers	\$37,000	\$35	\$27,000	\$15	\$0.73	\$0.00
All artists	\$42,000	\$133	\$31,000	\$178	\$0.74	\$0.00
Architects	\$53,000	\$294	\$40,000	\$454	\$0.75	\$0.01
Fine artists, art directors, and animators	\$36,000	\$520	\$29,000	\$1,266	\$0.81	\$0.04
Designers	\$40,000	\$207	\$30,000	\$172	\$0.75	\$0.01
Actors	\$36,000	\$4,141	\$30,000	\$2,146	\$0.83	\$0.11
Producers and directors	\$47,000	\$843	\$40,000	\$599	\$0.85	\$0.02
Dancers and choreographers	\$25,000	\$3,328	\$23,000	\$1,291	\$0.92	\$0.13
Musicians	\$32,500	\$438	\$28,600	\$833	\$0.88	\$0.03
Entertainers and performers	\$32,000	\$1,612	\$24,000	\$1,341	\$0.75	\$0.06
Announcers	\$30,000	\$586	\$26,000	\$864	\$0.87	\$0.03
Photographers	\$35,000	\$601	\$23,000	\$560	\$0.66	\$0.02
Writers and authors	\$43,800	\$971	\$37,000	\$691	\$0.84	\$0.02

Source: U.S. Census Bureau, 2000 Census 5% PUMS

State-Level Artist Earnings

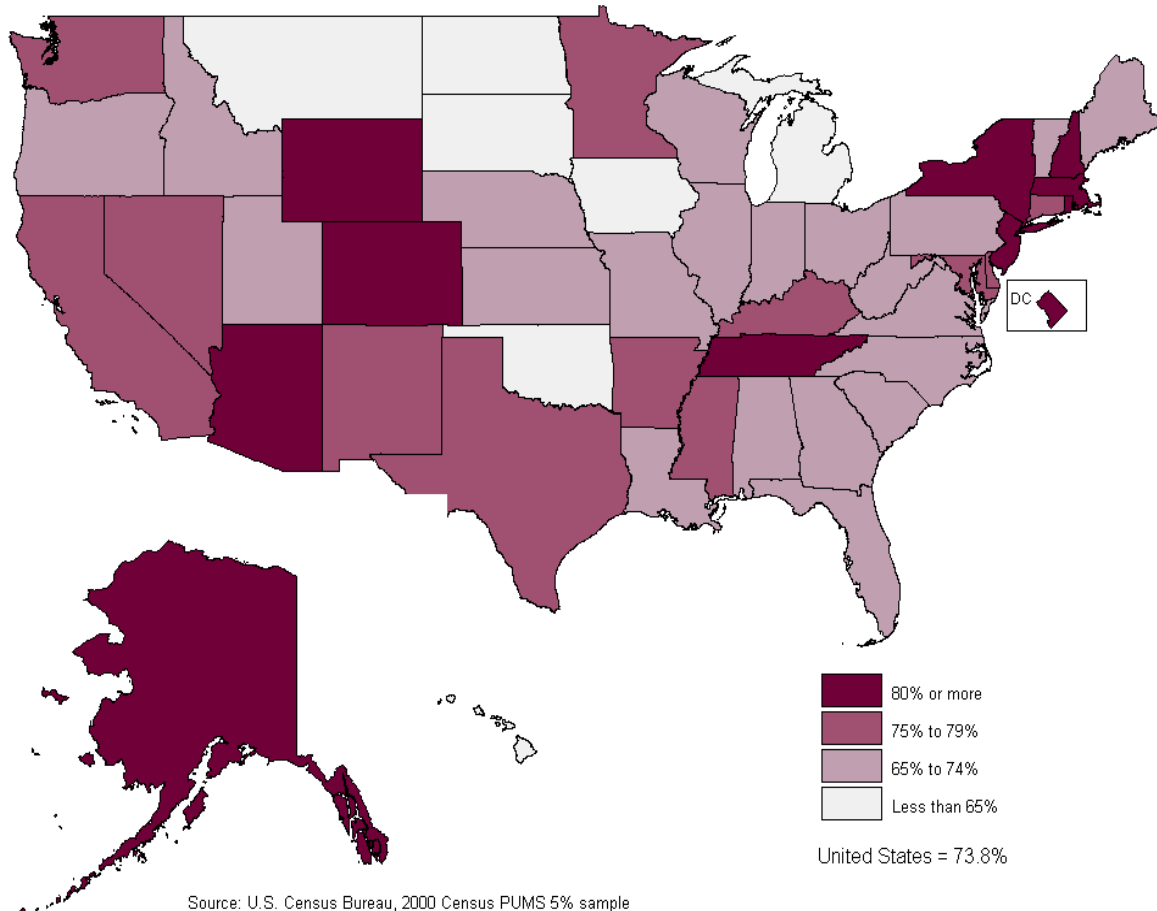
While the large sample size afforded by the Census 2000 PUMS permits calculating reliable earnings estimates at the state level by gender, it requires summation of individual occupational categories. Therefore, this section looks at male and female earnings for “all artists” in 1999.

As a percentage of what male artists made, female artist earnings were highest in New York and New Hampshire (85 percent in both states), followed closely by Massachusetts and the District of Columbia, where the ratio was 84 percent.¹² Women artists earned about \$0.80 for every dollar earned by men artists in seven states, including Arizona, Alaska, Rhode

Island, and Tennessee. Female artist earnings were also relatively high in Delaware and California (\$0.79 in both states), and in Kentucky (\$0.78).

In 27 states, women artists earned less than 75 percent of what men made. Examples included Virginia and Indiana (both at \$0.71), Ohio (\$0.70), and North Carolina (\$0.69). In Michigan, women made 60 percent of men’s earnings, and in North Dakota they earned only 53 percent.

Women's Earnings as a Percentage of Men's Earnings by State: All Artists in 1999



Commentary

Possible causes for artist occupational and earnings discrepancies are many. By gender, artists may be subject to both job-market discrimination (where employers hire and compensate workers based on qualities other than productivity) and non-market discrimination (where workers are not given equal access to training and support). For example, non-market discrimination in the form of stereotypes may contribute to low percentages of men dancers or women musicians.

As another possible factor, other researchers assert that women and men may differ in their

self-perception of ability, which can lead to differences in wages and representation in jobs. This theory suggests that lower self-confidence and more risk aversion among some women may account for their underrepresentation relative to their actual abilities.¹³

Alternatively, the prospect of low earnings may discourage women, or men for that matter, from choosing certain artist professions. For example, almost 80 percent of announcers are men. Improving the gender mix of this field would require more women entrants. However, given the relatively low earnings of announcers (median of \$36,000 in 2003-2005), women may have little incentive

to enter this occupation. Better-paying architect jobs (median of nearly \$62,000) may attract more women. As discussed earlier, the small percentage of women announcers remained largely unchanged between 1990 and 2003. But as a percentage of all architects, women gained seven points.

Naturally, many artists may choose their professions for reasons other than expected earnings—like teachers, clergy, and social workers, artists may receive high “psychic income” in the form of job satisfaction. Still, we cannot assume that artists are impervious to labor market signals in the form of low pecuniary earnings.

Data Sources

This note draws on data from the U.S. Census Bureau’s 2003-2005 American Community Surveys (ACS), and the 1990 and 2000 population censuses.

Relatively new, the ACS uses a “rolling sample” technique to produce detailed economic and demographic estimates of the American population. Geographic coverage increases as the ACS sample size grows with each additional year. In 2005, for example, the ACS surveyed 3 million households and provided reliable estimates for geographic areas with a population of 65,000 or more. Beginning in 2010, the ACS will replace the “long-form” component of the decennial population census (which was distributed to one out of every six U.S. households).

Due to the small population sizes of artists, multi-year estimates are needed to obtain reliable estimates. The ACS data in this paper represent three-year averages of the 2003-2005 surveys.

Excluding the 1990 estimates of artist occupation by gender, the figures reported here were taken from ACS and Census 2000 public use microdata samples. As samples, PUMS data provide information on individual records while maintaining the privacy of survey respondents. For this NEA Research Note, the ACS PUMS drew from 1 percent of the respondents in 2003-2005; for Census 2000 microdata, the sample was 5 percent.

Data from Census 1990 were based on the “EEO files,” calculated by the Census Bureau from results to all long-form questionnaires.

For a detailed explanation of the ACS and decennial census data used in this note, readers should consult Appendix B and Appendix C of the NEA’s Research Report #48, *Artists in the Workforce: 1990-2005*, available at www.nea.gov/research/ArtistsInWorkforce.pdf.

Technical information about the ACS PUMS sample design, as well as the formulae used to calculate standard errors, are described in the Census Bureau’s *PUMS Accuracy of the Data (2005)*, available from the Bureau’s website at: <http://www.census.gov/acs/www/Downloads/2005/AccuracyPUMS.pdf>

Women Artists: 1990-2005

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1100 Pennsylvania Avenue, N.W.

Washington, D.C. 20506

202-682-5400

Director, Sunil Iyengar

Senior Research Officer, Tom Bradshaw

Program Analyst, Sarah Sullivan

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Endnotes

¹ National Endowment for the Arts, Research Note #9, *Changing Proportions of Men and Women in the Artists Occupations: 1970-1980*, March 1985; and Research Note #10, *Artists' Real Earnings Decline 37% in the 1970s*, March 1985.

² For definitions of artist occupations, please see NEA Research Report #48, *Artists in the Workforce: 1990-2005*, p.4, <http://www.nea.gov/research/ArtistsInWorkforce.pdf>.

³ Nontraditional occupations are those where women account for less than 25 percent of all persons *employed* in a single occupational group.

⁴ See Gabriel, P.E. and Schmitz, S. "Gender Differences in Occupational Distributions among Workers." *Monthly Labor Review*, June 2007.

⁵ Among scientists and engineers, the ID was 27 percent in 2003. However, this figure is not directly comparable to the ID calculated for artists. The National Science Foundation defines scientists and engineers as those *employed or degreed* in these occupations. For more information, see National Science Foundation, Division of Science and Engineering Statistics, *Women, Minorities, and Persons with Disabilities in Science and Engineering*, Table H-5, December 2006.

⁶ For occupation conversion factors, see Appendix A of *Artists in the Workforce: 1990-2005*.

⁷ In 2007, architects earned an estimated median of \$67,600, calculated by multiplying median hourly wages of architects (\$32.51) by an average of 2,080 year-round, full-time hours. This figure is based on data collected by the Occupational Employment Statistics (OES) survey, which measures employment and wages for workers in nonfarm establishments (i.e., excluding self-employed workers). For more information, see the Department of Labor's Bureau of Labor Statistics, *Occupational Employment and Wages, 2007*.

⁸ For a detailed explanation of income, see Guide to Tables and Terms of *Artists in the Workforce: 1990-2005*.

⁹ Non-performing artist occupations include: architects; art directors, fine artists, and animators; designers; photographers; and writers and authors. Performing artists include: actors; producers and directors; dancers and choreographers; musicians; announcers; and entertainers and performers.

¹⁰ The 2000 decennial census asked respondents about their earnings in 1999.

¹¹ Although the estimated female-to-male earnings ratio for dancers and choreographers is 92 percent, the standard error for this estimate is more the 13 percentage points, suggesting that the ratio may vary greatly.

¹² The estimated female-to-male earnings ratio was \$1.09 for artists in Wyoming. However, the standard error for this estimate was 19 cents, a figure rendering the estimated earnings ratio in Wyoming unstable.

¹³ Please see "Gender Differences: The Role of Institutions," *National Bureau of Economic Research Digest*, August 2008 (<http://www.nber.org/digest/aug08/w13922.html>).