THE IMPORTANCE OF A COLLEGE PAPER IN THE ARTS TO ARTISTIC SUCCESS

(working paper)

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This project was supported in part or in whole by an award from the Research: Art Works program at the National Endowment for the Arts: Grant# 13-3800-7010.

Date last revised: July 2018

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Submitted to the National Endowment for the Arts

updated: July 2018

ABSTRACT[1]

Using a large and unique database of Americans, we examine the role that having a college degree plus a major in the arts plays in success in the arts. We determine the size of the artist labor force, and the number of arts majors in the labor force. We note that the majority of arts majors do not work in the arts, and that the majority of artists do not have an arts major. There is a small earnings premium to artists who possess an arts major. Using a number of measures of "success" – earnings, unemployment, weeks and hours worked – we find that arts majors, regardless of their occupation, generally resemble artists in the labor market. They are not compensated well compared to other college graduates, and their labor market outcomes are less rewarding than those of persons in the labor force who possess a creative major in other fields.

[1] We would like to thank the excellent research assistance of Kathleen Hourihan, Joanna Fister, and Pinshuo Wang.

EXECUTIVE SUMARY

1. Some basic statistics on artists and arts majors. Using data from the 2009-11 American Community Survey Public Use Samples, we determine that there are 2.1 million NEA artists in the labor force. NEA artists, i.e., occupations designated as artistic by the National Endowment for the Arts, are actors; announcers; architects; (visual) artists and related workers; dancers and choreographers; designers; entertainers and performers all other; musicians, singers and related workers; photographers; producers and directors; and writers and authors. We also call these narrow artists, because occasionally we use a more expansive definition of artist, which we call broad artists. The broad artist definition adds eight more occupations to the eleven enumerated above. These occupations are athletes, coaches, umpires and related workers; news analysts; reporters and correspondents; public relations specialists; editors; technical workers; miscellaneous media and communications workers; broadcast and sound engineering technicians; and television, video and motion picture camera operators and editors. We find that there are 2.9 million broad artists in the labor force.

In terms of percentages, NEA artists constitute 1.3 percent of the labor force; broad artists constitute 1.8 percent of the labor force. Historically, using the prevailing NEA artist definition or our approximation of it, artists have constituted from 0.75 to 1.40 percent of the labor force in Census years (years evenly divisible by 10) from 1940 to 2010.

Of the NEA artist labor force, 58 percent hold bachelor's degrees. In the overall labor force, 30 percent hold bachelor's degrees. Among artistic occupations, having a baccalaureate ranges from 15 percent for dancers to 89 percent for architects. Compared to the labor force as a whole, a higher percentage of artists are white and male. Education, gender and race vary widely among the eleven NEA arts occupations.

There is no standard definition of what is a college arts major. Consequently, we create our own, limited by the majors identified in the ACS. We define the following as narrow arts majors: fine arts; drama and theater arts; music; visual and performing arts; commercial art and graphic design; film, video and photographic arts; art history and criticism; studio arts; and miscellaneous fine arts. We also define a broad arts major. This definition adds the following four majors: language and drama education; art and music education; English language and literature; and composition and speech.

There are 2.2 million narrow arts majors and 4.2 million broad arts majors in the labor force. Both definitions of arts major have a higher percentage of whites and women than do all college graduates. The percentage of arts majors among college all graduates is growing.

Only 2.6 percent of all college graduates work as artists. We have seen that 58 percent of NEA artists have a bachelor's degree. However, only 26 percent of NEA artists have a bachelor's degree with a (narrow) major in the arts. Put another way, 44 percent of artists in the labor

force with a bachelor's degree have a narrow arts major. Thus the majority of artists with a bachelor's degree do not have an arts major.

Most surprising is that only 24 percent of narrow arts majors work as artists, and only 15 percent of broad arts majors work as NEA artists.

2. Jobs and career paths. In Chapter 2 we discuss the jobs that arts majors hold. Since only 24 percent of narrow arts majors work as artists, it is important to identify what types of occupations arts majors actually enter. We classify these occupations into eight broad groups: managerial; business and finance; STEM; arts; education; other professional; service; and blue collar. The first six generally require a college degree, the last two generally do not.

Among all narrow arts majors about 26 percent work in service, 24 percent work in the arts and 14 percent work in education. About 32 percent of the jobs are in service and blue collar, jobs which generally don't require a bachelor's degree. Among broad arts majors, 24 percent work in service, 23 percent work in education, and 15 percent work in arts.

In addition to placing arts majors in broad occupational groups, we compile a list of the top ten occupations in which arts majors work, ranking them in terms of the percentage of majors in each occupation.

For all narrow arts majors, there are three artist occupations in the top ten: designer (ranked first), architect (ranked second), and visual artist (ranked eighth). Three occupations are in education; three are in service. For all broad arts majors, there are two artist occupations in the top ten: designer (ranked second) and architect (ranked sixth). Four occupations are in education. Two are in service.

In this chapter, we also report on the broad occupational distribution of each individual narrow arts major and broad arts major, and the top ten occupations for each major, broken further into all majors, those with a bachelor's degree only, and those with a post-bachelor's degree.

3. Earnings of artists and arts majors. Chapter 3 discusses the earnings of artists and arts majors. In prior research, we have tracked the earnings of NEA artists since 1940. In all Census years since then, artists have earned less than other professionals; the ratio of artist to other professional earnings has ranged from 68.0 percent to 88.9 percent. The lowest percentage differential occurred in 2010, using ACS data.

NEA artists earned $45,491. NEA artists with a bachelor's degree earned a 34 percent premium over those without a bachelor's. NEA artists with a graduate degree earned a 14 percent premium over those who stopped at a bachelor's. These premiums for holding a bachelor's or a graduate degree are smaller for artists than for all labor force members. Some of the artist

occupations – Actors and Writers – actually had a negative premium to completing a post-bachelor's degree.

Female NEA artists earned 68 percent of male artist earnings, roughly the same disparity that persists in the entire labor force. African-American artists earned 81 percent of the earnings of white artists, a narrower disparity than in the entire labor force. Asian-American artists earned 14 percent more than white artists, the same difference that occurs in the entire labor force.

Turning to the earnings of arts majors, we find the following. Economists have long known the financial benefit of earning a bachelor's degree vs. having less formal education. Less known is that, for those with bachelor's degrees, some college majors lead to much greater earnings than others. The average earnings of narrow arts majors are $51,166, of broad arts majors, $54,100. By comparison, the average earnings of all college grads less narrow arts majors is $71,073. The premium to a graduate degree to narrow arts majors is 33 percent; to college grads less narrow arts majors it is 48 percent. Salaries of individual arts majors range from a low of $39,464 for studio arts majors to a high of $68,197 for architecture majors.

Female narrow arts majors earn 68 percent of the earnings of male arts majors. By comparison, other female college graduates earn 61 percent of the earnings of male college grads. African-American narrow arts majors earn 84 percent of white arts majors' earnings. Asian-American narrow arts majors earn 97 percent of white arts majors' earnings. The black-white earnings gap is narrower for arts majors than for all other college graduates; the Asian-white earnings gap is slightly greater.

Recalling that only one in four narrow arts majors work in an artistic profession, we compare their earnings when working inside and outside of the arts. While the average earnings of narrow arts majors is $51,166, they make $53,943 working in any artist job and $50,298 working in any non-artist job. These inside-vs.-outside earnings vary considerably by major. To cite some extreme examples, music majors earn almost $10,000 less when working as artists, and art and music educators earn $14,000 less when working as artists. Conversely, film, video and photographic arts majors earn $9,000 more when working as artists, and studio arts majors earn $6,000 more. Interestingly, college graduates who are not arts majors earn $18,000 less when they work as artists.

These findings are buttressed with the use of earnings functions. This econometric technique, because it can account for the marginal effects of achieving college degrees and of majoring in the arts on earnings while holding constant other effects, such as experience, gender, race, marital status, type of employer and type of industry, gives a more accurate picture of the role of a college major in the arts on earnings of artists. Results are presented for all artists combined, which are compared to all workers excluding artists. Then, results are presented for each of the eleven artistic occupations. Similar to the tabular data summarized above, we find that the return to additional education is lower for artists that for all other workers. Having an arts major has a positive and significant impact on earnings in six arts occupations (designers, photographers, visual artists, musicians, actors and writers and authors), but no significant

effect on earnings in five (architects, dancers, producers and directors, announcers, and entertainers, all other). For all artists combined, having an arts major increases earnings.

4. **Are arts majors comparable to other "creative" majors?** This is the subject of Chapter 4. Increasingly, college graduates who have majored in the arts have been touted as having desirable skills for employers in our "creative economy." This argument has sometimes been used as a selling point to young people to major in an arts field. We tested this hypothesis by comparing the earnings of arts majors to majors in other fields that could be termed "creative." Rather than creating our own definition of creative occupations, we use a definition originally conceived by Richard Florida. The other creative major fields to which we compared arts majors are engineering, computer science, physical science, education and social science.

We ultimately compare the average earnings of each of the above five major groups to the average earnings of both narrow and broad arts majors. First, we note the percentage of each major group that work in jobs in their area of expertise (engineering majors working as engineers, e.g.). These percentages range from 1 percent (social science majors) to 58 percent (education majors). We then compare earnings among these major groups, both when working in jobs matching their major, and in jobs not matching their major.

Not surprisingly, arts majors fare poorly when compared to these other major groups in terms of overall earnings. Compared to these other five creative major groups, the earnings of arts major, either narrow or broad, exceed only those of education majors. Engineering majors annually earned $43,000 more than arts majors, to cite the starkest comparison.

In three of the six creative fields, creative majors earned more working in jobs in their field; in the other three, they earned less. However, when comparing the earnings of majors in these six creative fields who stopped with a bachelor's degree, all but education majors earned more working in jobs in their field. When comparing the earnings of majors in these six fields who also earned any graduate degree, all six major groups earned more working in jobs not matching their undergraduate creative major.

Although we have seen in general whether each broad major group earns more when working in skill-related occupations vs. working in unrelated occupations, we don't know yet whether any creative major group will earn more when working in any single unrelated occupational area compared to other creative major groups. To address this question, we again turn to estimating earnings functions. This time we estimate the return to a baccalaureate and higher degrees for each creative major group when working in each of eleven broad occupational groups. In all these occupational areas, the returns to every creative major group for having baccalaureate and higher degrees is positive and significant.

Next, we test how having a specific major affects earnings (given that the worker has at least a bachelor's degree) in each of the occupational areas for which they were not trained. The differences in outcomes are startling. Arts majors earn significantly more than other creative

majors only when working in food services. In four of the other nine occupations, the difference is negative and significant. In the remaining five, the difference is not significant (from zero). Education majors show similar results. In seven of the ten non-education occupations, education majors earn significantly less; in the other three, the difference is not significant.

By comparison, engineering majors earn significantly more in seven of the ten non-engineering occupations. In two the difference is not significant. In one (food service), the difference is negative and significant. Computer science majors earn significantly more in eight of the ten non-computer science majors. In one the difference is not significant. In one (food service again), the difference is negative and significant.

Thus the hypothesis that training in the arts prepares one for success in other occupations is rejected, at least in terms of rewards as measured by salary. However, training in engineering and computer science seems to broadly prepare one for financial success across virtually all occupations.

5. Unemployment, hours and weeks worked. Chapter 5 explores these topics. Earlier research (often by us) has shown that artists in general suffer from higher rates of unemployment compared to other professional workers, and sometimes compared to the entire labor force. Over the three year period of the ACS data used in our research, the unemployment rate for NEA artists was 9.7 percent. The unemployment rate of the entire labor force was 9.3 percent; the unemployment rate for other professional and technical workers was 3.8 percent.

Unemployment rates in different artistic occupations vary greatly, ranging from 7.2 percent for writers and authors to 35.2 percent for actors. Unemployment rates of male and female artists are virtually identical.

The overall unemployment rate for narrow arts majors was 7.4 percent. Since three-fourths of narrow arts majors work in occupations outside the arts, this lower unemployment rate is due to lower unemployment in the non-arts occupations these arts majors worked in. Again, there is significant variation in unemployment rates, ranging from 4.9 percent for music majors to 15.1 percent for miscellaneous fine arts majors. Male narrow arts majors had a slightly higher unemployment rate than female arts majors.

Narrow arts majors had the highest unemployment rate of all the six creative major groups; education majors had the lowest unemployment rate.

Besides earnings and unemployment, other measures of involvement with the labor force include hours worked per week, and weeks worked per year. Earlier research by us indicates that an important reason why artists have lower earnings than other professionals is the fact that they work, on average, fewer hours per week and fewer weeks per year.

In our data, artists worked an average of 36.8 hours per week, 1.4 hours less than the entire labor force and almost two hours less than other professional and technical workers. Of the fifteen other professional and technical occupational classifications, only other health care workers worked fewer hours.

Narrow arts majors worked more hours per week in all eleven arts occupations than non-arts majors, including non-college graduates. Narrow arts majors worked 38.8 hours per week, compared to 41.2 hours per week for all college graduates. Narrow arts majors also worked a half-hour more in arts occupations compared to non-arts occupations. The differences in hours worked per week among the various arts majors were minimal.

The data collected by the ACS on weeks worked is not continuous. We can only report the number and the percentage who worked 40 weeks or more and 50 weeks or more. For the NEA artist occupations, the percentage working at least 40 weeks per year ranged from 40 for actors to 90 for architects. The percentage working at least 50 weeks per year ranged from 33 for actors to 85 for architects.

The percentage of narrow arts majors who worked at least 40 weeks ranged between 80 (miscellaneous fine arts) and 87 (art history); the percentage of narrow arts majors who worked at least 50 weeks ranged from 66 (miscellaneous fine arts) to 80 (architecture). Nevertheless, the percentage of arts majors who worked at least 40 weeks was lower than that of every other creative major group; the percentage of arts majors who worked at least 50 weeks was lower than that of every creative major group except for education.

6. What industries do arts majors work in? This is the subject of Chapter 6. Arts majors, being a relatively small percentage of all college majors, do not command a large percentage of the employment in any industry. To look at their representation in different industries, we defined twelve industry groups: construction; education; finance, insurance and real estate; government; independent artists; information; manufacturing; other entertainment; professional and medical services; transportation services; wholesale and retail trade; and other.

Narrow arts majors are most frequently found in professional services (29 percent of all arts majors), education (17 percent), and wholesale and retail trade (12 percent). Less than 10 percent are found in each of the remaining industry groups. Data on the distribution of individual narrow arts majors is found in this chapter.

Other creative majors combined show a similar industry distribution. The top two industries for other creative majors are professional services (29 percent) and education (26 percent). Only manufacturing also made double digits, at 10 percent.

Besides the concentration of arts majors, there is the question of the penetration of arts majors into each industry group. In other words, what percentage of employment in each industry is

occupied by narrow arts majors? Because of the relatively small number of arts majors (recall from Chapter 1 that no arts major entered the list of ten most popular majors), their penetration in every industry is relatively low. It is highest in the independent artists industry (13.4 percent). In no other industry does the penetration of art majors exceed four percent. The next largest, in descending order, are information, education and professional services (ranging from 1.8 to 3.9 percent).

All other creative majors, consisting of much larger in number, show a greater industry penetration. The greatest penetration is in education, at 35.6 percent. Industries with a penetration greater than ten percent, in descending order, are professional services, information, finance, insurance and real estate, and manufacturing.

CHAPTER I

THE BASICS: ARTISTS AND ARTS MAJORS

Introduction

In this chapter we cover some basic topics and ask some important questions. We discuss the data sources we use to draw our inferences and conclusions. We provide information that will be used throughout this study – the size of the labor force, the size of the artist labor force, the number of college graduates with arts majors who are in the labor force. We provide additional detail and perspective, especially with respect to determining whether and which arts majors actually work in artistic occupations. Almost all of our tabular information contains additional detail on individual artist occupations and individual arts majors. In some instances more detail is given using breakdowns by gender and race. Last, we raise and discuss the question of whether there is a "mismatch" between the number of people graduating college with arts majors and the number of arts jobs.

The American Community Survey

The principal data source we rely upon in this study is the American Community Survey (ACS). The ACS is an annual survey of the American public, which the Census Bureau began administering after the completion of the 2000 Census.

During most of the 20th Century, a subsample of Americans receiving the Census questionnaire was given a "long form" to complete. Americans who filled out the long form provided much more detailed information (anonymously) about members in their households. The long form served as the primary source of demographic, housing and labor market information about Americans. For the benefit of researchers, the household responses in Census long forms were released as a data file called a Public Use Microdata Sample, or PUMS. For example, the 1990 and 2000 Census PUMS included five percent of the U.S. population.[2]

The American Community Survey was designed to replace the information obtained from the Decennial Census long form. The benefit of having an annual survey is that similar information (but with a smaller sample size) is now available every year, and researchers do not have to wait ten years to discover new socioeconomic and demographic trends in the American population. Although the Decennial Census is still administered, its main purpose now is to count the number of residents in the United States, and to pinpoint their geographic location.

[2] The size of the Census PUMS varied among Census years. In 2000, the five percent PUMS contained information on roughly 14 million persons.

Currently, about 1 in 38 US households receives an invitation to complete the ACS each year. All ACS participants are asked to respond to a questionnaire that is essentially similar to the former Census long form.

Because a new sample is chosen every year, and because the samples can be appropriately weighted using Census population weights, it is possible to combine annual ACS PUMS data from different years. That is why we are using the combined 2009-2011 ACS PUMS as our primary source of data. Throughout most of our research we will concentrate only on Americans age 16 and over, since we are interested in labor force behavior. This subset of Americans at least 16 years old in the ACS PUMS contains observations on 7.4 million persons.

Before proceeding, we define many of the terms we use in this study and explain how they relate to the ACS PUMS.

Below we define the terms “artist” and “arts major” as they are used in this study. In both cases we work with the occupation and the college major definitions used in the American Community Survey, our principal source of data. In addition, in most instances we use the National Endowment of Arts definition of “artist.”

What is the United States labor force?

Because virtually the entire analysis in this study will focus on how arts and other majors fare in the labor force, it is important that to be clear how the term “labor force" is defined. In this study, we use the same definition of “labor force” as that used by the U.S. Department of Labor (and in the ACS):

A survey participant is a member of the labor force if s/he is 16 years or older, and reports that s/he either has a job or is unemployed but actively looking for work. Persons not having a job and not actively looking for work are classified as out of the labor force, regardless of age.

What are the artistic occupations in the labor force?

The American Community Survey protocol requests that survey participants who currently work or have recently worked identify their occupation. These responses are then translated into a system of occupational codes that are used to categorize everyone in the survey who is also a member of the labor force. There are over 500 occupational codes in this taxonomy.

There is no unambiguous set of occupational categories that could be called artistic. In this study we will primarily use the definition of artist used by the National Endowment for the Arts, which encompasses eleven ACS occupations: actors; announcers; architects; (visual) artists and related workers; dancers and choreographers; designers; entertainers and performers all other; musicians, singers and related workers; photographers; producers and directors; and writers and authors. We well refer to this occupational grouping as ***narrow (or NEA) artist occupations***.

We say that this definition is "primarily" used because at some points it is interesting to see what happens if we define the term "artist" more broadly. In the research that follows, we occasionally will employ a definition of artist that encompasses more occupations. This definition, which we call ***broad artist occupations***, includes the eleven occupations above plus eight others: athletes, coaches, umpires and related workers, news analysts, reporters and correspondents, public relations specialists, editors, technical workers, miscellaneous media and communications workers, broadcast and sound engineering technicians, and television, video and motion picture camera operators and editors. These eight occupations plus all of the NEA occupations other than architect comprise every occupational member of the ***Entertainment*** occupational group embedded in the ACS occupational codes.

Readers should be aware that there is a specific procedure used in the ACS to classify persons into occupations. The ACS, like the Decennial Census before it, assigns survey participants in the labor force to a specific occupation using the following methodology. Each participant is asked to address the inquiry below:

Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business.

A person who worked at only one job during the reference period will provide an unambiguous response, and would be assigned an occupation code. However, someone who worked at two or more jobs will be classified into the job at which s/he reported spending the most time. Although this methodology is consistent with capturing actual labor force behavior, it raises some issues for artists. First, artists are often multiple jobholders. Second, artists are unusual in that, when asked, they will often declare "artist" as their principal occupation despite spending few or no hours of work for pay and earning little or no money from their art form.

Nevertheless, the ACS methodology asks them only to report on their current job in which they work the most hours. Suppose that a person filling out this questionnaire is pursuing a career as an actor. Assume that she worked five hours last week acting and thirty hours last week waiting on tables. If she answers the occupation question correctly she will be classified as a waitress. Although it is impossible to determine how many waiters and waitresses really want to be actors, an examination of jobs that drama and theater majors actually hold will give us some insight into this phenomenon. The bottom line is that the Census Bureau methodology itself will not classify "wannabe" artists as artists. However, a person trying to find work as an actor may nonetheless choose to report herself as one, despite the instructions quoted above.

How many artists are there in the labor force?

In this section, using both narrow and broad definitions of artist occupations, we provide some basic information about America's artists, which is shown in Table I-1.

Table I-1 Artists in the Labor Force

Occupation	Number	% of LF	% Bachelor's	Age	% women	% white	% black	% Asian
All in Labor Force	156,164,382	100.0%	29.8%	41.1	47.5%	75.7%	11.7%	5.0%
All College Graduates	46,481,277	29.8%	100.0%	42.2	49.5%	79.7%	7.9%	8.9%
All NEA Artists	2,078,120	1.3%	57.7%	42.2	45.5%	83.2%	5.9%	5.6%
All NEA Artists < Bachelor's	879,118	0.6%	0.0%	41.7	43.3%	81.2%	8.1%	3.5%
All NEA Artists >= Bachelor’s	1,199,002	0.8%	100.0%	42.5	47.1%	84.7%	4.3%	7.3%
All Broad Artists	2,877,529	1.8%	56.3%	41.1	48.2%	88.5%	6.8%	5.6%
Designers	806,025	0.5%	52.8%	41.4	52.4%	83.8%	4.1%	7.0%
Writers and Authors	198,767	0.1%	82.7%	44.8	57.3%	88.4%	5.1%	3.4%
Visual Artists	197,101	0.1%	54.6%	44.7	24.9%	79.2%	2.4%	9.1%
Musicians	195,896	0.1%	47.8%	45.6	34.3%	78.6%	13.1%	3.4%
Architects	185,336	0.1%	88.8%	44.9	26.5%	84.2%	2.6%	9.6%
Photographers	159,690	0.1%	41.9%	39.8	45.6%	84.8%	5.7%	4.2%
Producers and Directors	151,842	0.1%	72.5%	40.0	37.7%	83.2%	7.5%	4.3%
Announcers	59,168	0.0%	36.1%	39.4	19.5%	77.2%	11.1%	3.2%
Actors	52,092	0.0%	47.9%	38.2	45.3%	76.2%	11.5%	2.7%
Entertainers	46,684	0.0%	34.3%	37.7	45.5%	78.4%	11.4%	2.7%
Dancers and Choreographers	25,519	0.0%	14.9%	29.1	82.2%	67.0%	15.2%	4.4%

Table I-1 contains Information on age, educational attainment, gender, and race. This information is displayed for all NEA artists combined and for all broad artists combined. Then, the same information is displayed for each individual NEA artist occupation. For reference, the same information is also provided for all persons in the labor force[3], and for all college graduates.

Of the 156 million persons in the American labor force, 2.1 million self-identify as artists, using the NEA definition. Expanding the definition to broad artist by incorporating all occupations that the ACS classifies as "entertainment" occupations increases their presence in the labor force to 2.9 million, with their labor force share rising from 1.3 to 1.8 percent.

Among the NEA artists, Designers is by far the largest occupation, outnumbering the combined membership of the next four largest arts occupations. Designers account for 39 percent of all NEA artists. There are almost 32 times as many Designers as there are Dancers and Choreographers, the occupation with the smallest membership

A number of possibly unexpected attributes of NEA artists show up in these statistics. First, although the primary focus of this study is how arts majors fare in the labor force, we see that only 58 percent of NEA artists hold a bachelor's degree. The percentage holding a bachelor's degree varies considerably among artist occupations, ranging from 15 percent for Dancers and Choreographers to 89 percent for Architects. Expanding our definition to broad artist occupations causes the percentage holding bachelor's degrees to fall slightly.

Second, the NEA artist labor force contains a lower percentage of women and a higher percentage of whites than the labor force as a whole. It also contains a lower percentage of women and a higher percentage of whites than all college graduates in the labor force. Last, if we confine our attention solely to NEA artists with a bachelor's degree, we find that its percentage of women and whites is higher than those for all NEA artists.

It should be noted that these gender and racial distinctions are not a new phenomenon. In earlier research, we documented that the artist labor force has been consistently composed of a higher than average percentage of men and whites going back to the mid-twentieth century.[4]

The composition by gender and race varies considerably across artistic occupations. Overall, 47.5 percent of persons in the labor force are women, and 45.5 percent of NEA artists are women. However, within the arts occupations, architecture is dominated by men; 26.5 percent of Architects are women. Even more extreme is Announcers; only 19.5 percent of Announcers

[3] In these tables, we count as the labor force everyone in the U.S. age 16 and over who qualifies, using the definition we presented above.
[4] Alper and Wassall (2006).

are women. On the other hand, 82 percent of Dancers and Choreographers and 57 percent of Writers and Authors are women.

Whites represent 76 percent of all labor force members and 80 percent of all college graduates. But of the eleven NEA arts occupations, all but one (Dancers) contain a higher percentage of whites than does the entire labor force. African-Americans are over-represented relative to their share in the labor force in only two artistic occupations - Dancers and Musicians. Asian-Americans exceed their share in the labor force in three artistic occupations – Architects, Visual artists, and Designers.

Artists are less unique is in terms of age. The average age of an NEA artist is the same as that of a college graduate in the labor force, and one year greater than that of all labor force members.

A brief history of artists in the labor force

It may be surprising to discover how small the percentage of artists in the labor force actually is. After all, Americans encounter and interact with artists every day, including the musicians that we regularly listen to on our smart phones and car radios, and the announcers and actors we encounter on television, or when we rent films or videos or see their work in theaters. Most of us read books regularly. We view photographs on the web, in magazines and in newspapers daily. Has the number and share of artists in the labor force always been this small?

Using PUMS data from the Decennial Census, we traced the percentage of artists in the labor force back to 1940. These statistics are provided in Table I-2.[5] The numbers are not completely comparable from decade to decade, as the Census Bureau and Department of Labor redefine occupations over time as the nature of jobs evolves. However, the definition of the labor force has remained the same over this period. The NEA adopted its definition of artist beginning with the 1970 Census. This definition also has been subject to change, as occupations have been redefined. In Census years prior to 1970, we recreated this definition as closely as possible to that used by the NEA.

The data in Table I-2 confirm that the relatively small share of artists in the labor force is not a recent phenomenon. In fact, the share of artists in the labor force has risen over this 70-year period to almost double what we measured in 1940. This growth in the share of artists is consistent with growth in the share of two broader occupational groups to which it belongs: service workers and professionals.

Who are America's college graduates?

Much has been written about America's college graduates, especially with regard to the earnings premium they receive in the labor market, and to the amount of debt that younger college graduates have incurred. Using the 2009-11 ACS PUMS, we present information on the

[5] At the time we compiled this data, the earliest Census PUMS available to researchers was 1940.

Table I-2. Artists in the Labor Force Since 1940 (000s)

Category	1940	1950	1960	1970	1980	1990	2000	2010	% change
Labor force	51,742	58,999	67,378	79,802	104,058	122,473	137,669	156,164	201.8%
Artists	386	441	492	737	1,086	1,671	1,931	2,078	438.3%
Artists as % of LF	0.75%	0.75%	0.73%	0.92%	1.04%	1.36%	1.40%	1.33%	

Source: For 1940-2000, Alper and Wassall, p. 832, from Census PUMS. For 2010, ACS 2009-11 PUMS

number of college graduates and the most popular college majors. In a subsequent section, we provide a brief history on the growth of college majors in the U.S. There are numerous studies of college graduates, and not all use the ACS as their data base. Thus our statistical findings may be slightly different than those of some other authors.

An important reason why we use the American Community Survey in this research, besides those cited above, is that beginning with the 2009 survey, the ACS has requested information about the major field of study from survey participants who are four-year college graduates. This information was never extracted from participants in prior Census or Current Population Surveys, nor from ACS participants prior to 2009. In a manner similar to how it codes occupations, the ACS translates these college major responses into a set of college major codes. The ACS recognizes just over 150 majors. Also, the ACS PUMS contains up to two major codes for each college graduate. Thus persons who reported being double majors are identified by both major codes.

Table I-3 contains some aggregate information on persons in the labor force holding a bachelor's degree or higher. Here, we look only at labor force members at least age 20, since younger members would not have the chance to complete college. We see that 31.1 percent of Americans in the labor force hold a bachelor's degree or higher. Obviously all 31.1 percent had a major, but we also see that 3.4 percent reported a second major. Thus roughly ten percent of all college grads in the labor force double majored.

Table I-3. College Graduates in the Labor Force (age 20 and older)

Graduates	Number	% of labor force	% with 2nd major
All	46,476,747	31.1%	3.4%
Men	23,478,735	29.8%	3.1%
Women	22,918,012	32.4%	3.7%

This table also shows that 29.8 percent of men, and 32.4 percent of women in the labor force hold at least bachelor's degrees. Double majoring is higher among women.

What majors do college graduates pick most often? Table I-4, which lists the ten most popular majors, sheds some light on this question. Three business majors appear in the top five, along with psychology and nursing. Education majors dominate the next five. The most popular major, business administration, was chosen by about seven percent of college graduates.[6]

[6] There are 3.1 million college majors in the age 20 and over labor force, but there are 3.9 million college majors in the 20 and over U.S. population. The difference consists of college grads who are retired or not in the labor force for a variety of other reasons, such as being disabled or in graduate school, or spending full time as a parent. The top ten choices of major made by this larger group are identical to those in the labor force.

Table I-4. The Ten Most Popular College Majors in the Labor Force

All in LF	Number	% of Total	Men	Number	% of Total	Women	Number	% of Total
Business Administration	3,143,939	6.8%	Business Administration	1,812,811	7.7%	Nursing	1,577,258	6.9%
Psychology	2,043,233	4.4%	General Business	1,289,896	5.5%	Elementary Education	1,406,300	6.1%
General Business	2,026,735	4.4%	Accounting	969,583	4.1%	Psychology	1,375,587	6.0%
Accounting	1,856,090	4.0%	Electrical Engineering	814,822	3.5%	Business Administration	1,331,128	5.8%
Nursing	1,732,290	3.7%	Biology	803,188	3.4%	General Education	1,124,905	4.9%
Elementary Education	1,580,100	3.4%	Political Science	722,701	3.1%	Accounting	886,507	3.9%
General Education	1,536,878	3.3%	Computer Science	716,346	3.1%	Eng. Language and Lit.	860,125	3.7%
Biology	1,514,092	3.3%	Economics	691,029	2.9%	General Business	736,839	3.2%
Eng. Language and Lit.	1,375,377	3.0%	Psychology	667,646	2.8%	Biology	710,904	3.1%
Political Science	1,144,755	2.5%	Mechanical Engineering	650,053	2.8%	Communications	577,478	2.5%

There are significant differences among the top ten major choices of men and women. The major chosen most often by women – nursing – doesn't even make it into the top ten college major choices of men. Similarly, electrical engineering, mechanical engineering, and computer science, all top ten choices of men, fail to make the women's top ten. Elementary and general education and English majors make the women's top ten, but not the men's top ten.

Although they are not included in this table, a list of the ten most popular second majors closely resembles the top ten first major list. Numbers one through six duplicate majors on the first major top ten list. Numbers seven through ten on the second major list are foreign language studies, finance, sociology, and history.

Who are arts majors?

As with arts occupations, there is no clear-cut set of majors that can be called artistic. Because of this we utilize two definitions. The first definition we call a ***narrow arts major***. It consists of the nine majors in the ACS 6000 code field; these are: fine arts; drama and theater arts; music; visual and performing arts; commercial art and graphic design; film, video and photographic arts; art history and criticism; studio arts; and miscellaneous fine arts. To these we add the architecture major. The architecture major is found among engineering majors, but since architect is one of the NEA, or narrow arts, occupations, it is also included among narrow arts majors.

We also develop a definition of a ***broad arts major***. It encompasses the ten majors above plus the following four: language and drama education; art and music education; English language and literature; and composition and speech. These four majors are less directly related to working in artistic occupations, but nevertheless provide skills to help graduates enter some artistic fields. Below we will discuss how frequently people holding these different arts majors actually enter artistic occupations.

In looking at information about arts majors in the next section and subsequent parts of this study, it is important to keep in mind that persons found in the ACS PUMS are chosen as a stratified random sample. If one's conception of a music major is a Julliard graduate, the odds that such a person will show up in the sample are equal to the percentage of music majors that Julliard graduates relative to all other music schools and college music departments. The same is true of other majors.

How many arts majors are there in the labor force?

Information about arts majors in the age 20 and over labor force is found in Table I-5. Both narrow and broad arts majors are represented. For reference, the same statistics for all college graduates are presented. Information on individual majors is presented as well; narrow majors are in red and in descending order of numbers of majors. The four extra majors added to create the broad major definition are in black.

Table I-5. Arts Majors in the Labor Force

Major	Number	% of majors	% of LF age 20+	% women	% white	% black	% Asian
All college grads	46,481,277	100.00%	31.10%	49.5%	79.7%	7.9%	8.9%
All narrow arts majors	2,235,804	4.81%	1.50%	53.2%	83.7%	4.9%	7.3%
All broad arts majors	4,214,141	9.07%	2.82%	58.6%	84.9%	5.2%	6.2%
Fine Arts	532,382	1.15%	0.36%	59.2%	84.3%	4.5%	7.0%
Comml Art & Graphic Design	424,175	0.91%	0.28%	62.5%	81.5%	5.7%	8.6%
Music	351,528	0.76%	0.24%	47.8%	84.9%	5.1%	6.8%
Architecture	359,502	0.77%	0.24%	27.4%	79.8%	4.8%	11.0%
Drama and Theater Arts	196,761	0.42%	0.13%	58.1%	87.9%	5.4%	2.8%
Film, Video and Photo. Arts	122,481	0.26%	0.08%	38.2%	83.9%	5.0%	5.5%
Art History	103,837	0.22%	0.07%	79.7%	89.2%	2.4%	5.1%
Studio Arts	81,944	0.18%	0.05%	63.6%	87.0%	2.9%	5.9%
Visual and Performing Arts	57,396	0.12%	0.04%	76.0%	83.2%	5.7%	5.8%
Miscellaneous Fine Arts	5,607	0.01%	0.00%	50.0%	83.8%	8.1%	3.0%
Eng. Language and Literature	1,375,377	2.96%	0.92%	62.5%	84.7%	5.9%	6.2%
Art and Music Education	288,399	0.62%	0.19%	63.4%	91.2%		1.7%
Language and Drama Edu.	240,021	0.52%	0.16%	80.3%	89.0%	5.3%	2.5%
Composition and Speech	74,731	0.16%	0.05%	58.6%	86.9%	5.1%	3.6%

There are 2.2 million narrow arts majors in the age 20 and over labor force. Narrow arts majors constitute about five percent of all college graduates. Broad arts majors constitute about nine percent. The fact that the English major – the ninth most popular major among all college graduates – is one of the four majors added when the definition is expanded to "broad" explains why the percentage almost doubles. English majors are roughly a third of all broad arts majors. The English major by itself was chosen by more graduates than the three largest narrow arts majors combined.

Women make up a larger percentage of both narrow and broad arts majors than of all college graduates combined, despite being relatively underrepresented in arts occupations. However, both narrow and broad arts majors contain a higher percentage of whites than among all college graduates.

There are significant differences in gender and race among narrow arts majors. Over 70 percent of art history and visual and performing arts majors are women; under 40 percent of architecture and film, video and performing arts majors are women. Only the architecture major has fewer than 80 percent whites, and that is because of the high percentage of Asian-Americans possessing this job market credential. The four majors which add to form the broad arts major encompass even higher percentages of women and whites than narrow arts majors.

College degrees and degrees in the arts: a brief history

Although The ACS 2009-11 PUMS serves as the data set that we use in this report, it does not provide historical information on trends in the granting of college degrees which are reflected in the college graduates in the survey. Also, it can't easily document the growth in degree completion over time. To gain some insight into how many persons graduate every year in this country with bachelor's degrees, and with degrees in the arts in particular, we turn to U.S. Department of Education data. From this source, we create a profile of the number and distribution of persons with degrees in the visual and performing arts over the past 40 years, comparing them to all degree-holders (Table I-6).[7] To keep the table parsimonious, we report on the data only for every five years. Total and average amount in the table represent all years.

The number of visual and performing arts degrees awarded in 2010-11 was 93,956, approximately three times the number awarded in 1970-71. The growth of bachelor's degrees in the arts over this forty-year period is greater than the growth in all bachelor's degrees. The percentage of total degrees awarded to those majoring in visual and performing arts rose from 3.6 to 5.5 over this period. In total, just under 2.2 million persons earned a bachelor's degree with a major in visual and performing arts since 1970-71.

[7] Digest of Education Statistics, 2012 Tables and Figures, Tables 310 and 365. Of course, persons counted in this survey were not necessarily in the labor force during 2009-11.

Table I-6. Degrees in visual and performing arts, every five years, 1971-72 through 2010-11

	All Bachelor's degrees			Bachelor's degrees in visual and performing arts			
Year	Number	% change	% female	Number	% of total	% change	% female
1970-71	839,730	---	43.4%	30,394	3.6%	----	59.7%
1975-76	925,746	10.2%	45.5%	42,138	4.6%	38.6%	60.9%
1980-81	935,140	1.0%	49.8%	40,479	4.3%	-3.9%	63.4%
1985-86	987,823	5.6%	50.8%	37,241	3.8%	-8.0%	61.8%
1990-91	1,094,538	10.8%	53.9%	42,186	3.9%	13.3%	62.6%
1995-96	1,164,792	6.4%	55.1%	49,296	4.2%	16.9%	59.2%
2000-01	1,244,171	6.8%	57.3%	61,148	4.9%	24.0%	59.2%
2005-06	1,485,242	19.4%	57.5%	83,297	5.6%	36.2%	61.4%
2010-11	1,715,913	15.5%	57.2%	93,956	5.5%	12.8%	61.3%
Total	48,981,113	---	52.6%	2,163,764	4.4%	---	61.0%

SOURCE: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Degrees and Other Formal Awards Conferred" surveys, 1970-71 through 1985-86; Integrated Postsecondary Education Data System (IPEDS), "Completions Survey" (IPEDS-C:91-99); and IPEDS Fall 2000 through Fall 2011, Completions component.

A number of other characteristics and trends are apparent in this data. Overall, we can observe the "feminization" of college graduates; the percent of graduates who are women rose from 43.4 to 57.2 over this period. However, 61.0 percent of those receiving degrees in visual and performing arts were women over the entire period. In 2010-11, 61.3 percent of visual and performing arts degree recipients were women.

How does the data on college graduates with visual and performing arts majors gleaned from Department of Education reports correspond to our estimates of arts majors drawn from the ACS PUMS? Unfortunately, there is no crosswalk between degrees in the visual and performing arts as defined by the Department of Education and the degree-holders we call narrow arts majors that we have identified in the ACS. It would be comforting, though, if the two sets of data had at least a rough correspondence.

We can make an order of magnitude comparison of the two data sources in the following manner. A person who graduated from college in 1971 would be 64 or younger in 2014 (assuming that her age at graduation was at least 21). A very high percentage of all these graduates will still be alive. However, not all of these college graduates will be members of the labor force in 2014. Obviously, those in the earlier graduation cohorts will be more likely to have left the labor force, and more recent ones will be less likely to have dropped out. Nevertheless, we have as a starting point the total number of visual and performing arts majors turned out between 1970 and 2011.

According to the Bureau of Labor Statistics, the labor force participation rate of college graduates 25 years or older was 74.7 percent in June, 2014.[8] Applying this percentage to the Education Department's total reported number of college graduates with visual and performing arts majors since 1970-71 of 2.2 million yields an estimate of 1.6 million arts majors still in the labor force.[9] This can be compared to the 2.2 million narrow arts majors in the labor force we estimated earlier using ACS PUMS data. If we eliminate architecture majors from this total – architecture majors clearly would not be counted among performing and visual arts majors – we are left with 1.9 million, an upper bound. If we further eliminate commercial art and graphic design majors – it's not as clear whether some or all of these majors would be counted or not – we are left with 1.5 million, a lower bound. Thus we argue that there is a rough correspondence between the two data sources.

College majors, arts majors, and arts jobs

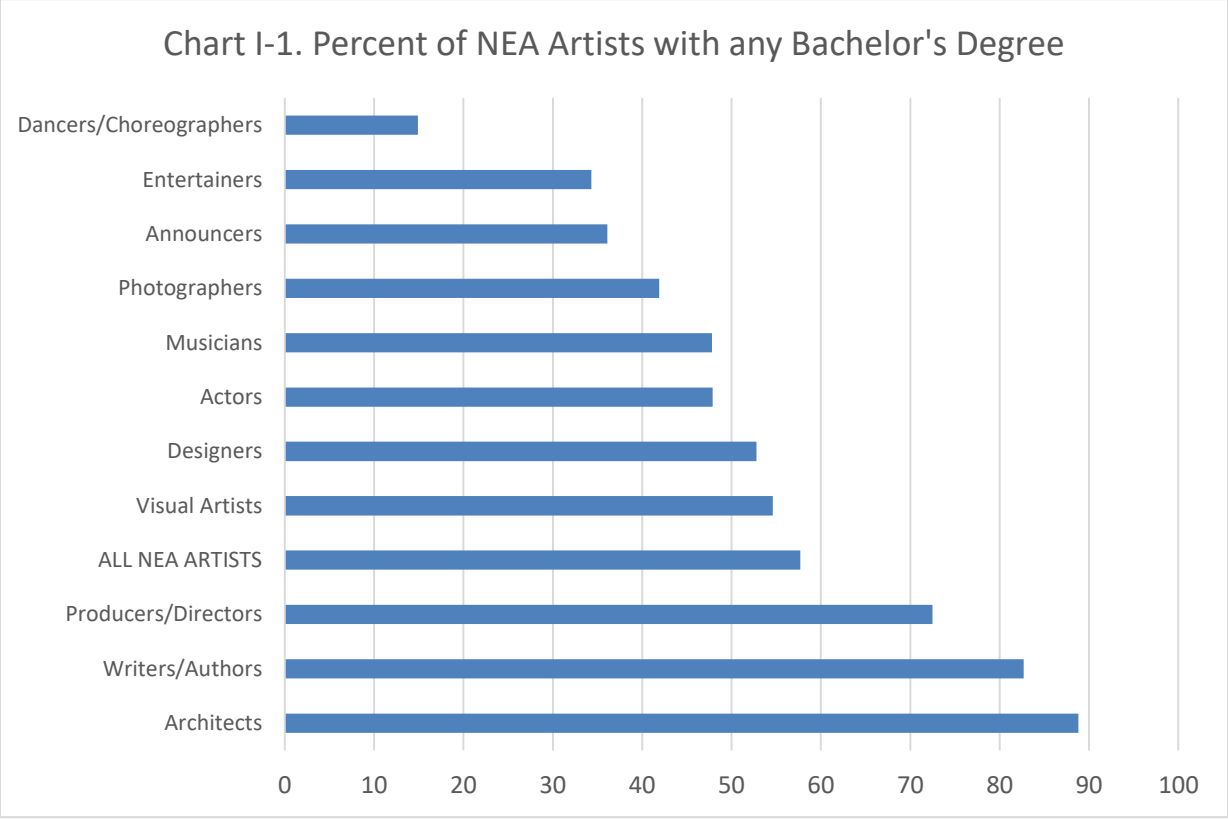
We have looked separately at the numbers of artists and the numbers of arts majors in the labor force. Important questions yet to be addressed relate to the nexus of artists and arts

[8] U.S. Bureau of Labor Statistics, Economic News Release, Table A-4, August 1, 2014.

[9] Incidentally, we estimated the total number of arts majors in the U.S., both in and out of the labor force, to be 2.8 million. Since we estimated the number of arts majors in the labor force to be 2.2 million, this implies a labor force participation rate of college graduates with arts majors of 78.6 percent.

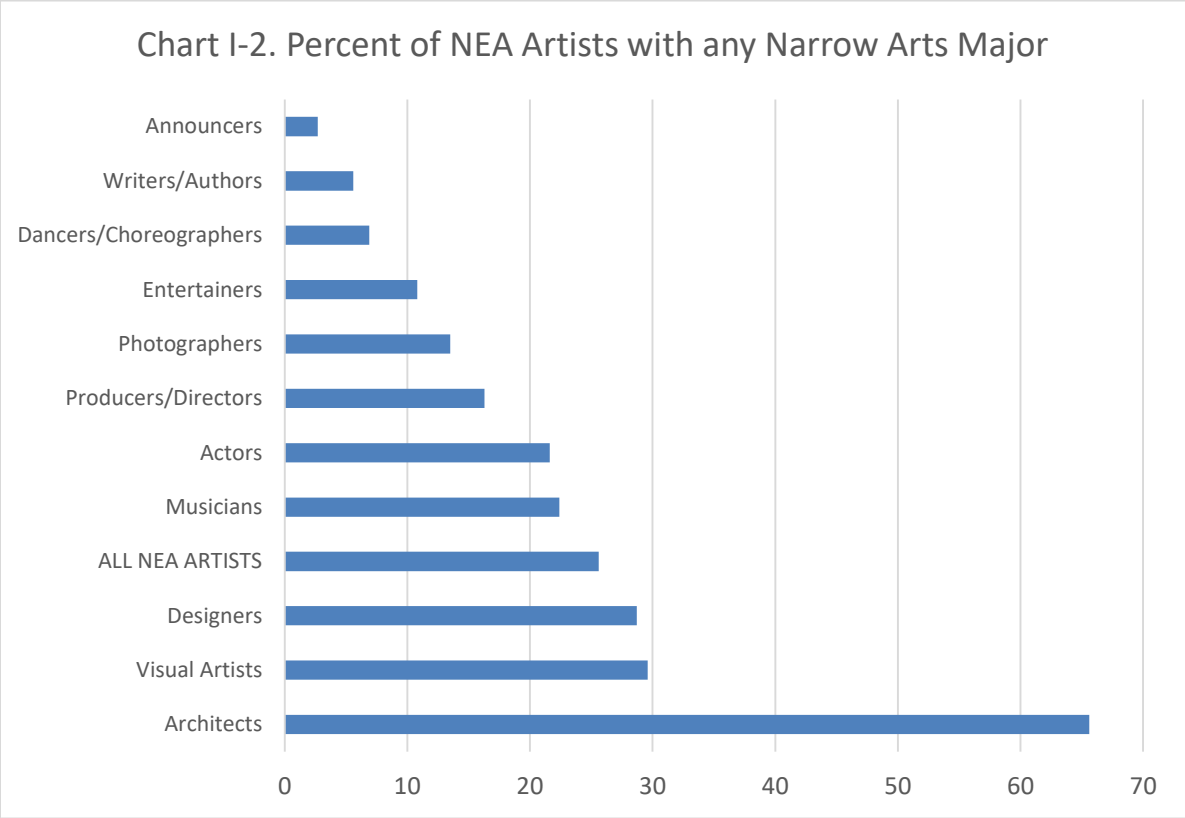
majors. How many college majors hold arts jobs? How many arts majors hold arts jobs? In what artistic occupations? How many artists were arts majors in college? What do arts majors do when they don't work as artists? The first four of these five questions will be answered in this section. The fifth question will be addressed in the next chapter.

In Chart I-1 we examine how many artists have bachelor's degrees.[10] We look at this in terms of all NEA artist occupations combined, and for each NEA artist occupation individually.
Given the small size of the artist labor force, and the fact that 42 percent of artists did not earn a bachelor's degree, it should not be surprising to find that only 2.6 percent of all college graduates work as artists. The percentage of those artists who have at least a bachelor's degree varies considerably across art forms. At the high end, almost 90 percent of Architects and over 80 percent of Writers and Authors hold this degree. On the low end, only 15 percent of Dancers and Choreographers have earned a bachelor's. Diverse reasons lie behind these differences. Of the eleven NEA artist professions, architecture is the one with the most traditional job requirements, having a greater similarity to engineering job markets than most arts job markets. Writing, more than most other arts forms, seems to be best learned in college. Dancers have a low rate of college completion because of their younger ages as well as the fact that the path to careers in this art form generally does not go through college.[11]



[10] The raw numbers from which Chart I-1 and Chart I-2 are derived can be found in Appendix Table I-1.
[11] Note that the Dancer occupation includes more than classical and folk dance, encompassing showgirls and barroom dancers as well.

In Chart I-2 we examine how many artists have a bachelor's degree with any narrow arts major. Again, we look at each of the eleven occupations. We have seen that although 58 percent of NEA artists have a bachelor's degree, only 25.6 percent of NEA artists have a bachelor's degree with a (narrow) major in the arts. Put another way, 44.4 percent of artists in the labor market with a bachelor's degree have a narrow arts major. Thus the majority of artists with a bachelor's degree do not have an arts major.



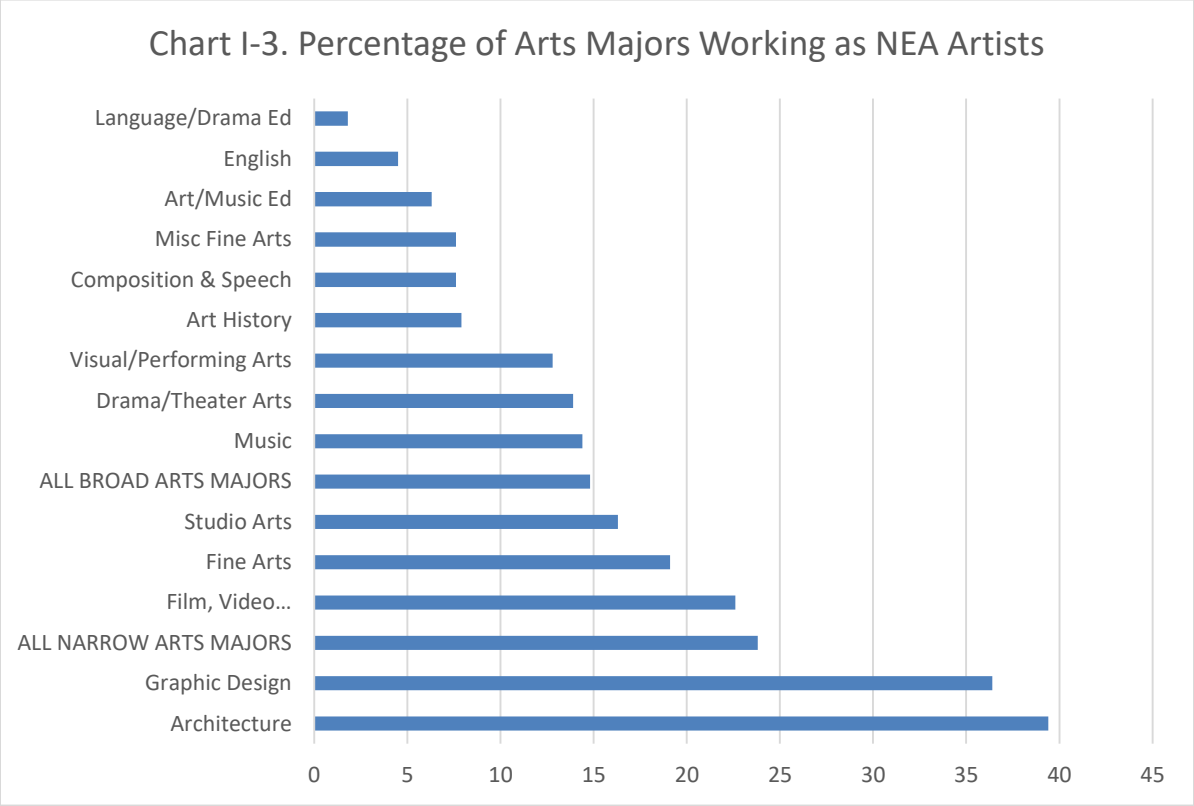
At the high end in charts I-1 and I-2 is the architecture occupation. Not only does this occupation have the highest percentage of college graduates, it also has the highest percentage of arts majors. About three-fourth of architects holding a college degree also have an arts major (mainly an architecture major).

Very unlike Architects are Announcers. Although 36 percent of Announcers hold a bachelor's degree, only three percent were narrow arts majors. No single broad arts major accounted for as much as one percent of the majors chosen by Announcers with bachelor's degrees.

Writers and Authors are second only to Architects in the percentage of an artistic occupation with a bachelor's degree. Yet only seven percent of writers with bachelor's degrees are narrow arts majors. However 29 percent are broad arts majors. Writers and Authors have more majors in English language and literature and composition and speech than in all narrow arts majors combined. Dancers and Choreographers are also very different. Very few – fifteen percent –

hold bachelor's degrees. Yet almost half of dancers who hold a bachelor's degree also have an arts major, generally in a related field, such as music or drama. (The ACS does not recognize a dance major).

After investigating how many artists have bachelor's degrees and arts majors, we now reverse the focus of our investigation, and examine how many arts majors work in each of the NEA artistic occupations. We do this for all narrow arts majors, all broad arts majors, and each individual narrow and broad arts major. This information is found in Chart I-3.[12]



Using Chart I-3, we reverse the perspective and calculate the number of arts majors who are working as NEA artists. We see that the penetration of arts majors into arts occupations is highly variable. Most surprising is that only 23.8 percent of narrow arts majors work as artists, and only 14.8 percent of broad arts majors work as NEA artists. These two statistics strongly suggest that having a narrow arts major is more effective path to an arts job than having any of the four majors that when added combine to define a broad arts major. Only 4.5 percent of these four additional majors work as NEA artists.

We now look at the variability in the penetration of individual arts majors into arts occupations. On the high end, almost 40 percent of architecture majors wind up working as artists. Not far behind, at 36.4 percent, are commercial art and graphic design majors. On the low end of

[12] The raw numbers from which Chart I-3 is derived can be found in Appendix Table 1-2.NEA

narrow arts majors are art history (7.9 percent) and miscellaneous fine arts (7.6 percent). The four majors added to create the broad arts majors category rank last. Less than ten percent of each of the four added broad arts majors – language and drama education, art and music education, English language and literature, and composition and speech – wind up working as artists.

If so few arts majors wind up as artists, what kind of jobs do they take? Are there patterns in their jobholding? These questions will be answered in the next chapter.

Artists vs. arts majors: Is there an oversupply of persons with arts degrees relative to arts jobs?

Summarizing the discussion above, there are 2.2 million narrow arts majors and 4.2 million broad arts majors in the labor force. Also, there are 2.1 million NEA artists in the labor force, of which 1.2 million hold a bachelor's degree, and of which 533 thousand hold a narrow arts degree. Thus approximately three out of four college graduates with narrow arts majors in the labor force do not work in artistic occupations.

One question that is likely to arise from an examination of the data presented thus far is whether America's colleges are graduating "too many" persons with degrees in the arts, relative to the number of jobs currently available. We will address this question in some detail in this section, and return to it later in this study.

Here we raise three points that we feel make a definitive answer to the above question difficult to achieve. The first is that we believe that college students should choose the major that best suits their interests and future plans, assuming that they have information about their options. The number of persons with any major "competing" for jobs in occupations that this major flows into should be only one factor to consider, and usually not the most important one. Not everyone will agree with our position on this point.

A second point is that, in our years of research on artists, we have come to recognize that in many ways artists are different from persons in most other occupations. One way this difference manifests itself is in how artists view their work as "who I am" rather than "what I do". Most persons do not define themselves by their work to the extent that artists do. In direct surveys, we have continually found that artists define themselves as artists even when they work in an unrelated occupation, and when they receive no income from their art.[13] Persons with an artistic bent would be more likely to acquire artistic skills while in college, regardless of what occupation they expect to enter after graduation.

Third, many college majors provide knowledge that is generally useful in the labor market, but not necessarily in one specific set of jobs. The English major is one example; another is the economics major. On the other hand, people who major in engineering and nursing are usually

[13]For example, see Wassall, Alper and Davison (1983).

preparing themselves for entry into specific occupations. The collection of arts majors contains those which are both general and specific, further complicating the answer to the question of the appropriate number of arts majors versus arts jobs.

Does all this mean that there is an oversupply arts majors? Our position is that it is hard to say yes or no. As noted, there are many examples of majors other than in the arts from which large numbers wind up working in seemingly unrelated fields. Many of these persons fully anticipated this outcome. How they fare in these unrelated fields may help determine whether "too many" persons chose a specific major. If there were truly an oversupply of arts majors for available jobs, then the effect may show up in job market data, such as earnings and unemployment, although it would be hard to separate this effect from other causal factors. In Chapters 3 and 4, we discuss how arts majors fare when they work in occupations not related to their major.

CHAPTER 2

JOBS AND CAREER PATHS OF ARTS MAJORS

Introduction

In this chapter, we address two broad questions. Where do arts majors go when they enter the job market? What kind of jobs do they hold? We will answer both questions by reporting on the jobs that arts majors held at the time of the survey, both from a macro and micro perspective.

What jobs do arts majors take?

As we observed in Chapter 1, arts majors in general do not wind up working as artists when they graduate. We saw that, using the NEA artist definition, 24 percent of arts majors work in artistic occupations, and that 74 percent of working artists do not have a bachelor's degree with an arts major.[14] If that is the case, in what kinds of occupations do we find arts majors when they don't work in the arts? Do different arts majors enter the same non-arts occupations? Does their choice of occupation depend on the highest degree they earned?

We address these questions in two ways. First, we take a macro look at the job distribution of all arts majors combined and then each individual arts major over eight broad occupational areas, such as artistic, managerial and educational. These occupational areas are widely used; this enables the choices that different arts majors make to be compared more easily. Second, for each all arts majors combined and each arts major we identify the ten specific occupations that they choose most frequently. As we work our way through this chapter, we first identify these occupational choices for all narrow arts majors, and then for all broad arts majors. Then we focus on occupational choices made by each of the individual arts majors.

What is in a broad occupational category?

To give a macro overview of the types of jobs art majors have, we narrowed the ACS list of approximately 500 individual occupations to eight. Each of the eight is described briefly below.

Managerial: Included here are all jobs where the primary function is managerial or supervisory. Selected jobs include chief executives, farmers and ranchers, education administrators, construction managers, lodging managers, and non-profit managers.

[14] The 74 percent of working artists without an arts major consist of 42 percent who did not complete a bachelor's degree, and 32 percent who completed at least a bachelor's degree but did not major in an arts field.

Business and Finance: This category holds business jobs where a specific function is performed. Examples are human resource specialists, accountants, appraisers, and financial analysts.

STEM: Relatively self-explanatory, this category includes science, technology, engineering, mathematics and computer science occupations.

Arts: This category consists of the eleven occupations defined by the NEA as artistic.

Education: This category includes instructors from preschool through college, librarians and archivists, library technicians and teacher assistants.

Other Professional: This is a catch-all category that encompasses occupations that generally require at least a bachelor's degree but are not accounted for in the categories above. Included are social scientists, social workers, non-arts entertainment jobs, the health and medical professions, and the legal professions.

Service: This is another catch-all category; it includes occupations in which a service is provided, but for which a bachelor's degree is generally not required. Examples are corrections officers, cooks, waiters and waitresses, home care aides, bank tellers, desk clerks, and salespersons.

Blue Collar: This last category includes jobs for which a bachelor's degree is generally not required, but the worker is involved in goods production and repair. Examples are carpenters, electricians, roofers, miners, aircraft and motor vehicle repairers, machinists, tool and die workers, and cabinet makers.

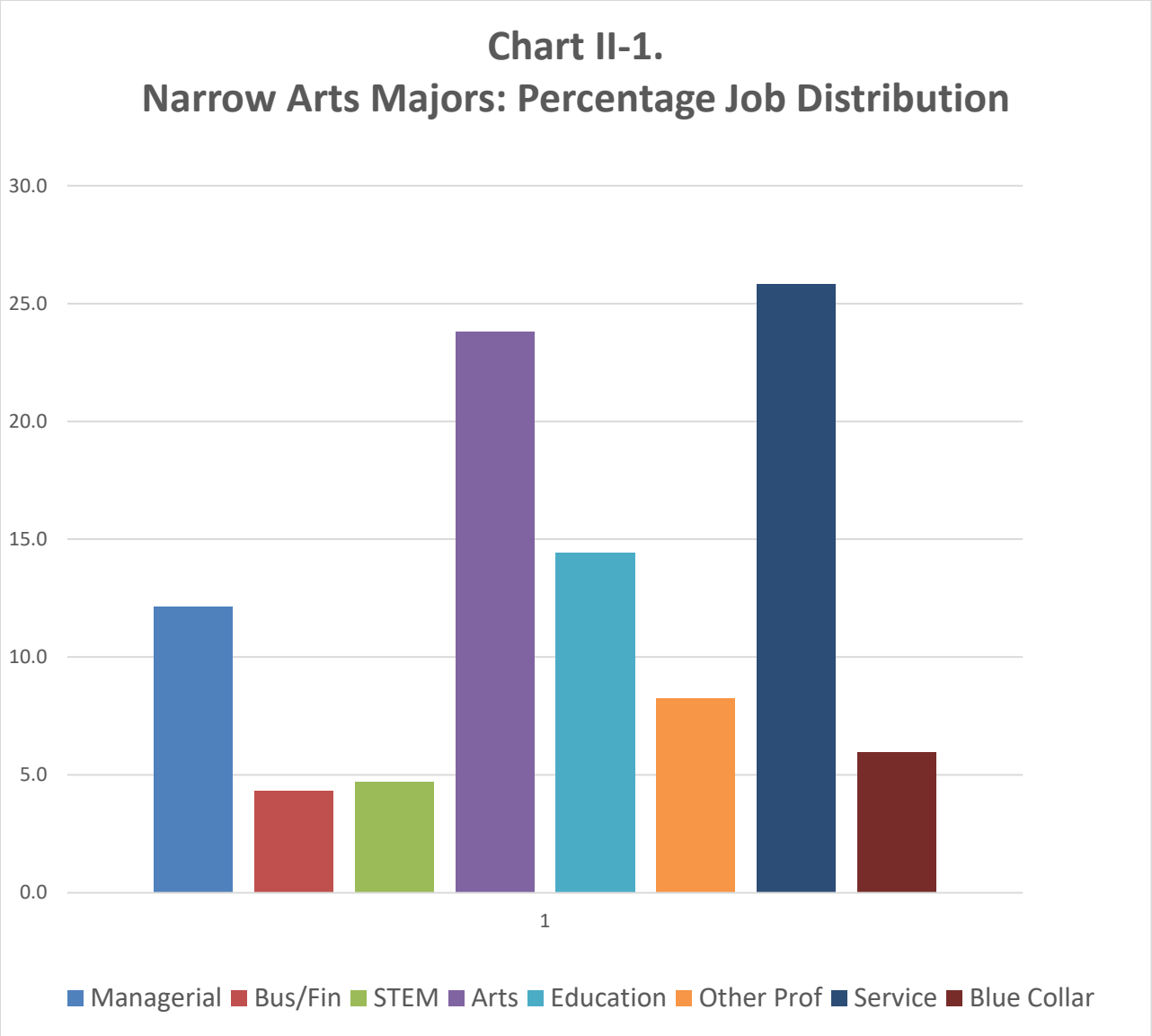
A distinction among these eight categories which will be explored below is whether the jobs in each category require a bachelor's degree as an entry criterion. It is clear that jobs in the last two categories do not. Virtually all jobs in Business and Finance, STEM, Education, and Other Professional require a college degree. The majority of jobs in the Managerial and Arts categories also do, but there are some exceptions.

What jobs do narrow arts majors take?

Chart II-1 provides the macro look for all narrow arts majors combined. The largest group of arts majors – just over a quarter – work in service jobs. Second is arts jobs, at just under a quarter. Just over 12 percent go into teaching. The other categories hold less than ten percent of jobs. Treating service and blue collar as occupations which do not generally require a bachelor's degree, we see that at least 30 percent of arts majors are working in jobs that they could have had without completing college.

For the micro look, Table II-1 provides a list of the ten occupations most frequently chosen by narrow arts majors.[15] This "top ten" list is then further broken into those narrow arts majors

[15] In each of these "top ten occupations" tables, any artistic occupations appear in red type.



whose terminal degree is a bachelor's, and those who continued their education to earn a master's, doctoral, or professional degree. Unlike the case with bachelor's degrees, the American Community Survey does not request (and cannot provide) information on the field of any post-bachelor's degree earned by a respondent. Someone who indicated that she has a master's degree could have a Master of Fine Arts, a master's degree in history, or some other field. The same identification problem occurs with PhD degrees and professional degrees. Because of this, we have lumped all three graduate degree categories together. It is still possible in some cases to determine the nature of the graduate degree. For example, when the occupation "Lawyers and Judges" shows up in the top ten, we can be certain that all the arts majors in that occupation earned a law degree after the baccalaureate.

Table II-1. Top Ten Occupations: Narrow Arts Majors

All Occupation	Percentage
Designers	10.4
Architects	5.4
Postsecondary Teachers	3.9
Elem. & Middle School Teachers	3.9
Miscellaneous Managers	3.8
Other Teachers & Instructors	2.8
Retail Salespersons	2.7
Artists & Related Workers	2.6
Secretaries & Admin Assistants	2.1
Supervisors of Retail Sales Workers	2.0

Bachelor's only Occupation	Percentage
Designers	12.6
Architects	4.6
Miscellaneous Managers	3.8
Retail Salespersons	3.3
Artists & Related Workers	2.9
Elem & Middle School Teachers	2.6
Secretaries & Admin Assistants	2.4
Other Teachers & Instructors	2.4
Supervisors of Retail Sales Workers	2.4
Waiters and Waitresses	1.6

Advanced Degree Occupation	Percentage
Postsecondary Teachers	11.4
Architects	7.9
Elem & Middle School Teachers	7.4
Designers	4.1
Other Teachers & Instructors	3.8
Miscellaneous Managers	3.7
Secondary School Teachers	3.7
Musicians	3.5
Lawyers & Judges	2.4
Education Administrators	2.0

Among the ten occupations chosen most frequently by narrow arts majors, three are NEA artist occupations, and three involve teaching. Designers and Architects rank first and second, for several reasons. First, the market for these two jobs is more mainstream, with employers hiring persons trained in architecture and design to work in firms that specialize in these fields. This may be compared to the greater frequency of self-employment in other artistic fields, such as visual artists, actors and musicians, where academic credentials matter less. Second, as we have seen, in terms of the number of NEA artists, designers are far and away the largest occupation.[16] Designers will subsequently show up in several other top ten lists, including Graphic Design majors. Besides these two artist occupations, Artists and Related Workers shows up at the eighth position.

As noted, three of the top ten occupations are in education: at the post-secondary level, at the elementary and middle school level, and as "Other." For jobs that involve teaching at the elementary, middle, and secondary level, the ACS does not define a teaching field. We can only speculate what specific teaching jobs narrow arts majors hold; it seems likely that many are specializing in teaching in music, art, and drama. The ACS also does not specify the teaching field at the post-secondary level either. At this level, however, virtually all teachers specialize, so it is very likely that this occupation is dominated by music, art, drama, architecture, and design faculty. Other Teachers and Instructors includes tutors and coaches.

Three of the remaining four occupations involve sales and secretarial work, jobs usually taken by persons who do not possess a bachelor's degree.

The profile of the top ten jobs for those narrow arts majors who ended their formal education after a bachelor's degree is somewhat different. Designers and Architects are still first and second. Artists and Related Workers are fifth. Of the other occupations, about half are in fields that generally do not require a bachelor's degree, mostly in the service area.

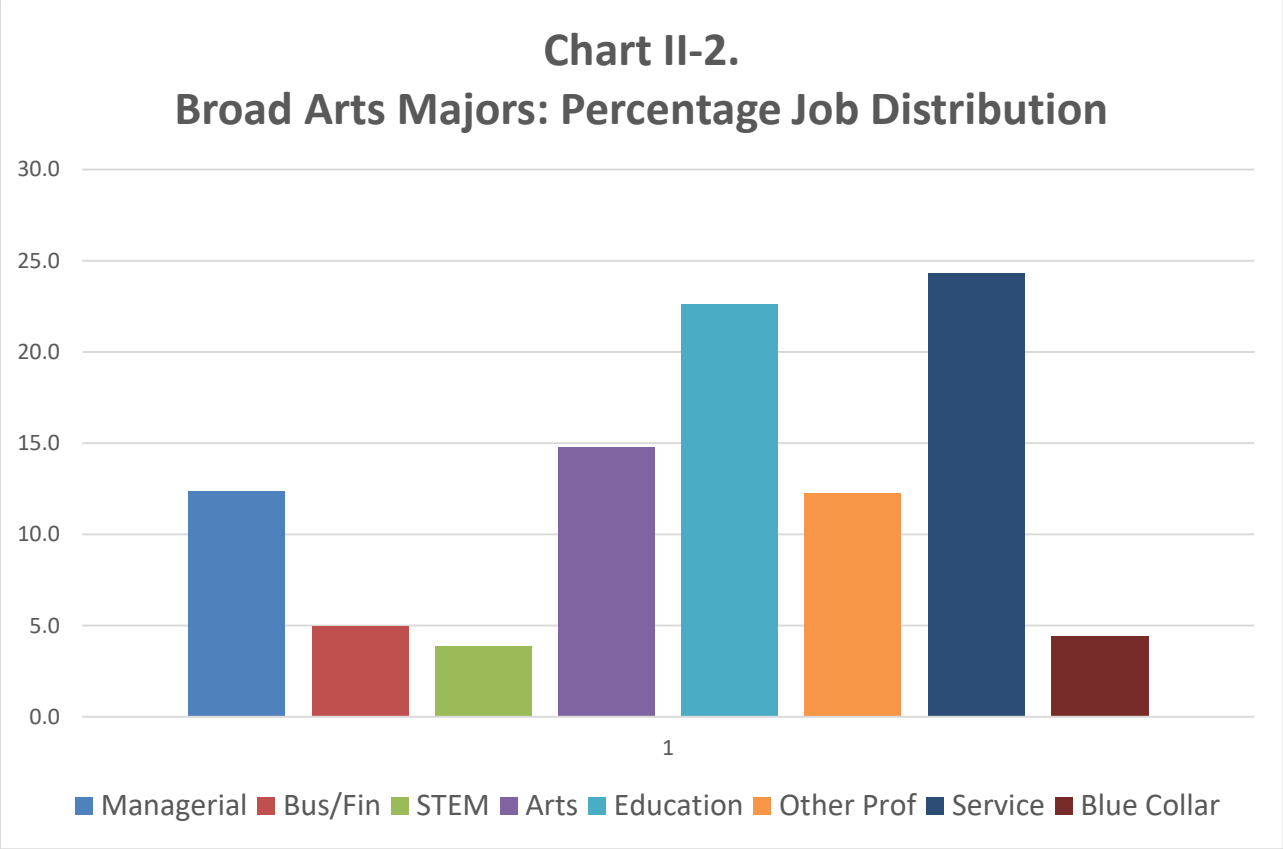
The effect of having an advanced degree can be seen by comparing the top ten jobs taken by these who ended their formal education after receiving a bachelor's to those who went on to earn that advanced degree. First, having an advanced degree increases the likelihood of holding a teaching job. Five of the top ten jobs are in teaching[17], including the number one job – Postsecondary Teachers. Second, having an advanced degree decreases the likelihood of holding an artistic job. Three artist occupations still remain, but Designers fall from first to fourth, and the Musicians occupation replaces Artists and Related Workers in eighth place. Two new occupations in this top ten virtually always require an advanced degree -- Lawyers and Judges and Education Administrators. Last, all service and blue collar occupations have dropped out. With an advanced degree, some arts majors use that degree to enter related fields, like teaching, or entirely new fields, like law.

[16] Architects are fifth in terms of number of artist jobs.
[17] We include Education Administrators as a teaching job.

In contrast, among the top ten occupations of arts majors who hold a bachelor's degree only, four are service jobs. The same three artist occupations that appeared in the top ten list for all narrow arts majors remain, but occupy a larger percentage of total jobs held. Only two education occupations can be found in this group.

What jobs do broad arts majors take?

When moving from the narrow to the broad arts major definition, we add two majors designed to channel graduates into teaching jobs[18] and two majors that are more general[19] and thus more tangentially related to working in the arts. We saw in Chapter I that persons in the above four majors wind up working in artistic jobs less frequently than any narrow arts major. The effects of adding these four majors can be seen in the distribution of broad occupation groups in Chart II-2. The share of artists falls by almost ten percentage points, and the share of education jobs rises by almost ten percentage points. Service is the group with the highest concentration of broad arts majors, as it was with narrow arts majors. Slightly fewer broad arts majors wind up in jobs for which a bachelor's degree is not required.



[18] Language and drama education majors and art and music education majors.
[19] English majors and composition and speech majors.

More detail on the occupational choices of broad arts majors can be found by looking at the top ten jobs chosen by this group, shown in Table II-2.

There are now four occupations in this top ten that involve teaching, including Elementary and Middle School Teachers, which is now ranked first. There are now only two arts occupations in the top ten – Designers and Architects – and they are no longer ranked first and second. The remaining occupations are an eclectic group, ranging from two that do not require a college degree - Retail Salespersons and Secretaries and Administrative Assistants - to Lawyers and Judges.

Distinctions also appear when comparing broad arts majors with a bachelor's degree only to broad arts majors with an advanced degree. For those with advanced degrees, six of the top ten occupations involve education. Postsecondary Teachers and Education Administrators rise in importance; these two occupations invariably require a graduate degree as an entry credential. Two occupations are artistic; Architects remain in the top ten, but Musicians replace Designers. All jobs in this top ten list (with the possible exception of Musicians) require at least a bachelor's degree.

For broad arts majors with a bachelor's degree only, four teaching occupations appear in the top ten. There are also three artistic occupations: Designers, Architects, plus Artists and Related Workers, which shows up at number ten. The other three are in service, and do not require a bachelor's degree.

Continuing below, we look at each of the artistic majors individually.

Table II-2. Top Ten Occupations: Broad Arts Majors

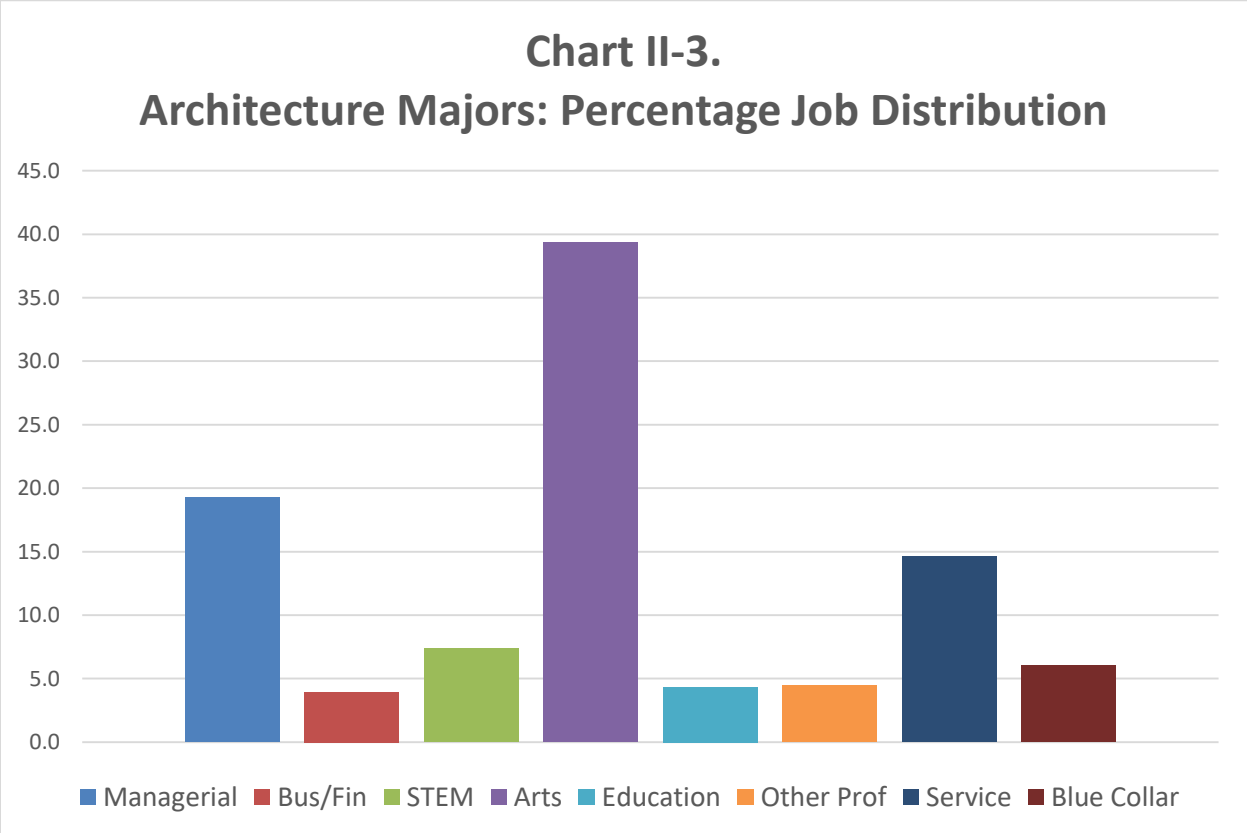
All Majors Occupation	Percentage	Bachelor's Only Occupation	Percentage	Advanced Degree Occupation	Percentage
Elem & Middle School Teachers	8.4	Designers	8.0	Elem & Middle School Teachers	13.0
Designers	5.8	Elem & Middle School Teachers	5.8	Postsecondary Teachers	11.7
Postsecondary Teachers	5.0	Secondary School Teachers	3.5	Lawyers & Judges	6.4
Secondary School Teachers	3.9	Secretaries & Admin Assistants	3.0	Secondary School Teachers	5.9
Miscellaneous Managers	3.2	Retail Salespersons	3.0	Education Administrators	3.6
Architects	2.9	Postsecondary Teachers	2.8	Architects	3.2
Other Teachers & Instructors	2.5	Architects	2.8	Other Teachers & Instructors	2.8
Secretaries & Admin Assistants	2.3	Other Teachers and Instructors	2.4	Secondary School Teachers	2.7
Lawyers and Judges	2.3	Supervisors of Retail Sales Workers	2.3	Musicians	1.9
Retail Salespersons	2.2	Artists and Related Workers	1.9	Librarians	1.9

Architecture majors

We begin with architecture majors. ***To maintain continuity in the textual discussions of each major, the associated tables displaying the top ten occupation by level of education for the individual arts majors can be found in the Appendix to this chapter.***

We have already noted that architecture majors are more likely to work in an artistic job than any other arts major. This is highlighted in Chart II-3; there we see that 39 percent work in the arts. This percentage of architecture majors working in the arts is greater than any other major. Naturally, the vast majority of those arts jobs are in architecture, as will be seen below. The second highest category is managerial, at just under 20 percent. This percentage holding managerial jobs is also higher than for any other arts major. Service and blue collar jobs are only 20 percent of total jobs. A lower percentage of architecture majors have teaching jobs than any other arts major.

Looking at the top ten occupations chosen by architecture majors, we see a similar pattern (in Table II-3). Architecture majors train specifically for careers as architects. Although we see that architects are by far the top occupational choice for these majors, only 31 percent of them wind



up working in this occupation. Designers are the only artistic occupation that shows up in the top ten, in third place. Many of the top ten occupations are complementary to architecture. Among the top ten are Construction Managers, Designers, Drafters, and Urban and Regional Planners. Postsecondary Teachers are most likely teaching architecture. Another aspect of this top ten is the paucity of jobs that don't require a college degree. Only Retail Salespersons shows up in the overall and bachelor's degree only top ten.

Architecture majors who end their education with a bachelor's degree show a very similar pattern. The top five occupations are identically ranked for both groups, and nine occupations show up in both lists.

Architecture majors with advanced degrees show a slightly different occupational pattern. Unlike other arts majors, having an advanced degree, presumably in architecture also, increases the penetration into this occupation slightly, to 35 percent. The main driving factors seem to be the number of architecture majors who go on to earn an advanced architectural degree, plus Graphic Design majors who switch fields with a graduate degree in architecture. Postsecondary Teachers rise to fourth place, and Lawyers and Judges enter the top ten.

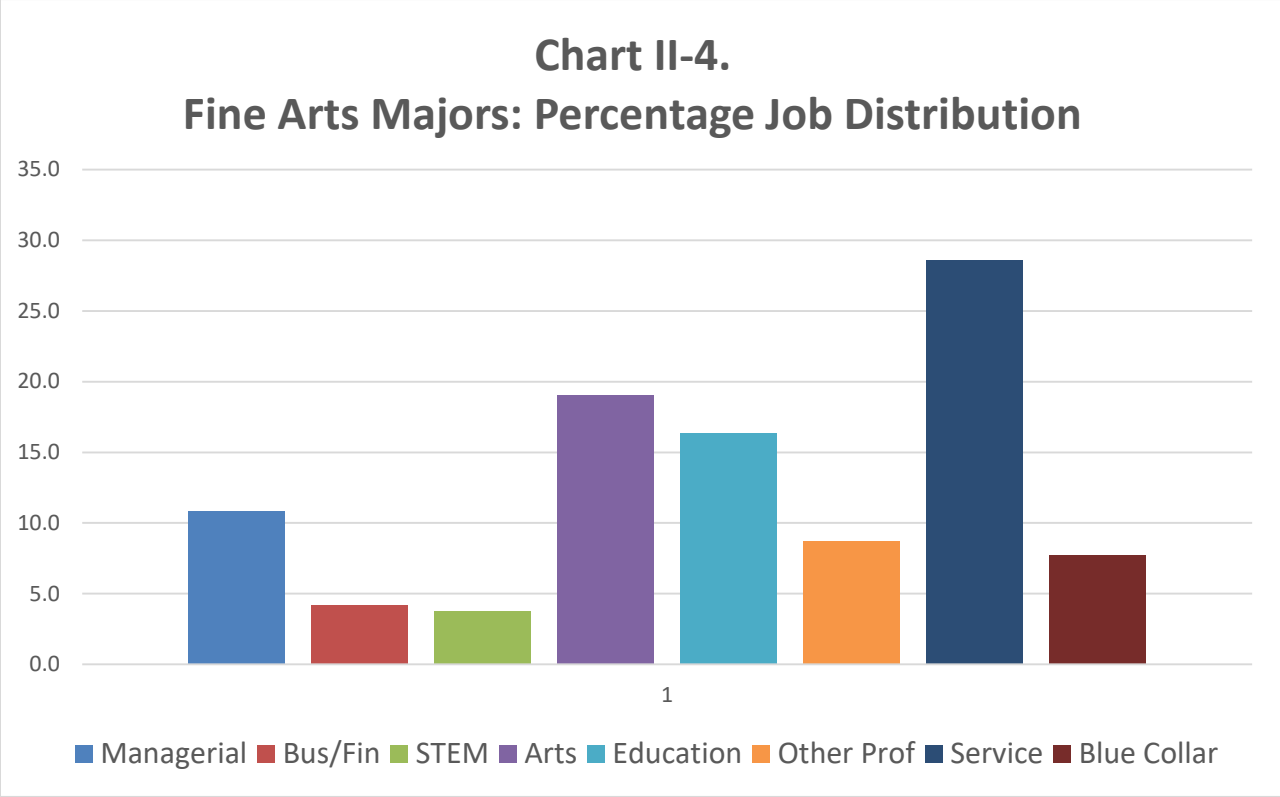
Fine Arts Majors

Fine arts majors outnumber any other narrow arts major. These majors enter a variety of occupational fields (Chart II-4). Among the broad occupational fields that generally require a college degree, 19 percent wind up in an artistic occupation, compared to 24 percent of all narrow arts majors. Also, 16 percent teach, compared to 14 percent of all arts majors. Thirty-six percent have service and blue collar jobs; 32 percent of all narrow arts majors have service and blue-collar jobs.

Looking at the most popular individual occupations in Appendix Table II-4, we see that two artistic occupations – Designers and Artists and Related Workers – are the first and third most common occupations chosen by Fine Arts majors. Four educational occupations appear in the top ten. No single occupation accounts for as much as 10 percent of Fine Arts majors' job choices.

For Fine Arts majors who have a bachelor's degree only, Designers and Artists and Related Workers rank first and second. Seventeen percent of Fine Arts majors with a terminal bachelor's degree choose to be Designers and Artists and Related Workers. Five of the occupations in this top ten are service occupations. Two are educational occupations.

Fine arts majors with advanced degrees select a different bundle of occupations. Artistic jobs fall in importance, while educational jobs rise. The top three jobs are educational. Artists and Related Workers fall to fourth place, and Designers fall to fifth place. The five educational jobs in the top ten account for over 30 percent of all jobs for this group, compared to 16 percent overall. Note that all ten occupations can be categorized as professional; no service or blue

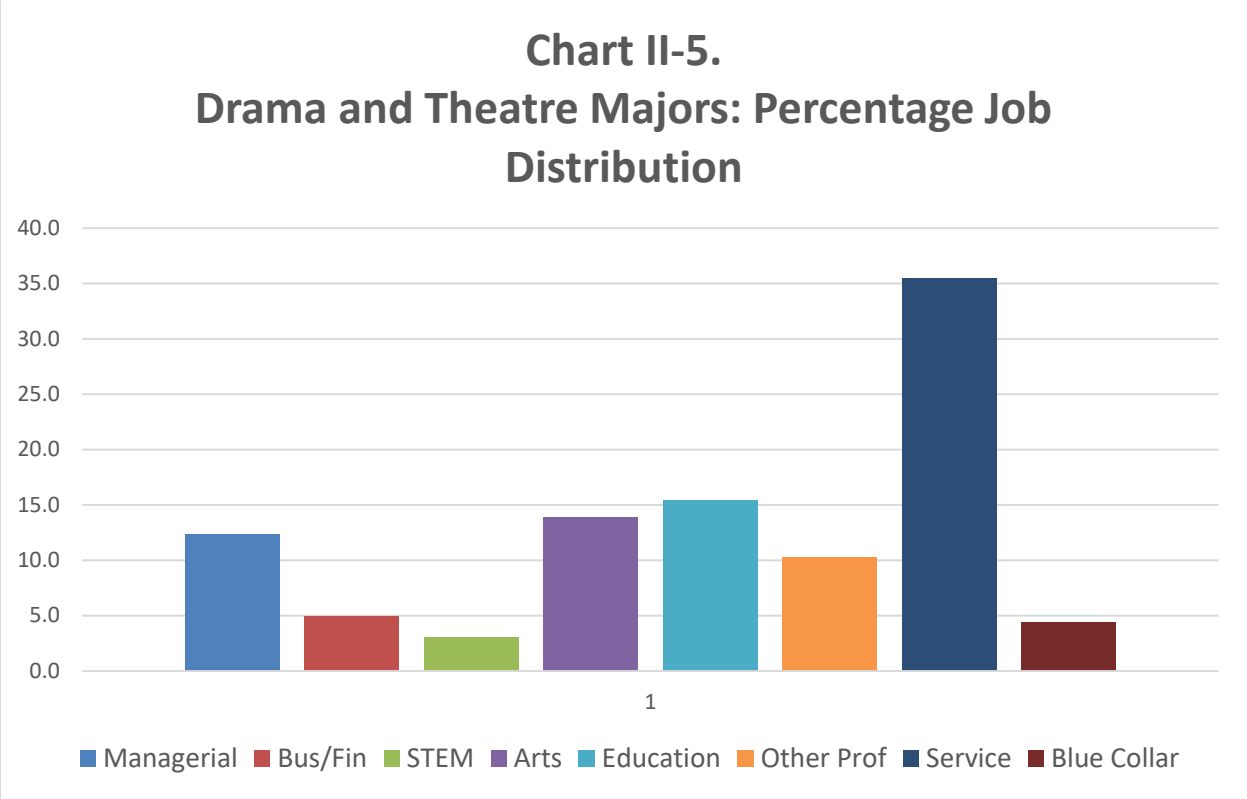


collar jobs remain. Clearly fine arts majors use advanced degrees as opportunities to move out of service and artistic occupations.

Drama and Theater Majors

Among broad job categories, service jobs dominate the distribution of jobs held by drama and theater majors, accounting for more than one of every three jobs (Chart II-5). There are more drama and theater majors with education jobs (over 15 percent) than arts jobs (14 percent). There are almost as many managerial jobs (12 percent) as arts jobs. Service plus blue collar – those jobs that generally don't require a bachelor's degree – account for 40 percent of all jobs.

Topping the list of the ten most common jobs held by drama and theater majors are Elementary and Middle School Teachers and Postsecondary Teachers (Appendix Table II-5). Majors working in the latter field are likely teaching drama, though the data don't permit us to verify that. Combined, these two most popular jobs account for only 8.4 percent of all jobs. Producers and Directors show up in the fifth position, followed immediately by Actors. Thus the two most common artistic destinations for drama and theatre majors – acting and producing and directing – account for only 7.6 percent of jobs for this major. However, ranked directly above both are Waiters and Waitresses, suggesting that some stereotypes have a factual origin. The one other artistic occupation in the top ten is Designers, ranked ninth.

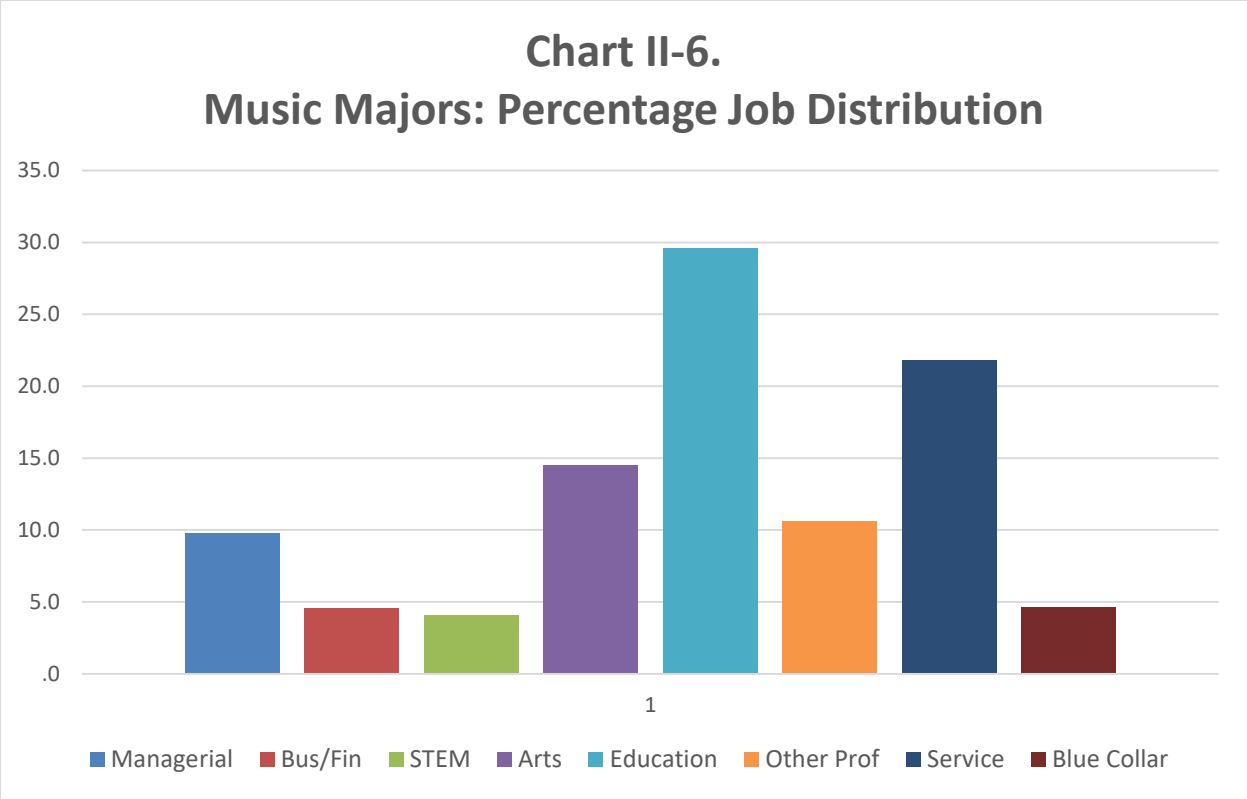


There are considerable differences between the jobs held by drama and theater majors with a bachelor's degree only and those with advanced degrees. Waiters and Waitresses is the job most frequently held by those with a bachelor's only, but this occupation does not appear in the top ten among those holding an advanced degree. Directly following Waiters and Waitresses are Actors and Producers and Directors, at second and third. Four of the top ten jobs are service jobs. Designers are still ninth.

For drama and theater majors holding an advanced degree, teaching jobs occupy the top three positions. In all, five of the ten most popular jobs are in education. Actors (9), Producers and Directors (5), and Designers (8) remain in the top ten. Lawyers and Judges outnumber either Actors or Producers and Directors among those with a graduate degree. Perhaps starting out as a drama major can enhance a legal career.

Music Majors

About as many music majors as drama and theater majors (14 percent) work in arts jobs (Chart II-6). However, the greatest number of music majors enter education at all levels, occupying almost 30 percent of all jobs. Service and blue collar jobs combined account for another 25 percent. Other professional and managerial occupations each account for 10 percent.



These broad trends carry over into the top ten occupations, as seen in Appendix Table II-6. Musician is the most popular job, accounting for over 11 percent of all jobs. Musician is the only artist job to appear in the top ten. The second, third, fourth and fifth most popular jobs are in teaching, accounting for more than 25 percent of all jobs. The remaining five jobs in the top ten are in fields less likely to require a bachelor's degree, with the possible exception of clergy.

The Musician occupation is also the most popular among music majors with a bachelor's degree only, at just over 10 percent. The second, third, fourth and eighth are in teaching. Four of the five remaining jobs are in service occupations.

An even higher percentage of music majors with an advanced degree enter the Musician occupation. Nevertheless, it drops to second, after Postsecondary Teachers. Other teaching jobs show up at positions three, four and five, and Education Administrators appears at seven, accounting for more than 40 percent of all jobs. As has been the case with other majors, the top ten jobs for musicians with an advanced degree all require at least a bachelor's degree, with the possible exception of Musician, ironically. Clergy rises to sixth place. Lawyers and Judges and Physicians and Surgeons make their first appearances in the top ten.

Visual and Performing Arts Majors

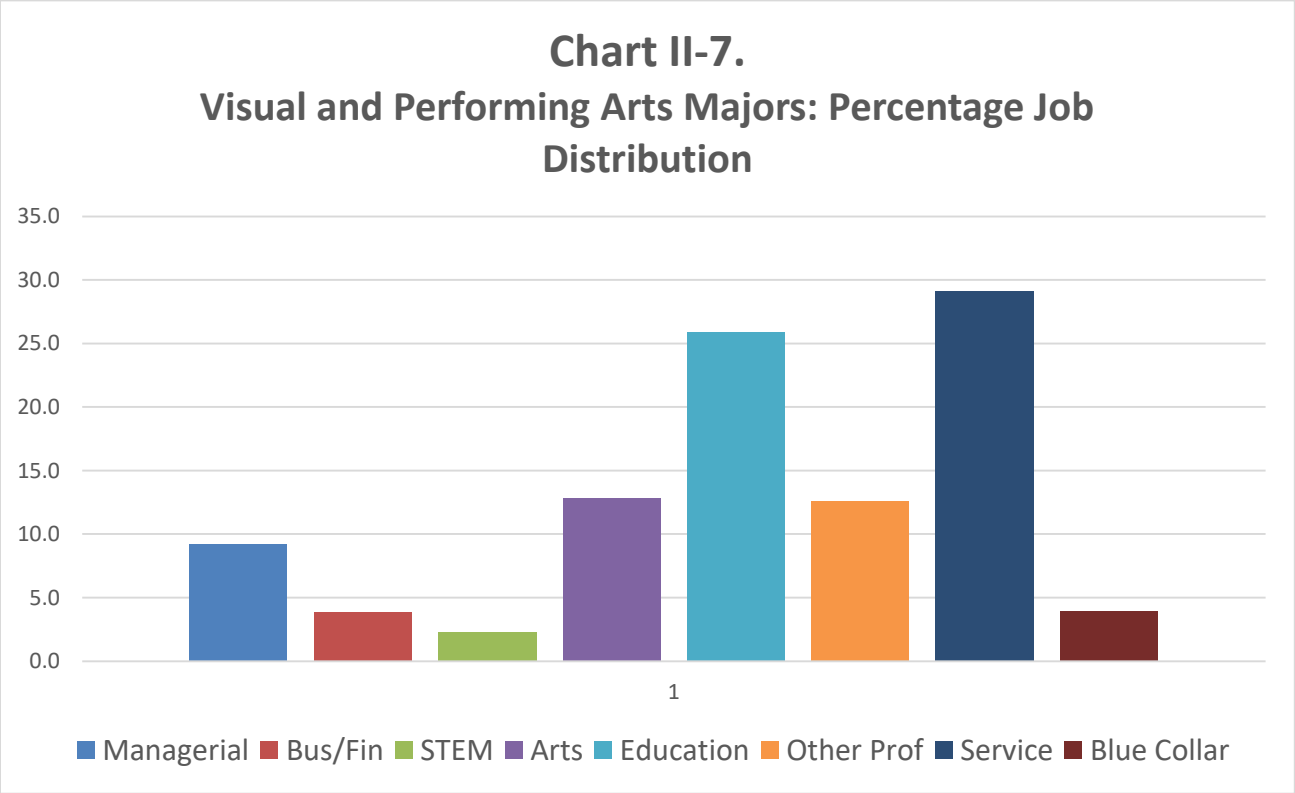
The distribution of broad occupational groups chosen by visual and performing arts majors is shown in Chart II-7. Service jobs (29 percent) and education jobs (26 percent) dominate. Both

these percentages are significantly higher than for all narrow arts majors. Just under 13 percent have artistic jobs, roughly the same share as those with other professional jobs. By comparison, 24 percent of all narrow arts majors hold artistic jobs.

The importance of service and educational jobs is reflected in the list of the top ten job choices chosen by visual and performing arts majors. The top three are in teaching, with another teaching job ranked fifth. Designers (fourth) and Artists and Related Workers (ninth) also enter the top ten. The remaining four are service jobs.

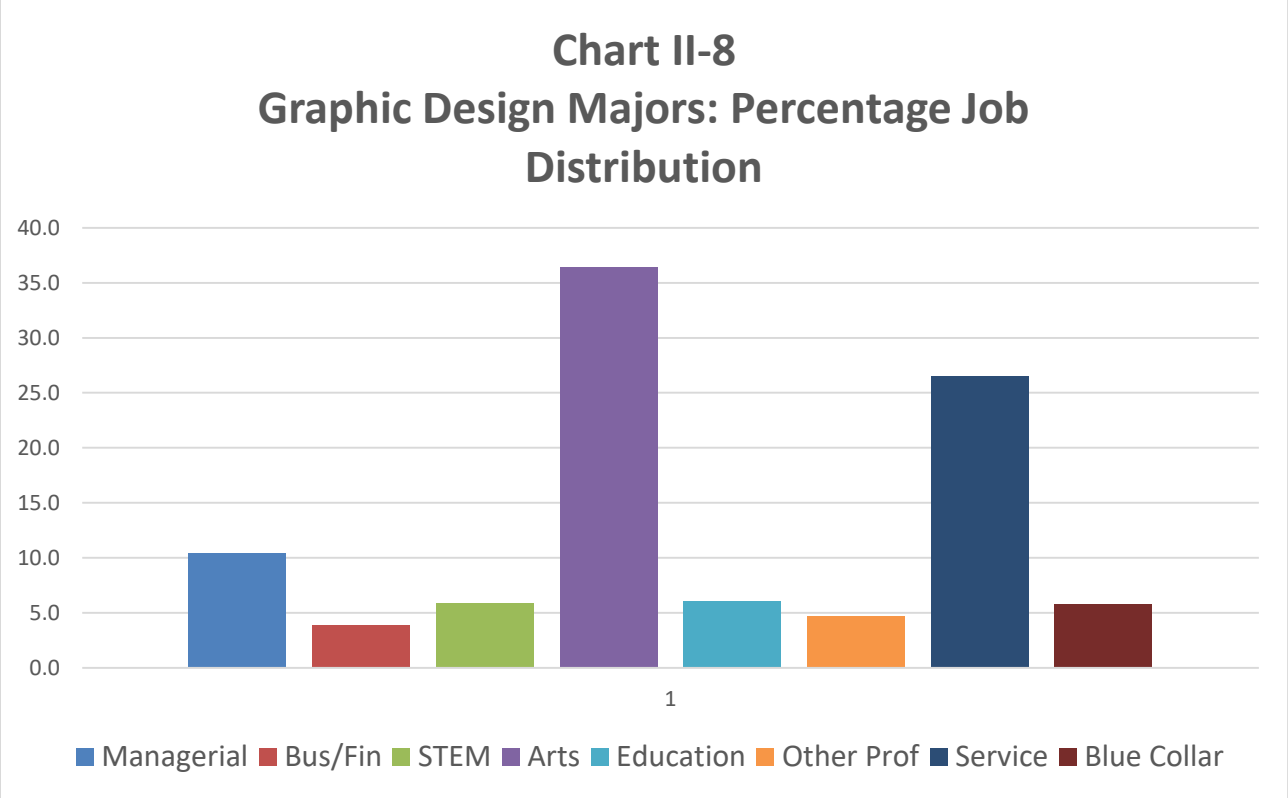
For visual and performing arts majors with only a bachelor's degree, the same four service jobs reappear, but at higher ranks. Other Teachers and Instructors is still first, but the number of teaching jobs in the top ten drops to three. While Designers and Artists and Related Workers remain in the top ten, Dancers and Choreographers show up in tenth place.

For visual and performing arts majors, it is clear that the primary reason for earning an advanced degree is to move out of artistic jobs and into other professional fields. Education occupations now account for the first four places, plus sixth place. These five occupations alone account for 35 percent of all jobs for visual and performing arts majors with an advanced degree. The other occupations that make this top ten are in other professional fields that almost always require a graduate degree. Note that there are no longer any artistic occupations in the top ten. The first artistic job encountered is Actors and Directors, which ranks fifteenth.



Graphic Design Majors

Graphic design majors constitute the second largest group of narrow arts majors, and Designers constitute the largest group of artists. In terms of occupational choice, they show a profile different from most other arts majors, but similar to architecture majors. Chart II-8 shows where graphic design majors broadly choose to work. It can be seen that the largest percentage (36.4 percent) goes into arts jobs. Only the architecture major leads to more arts jobs for its graduates. The second largest occupational area is service, at 26.5 percent. Of the other broad occupational areas, only managerial (slightly) exceeds 10 percent. Six percent take educational jobs, compared to over 14 percent for all narrow arts majors.



Given the size of the major and the occupation associated with it, it is not surprising that 30.8 percent of graphic design majors become Designers (Appendix Table II-8). No other occupation in the top ten has a share of graphic design majors working in it which is greater than four percent. In fact, the percent of graphic design majors in the Designer occupation exceeds the combined share of graphic design majors in the other nine occupations. The only other artistic job among these top occupations is Artists and Related Workers, ranked third. Two teaching occupations and four service occupations are also in the top ten.

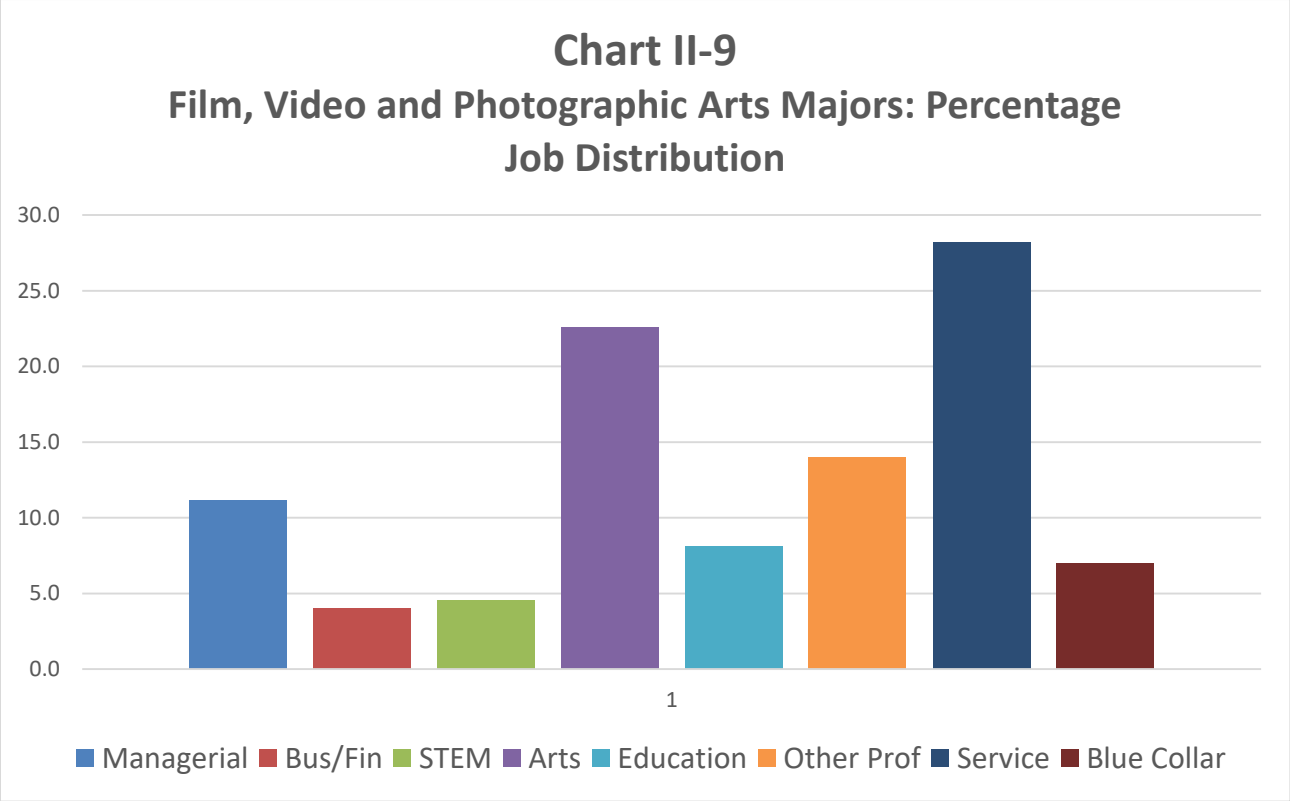
For graphic design majors who stopped after a bachelor's degree, Designers is again the most frequently chosen occupation, with almost a third of graphic design majors entering this occupation. Again, more graphic design majors enter this occupation than all those in all

occupations ranked 2 through 10. Once more, Artists and Related Workers shows up in third place. There is only one teaching occupation, but five service occupations in this top ten.

We have previously noted that arts majors who earn an advanced degree tend to move away from service and even artist jobs and into a diversity of other professional occupations. Far fewer graphic design majors with advanced degrees (17 percent) enter the Designer occupation, which nevertheless still holds first place. Architects (fifth) and Artists and Related Workers (sixth) are also in the top ten, Architects for the first time. Teaching occupations show up in second, third, and eighth place, plus Education Administrators enters at ninth.

Film, Video and Photographic Arts Majors

Film, video, and photographic arts (FVPA) majors (Chart II-9) occupy artistic jobs at almost the same rate (23 percent of total jobs) as narrow arts majors overall (24 percent). Fewer FPVA majors go into teaching (8 vs. 14 percent), but more go into other professional occupations (14 vs 8 percent). Almost 30 percent enter service occupations.



An interesting attribute of this major is the eclectic mix of artistic occupations that these majors enter. The top ten occupations are shown in Appendix Table II-9. Overall, three artistic occupations are found in the top ten: Photographers are first, Producers and Directors are second, and Designers are fifth. There are also two other occupations that could be termed

near-artistic: TV, Video and Motion Picture Operators at third, and Editors at sixth.[20] The presence of these near-artistic occupations in the top ten helps explain the greater concentration of professional jobs for this major. It is interesting to note that a higher percentage of FVPA majors become Producers and Directors than drama and theater majors. This is true for those with advanced degrees as well.

Looking only at FVPA majors whose terminal degree is a bachelor's, we see little difference in the rankings. The top six jobs are ranked the same, including the three artistic and the two near-artistic occupations. The difference lies in occupations 7 through 10. For all FVPA majors, two are in education, and two are service jobs not requiring a degree. For majors with a bachelor's only, all four are service jobs not requiring a degree.

A different profile is seen for FVPA majors who hold an advanced degree. Here we see four artistic occupations in the top ten, with Writers and Authors and Artists and Related Workers replacing Designers. Editors remain, but are ranked tenth. Camera operators drop out of the top ten. Three teaching occupations, including the top two, are now present.

Art History Majors

Only eight percent of art history majors wind up working as artists, one-third of the percentage for all narrow artists (Chart II-10). However, 19 percent wind up teaching (vs. 14 percent for all narrow arts majors). More art history majors wind up in service jobs (33 vs. 26 percent), and a slightly higher percentage also wind up in any job that does not require a college degree.

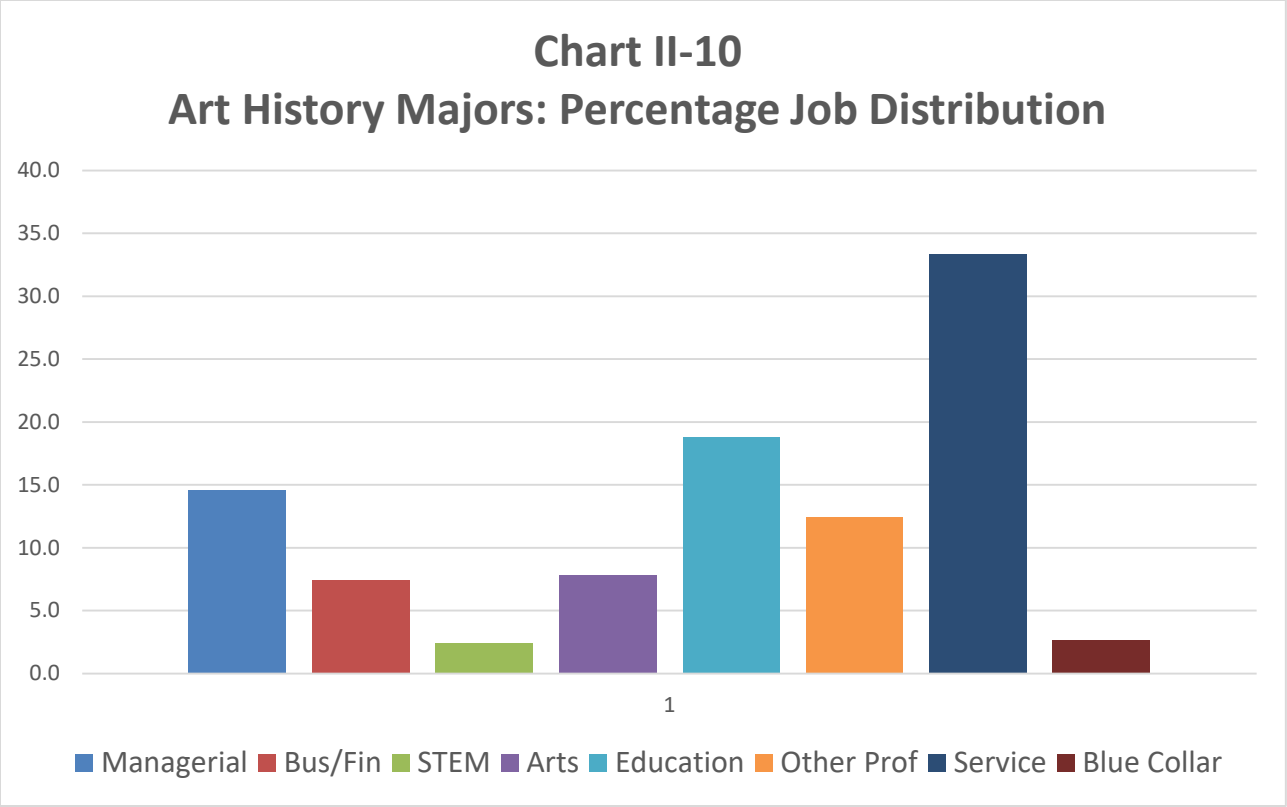
Appendix Table II-10 gives more detail on the ten occupations which contain the most art history majors. Only two artistic occupations show up in the top ten: Designers at eight and Artists and Related Workers at ten. A near-artistic occupation shows up at seven: Archivists and Curators, which arguably is what art history majors train to become.[21]

Art history majors with a terminal bachelor's degree are more likely to work in retail sales and secretarial occupations than any others. The top three occupations are in these fields. Designers appear in fourth place, and Artists and Related workers are in eighth.

As with other artistic majors, the mix of occupations in the top ten for art history majors with an advanced degree includes more that can only be entered having an extra degree. However, this time there are no artistic occupations among the top ten. Archivists and Curators are now found at fourth, behind two teaching occupations and Lawyers and Judges. In all, four teaching occupations now appear in the top ten.

[20] These last two occupations fall into the broader Entertainment category, where all NEA artist occupations other than Architect reside. They could easily be absorbed into a broader definition of "artist."

[21] Though we are also terming Archivists and Curators as near-artistic, the occupational coding used by the ACS places this occupation in the Education group next to Librarians.



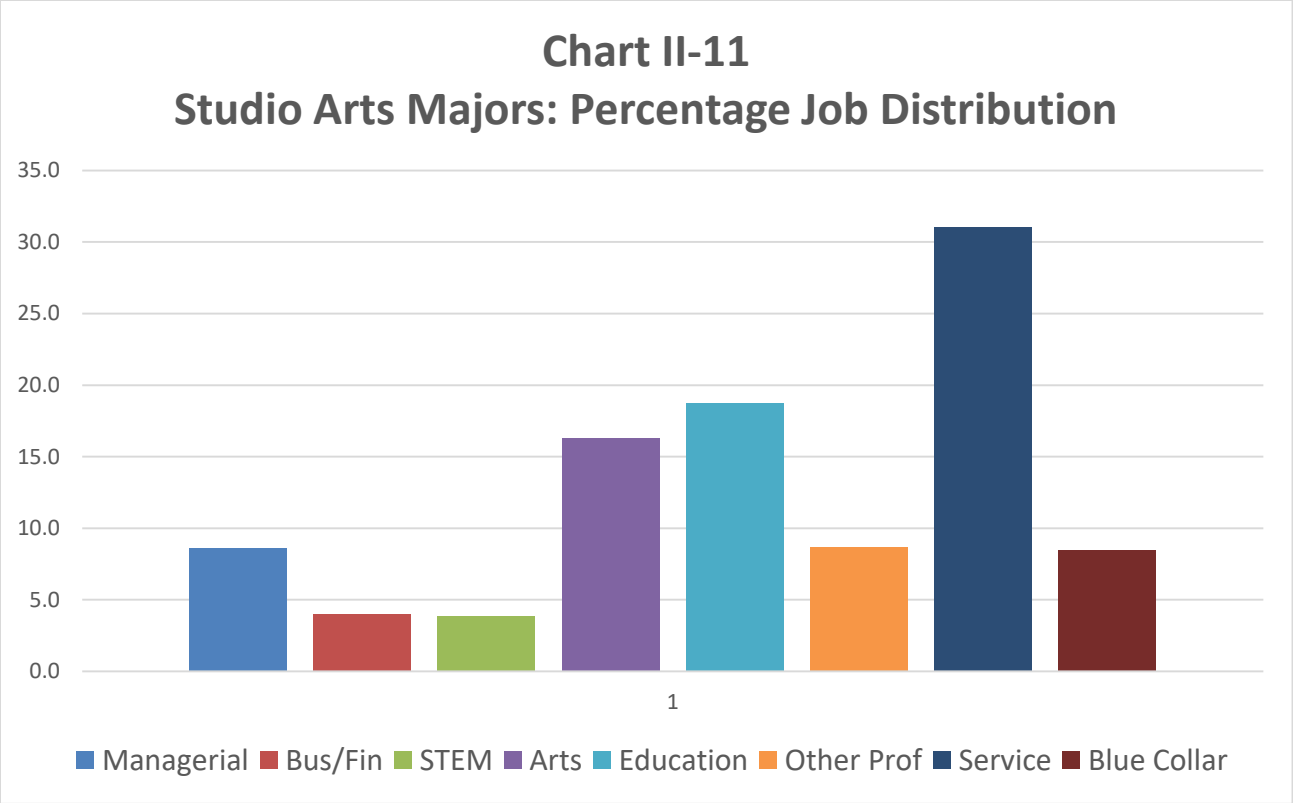
Studio Arts Majors

Almost 40 percent of studio arts majors work in service and blue collar occupations (Chart II-11). The 16 percent who work as artists roughly equals the percentage of fine arts majors working as artists. However both percentages are well below the narrow arts major average. Just under 19 percent teach.

The two artistic occupations that studio arts majors most frequently enter are Designers and Artists and Related Workers; these are ranked one and three among the top ten jobs taken by studio arts majors (Appendix Table 2-11). As with many other arts majors, there are also three teaching jobs in the top ten. Also, there are arguably five occupations that can be entered without a bachelor's degree.

Over fifteen percent of studio arts majors with only a bachelor's degree become Designers or Artists and Related Workers, their top two choices. Again, there are three teaching occupations in the top ten. Again, there are the same five occupations that can be entered without a bachelor's degree.

For studio arts majors with an advanced degree, education jobs predominate. Their top three are teaching jobs. In addition, Education Administrators, Other Teachers and Instructors, Counselors, and Librarians show up in their top ten. Artists and related workers and Designers show up at numbers four and five, accounting for about nine percent of all jobs.



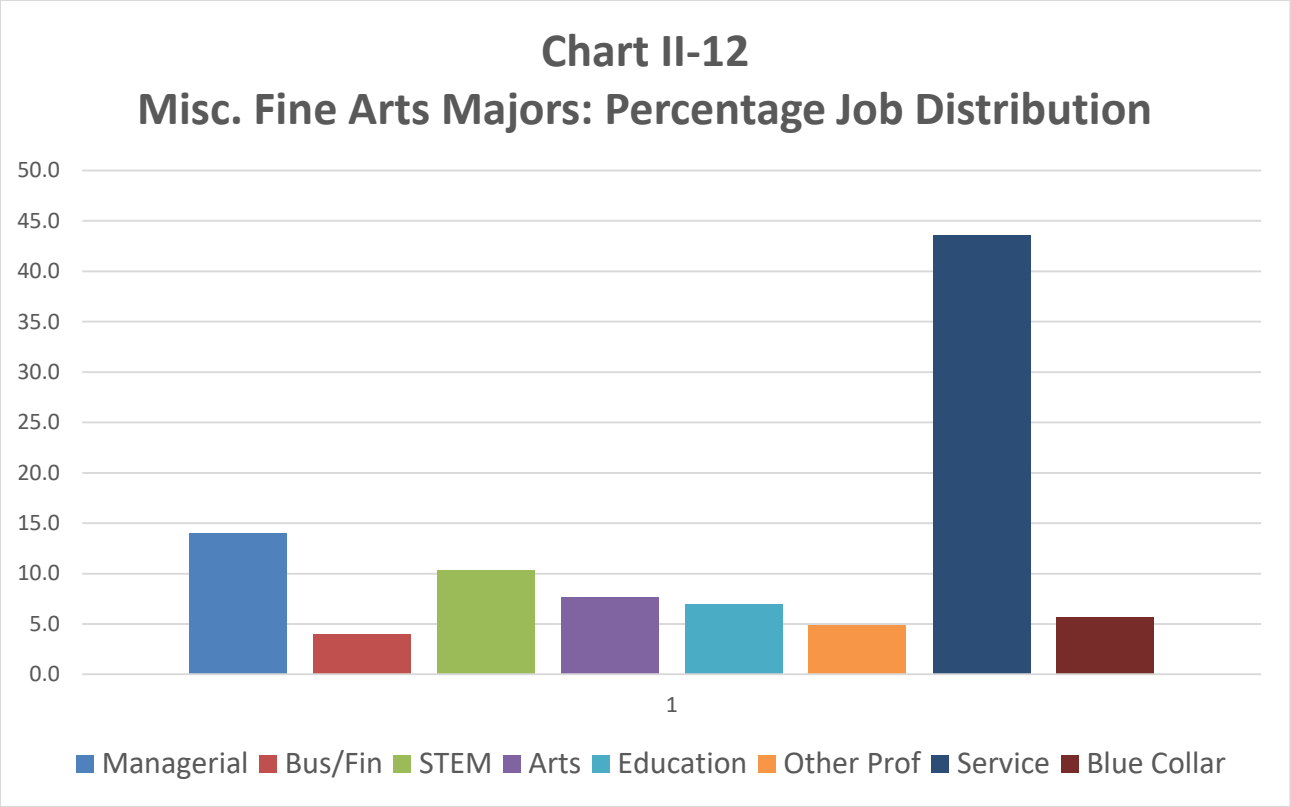
Miscellaneous Fine Arts Majors

There are relatively few persons in this category. Since it is a catch-all classification, it is difficult to determine exactly what majors have been lumped into it. The job distribution of these majors does not resemble the distribution of any other major (Chart II-12). Relatively few of these majors – 7.6 percent – work as artists. There are more miscellaneous fine arts majors working as managers and STEM professionals than as artists. And there are fewer working in education than in the arts. Also, 48 percent work in service and blue collar jobs.

The top ten occupations are equally distinct from those of other arts majors (Appendix Table II-12). Overall, six are service jobs, and "unemployed" is ranked third. There is only one teaching job, and Computer Programmer ranks fourth, and Software Developer ranks eighth.

Those with only a Bachelor's degree show essentially the same job distribution. The one teaching occupation drops out of the top ten.

Those with advanced degrees are found more in education jobs, which are ranked first, second, and fifth. Postsecondary Teachers, previously unranked, now is first with 12 percent of all jobs. There is no real pattern in the other jobs in the top ten.



The "Extra" Majors That Comprise Broad Arts

Recall that language and drama education, art and music education, English, and composition and speech were added to the above majors to complete the Broad Arts Major category. We have already pointed out that these majors lead to fewer artist jobs than do the narrow arts majors. Rather than comment on each of these majors individually, we will summarize job trends for these four majors combined. The top ten occupations for each major can be found in the appendix to this chapter.

Language and Drama Education and Art and Music Education

The two education majors have a very similar profile. Both are job-focused majors, with over 50 percent of all graduates working in education (Charts II-13 and II-14). Of the other broad categories, only service jobs occupy over 10 percent – 16.9 percent for language and drama education majors, and 16.0 percent for art and music education majors.

Only 1.8 percent of language and drama education majors work as artists, and not a single artist job can be found among the top ten jobs for this major. The top two jobs in all three education categories are elementary and middle school teachers, and secondary school teachers. Combined, they constitute about 40 percent of all jobs.

Chart II-13
Language & Drama Ed. Majors: Percentage Job Distribution

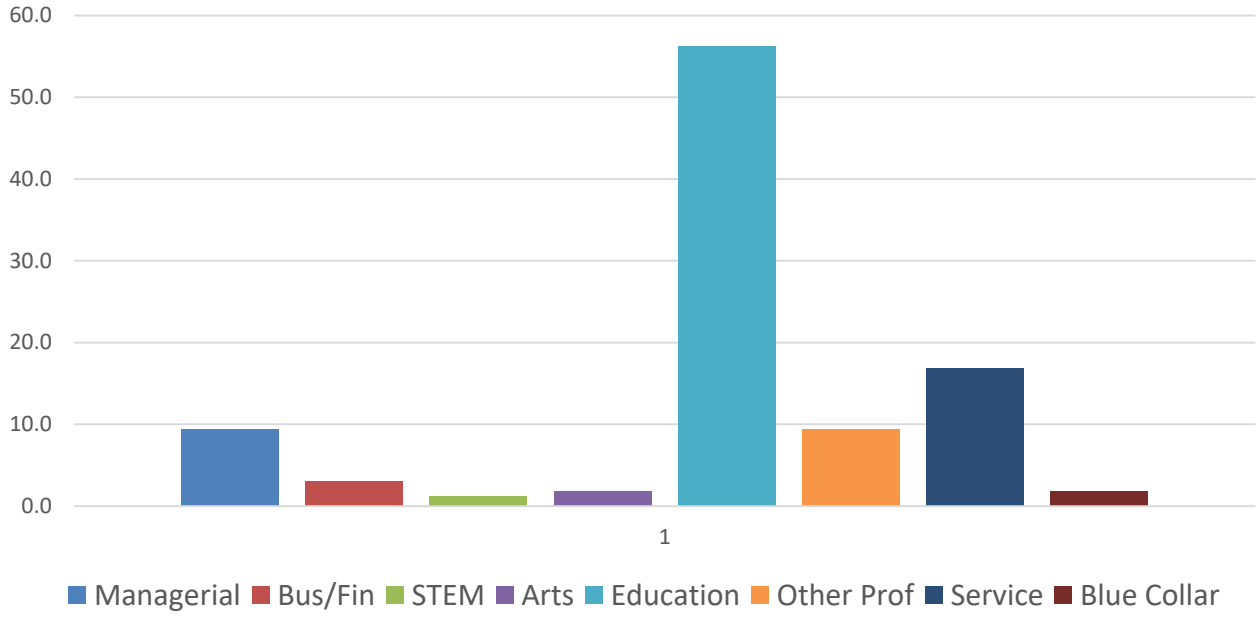
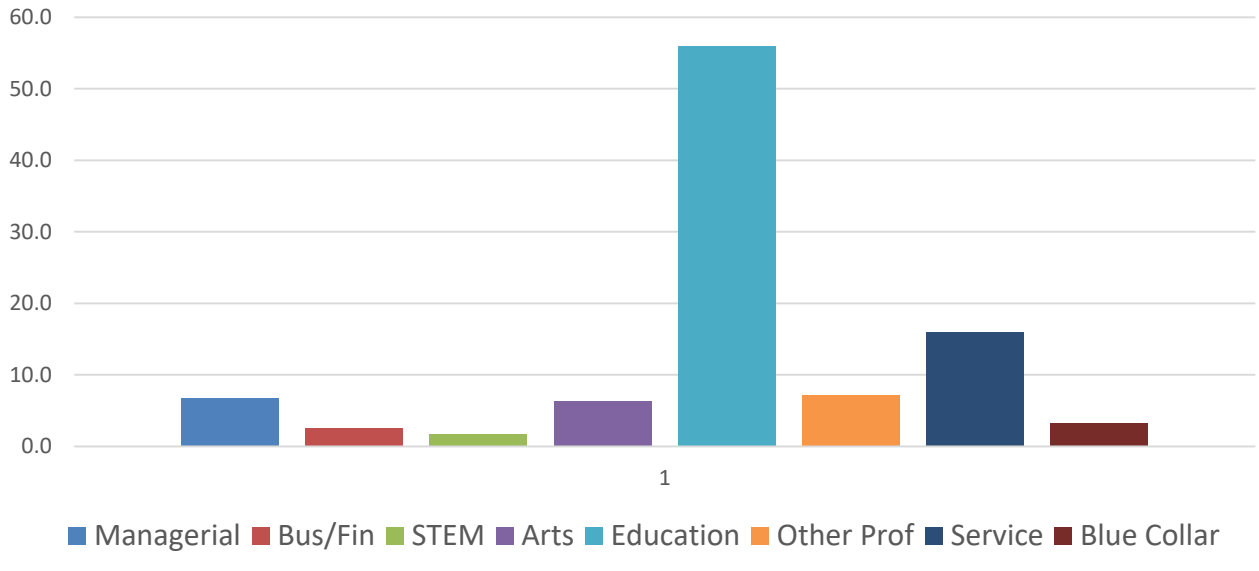


Chart II-14
Art & Music Ed. Majors: Percentage Job Distribution



By comparison, 6.3 percent of art and music education majors work as artists. Musicians show up in all three education categories as the fifth, fourth and fifth most common occupation. However, the two most common occupations are Elementary and Middle School teachers and Secondary School Teachers. Together, they account for over 40 percent of all jobs, just like they did for language and drama education majors.

English and Composition and Speech Majors

Service jobs occupy more English majors than any other occupation category, at 24.7 percent. Education and other professional jobs are at 23 and 20 percent respectively. Only 4.5 percent of English majors hold artist jobs. Service jobs are more prominent for composition and speech majors, at 27.3 percent. Again, next are education and other professional jobs, both at just over 18 percent. Artist jobs are held by 7.7 percent of this major.

In terms of specific jobs, the top occupation of English majors is Elementary and Middle School teachers, ranking first overall and first among those with only a bachelor's degree. Postsecondary Teachers is the most common occupation for English majors with a graduate degree. For English majors, the third most popular occupation overall is Lawyers and Judges (second for those with a graduate degree). The only artistic major to crack the top ten is Writers and Authors (eighth overall).

Writers and Authors is the third most popular occupation overall for composition and speech majors, and the most popular for those with a bachelor's degree only. Writers and Authors also is the only artistic occupation that appears among the top ten occupations for this major. Elementary and Middle School Teachers and Postsecondary Teachers rank first or second in each of the three categories.

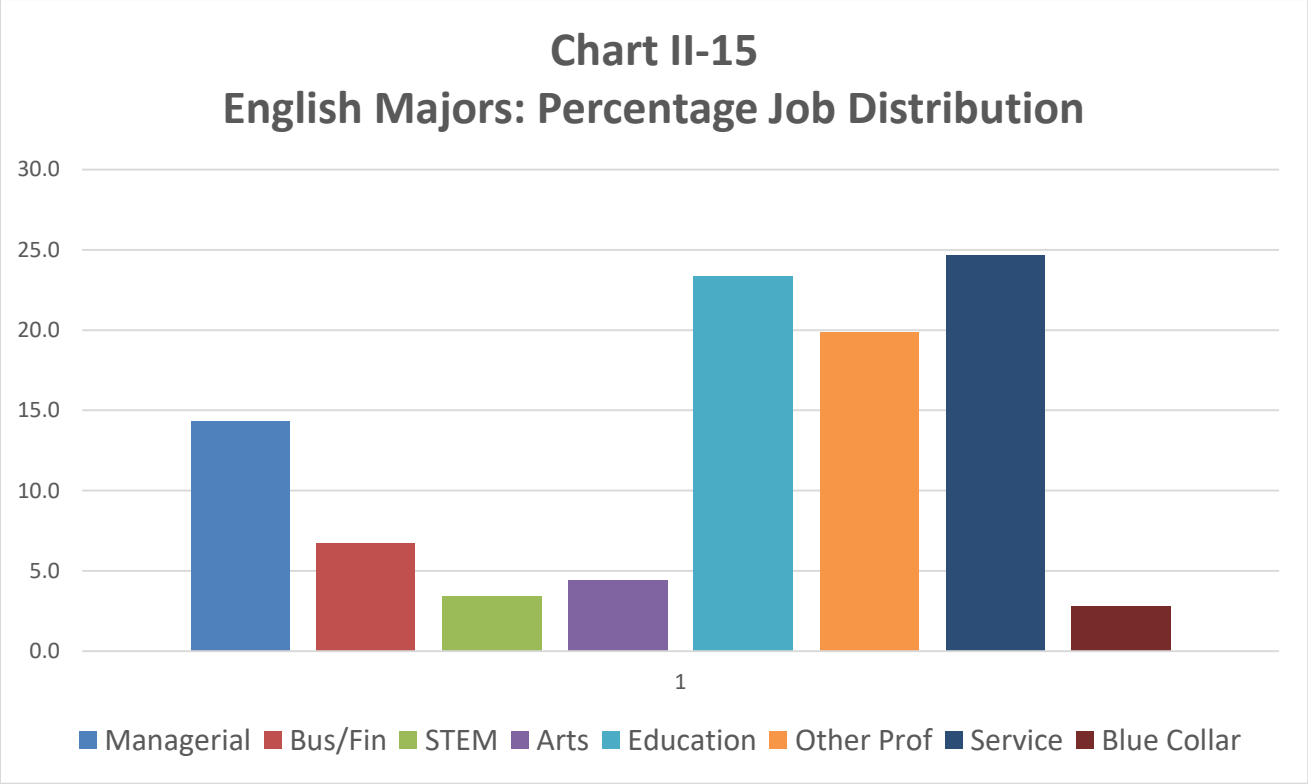


Chart II-15
English Majors: Percentage Job Distribution
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1
Managerial
Bus/Fin
STEM
Arts
Education
Other Prof
Service
Blue Collar

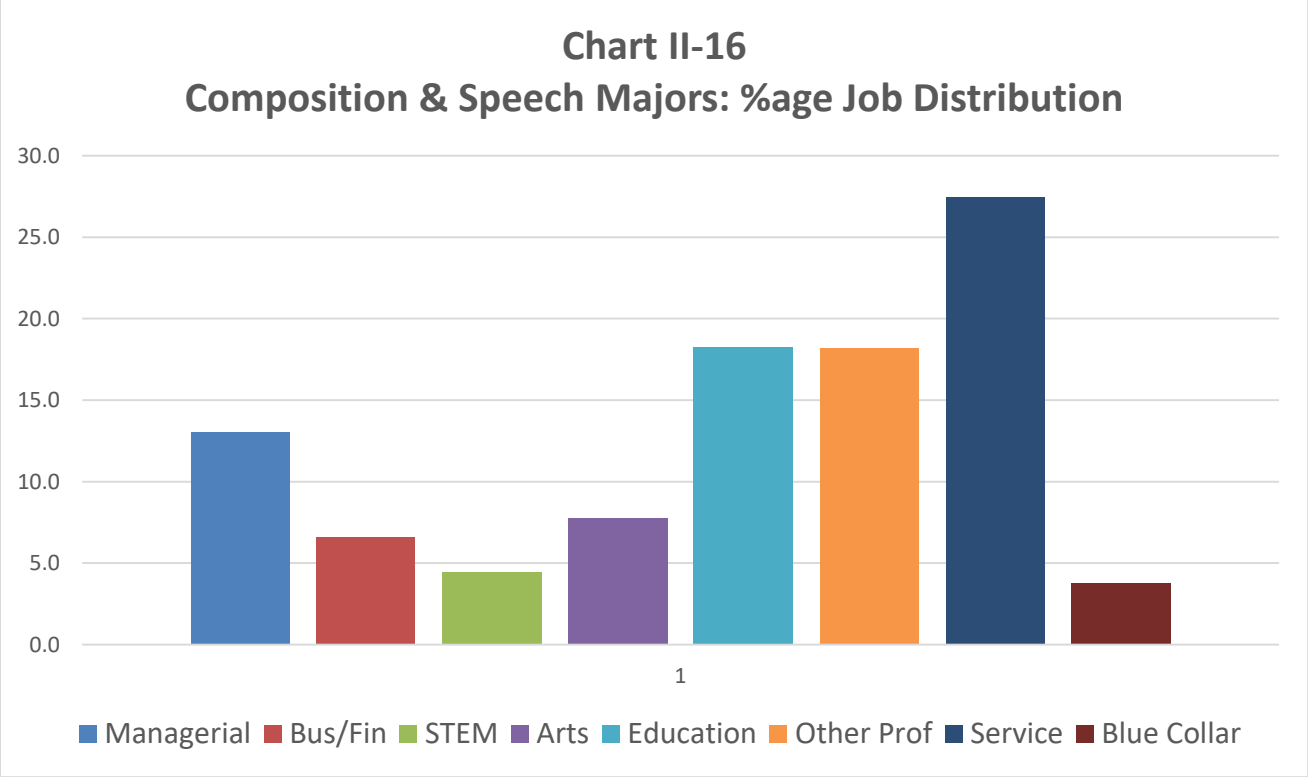


Chart II-16
Composition & Speech Majors: %age Job Distribution
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1
Managerial
Bus/Fin
STEM
Arts
Education
Other Prof
Service
Blue Collar

Chapter 2 Appendix

Appendix Table II-3: Top Ten Occupations: Architecture Majors

All Occupation	Percentage	Bachelor's only Occupation	Percentage	Advanced Degree Occupation	Percentage
Architects	31.1	Architects	29.3	Architects	34.7
Miscellaneous Managers	7.9	Miscellaneous Managers	7.7	Miscellaneous Managers	8.4
Designers	7.4	Designers	7.3	Designers	7.5
Construction Manager	3.8	Construction Manager	3.9	Postsecondary Teachers	4.6
Drafter	3.0	Drafter	3.6	Construction Manager	3.6
Postsecondary Teachers	2.3	Chief Executives & Legislators	1.8	Urban and Regional Planners	2.1
Chief Executives & Legislators	1.9	Retail Salespersons	1.6	Chief Executives and Legislators	2.0
Retail Salespersons	1.4	General & Operations Managers	1.3	Drafter	2.0
Urban & Regional Planners	1.2	Supervisors of Retail Sales Workers	1.2	Lawyers, Judges, & Other Judicial Workers	1.5
General & Operations Managers	1.2	Postsecondary Teachers	1.1	Elementary and Middle School Teachers	1.4

Appendix Table II-4: Top Ten Occupations: Fine Arts Majors

All Occupation	Percentage
Designers	9.6
Elementary & Middle School Teachers	5.7
Artists & Related Workers	5.4
Postsecondary Teachers	3.9
Miscellaneous Managers	3.0
Retail Salespersons	3.0
Supervisors of Retail Sales Workers	2.7
Secondary School Teachers	2.4
Secretaries & Admin. Assistants	2.2
Other Teachers and Instructors	1.8

Bachelor's Only Occupation	Percentage
Designers	11.4
Artists & Related Workers	5.5
Elementary & Middle School Teachers	3.9
Retail Salespersons	3.4
Miscellaneous Managers	3.3
Supervisors of Retail Sales Workers	3.2
Secretaries & Administrative Assistants	2.6
Other Teachers and Instructors	1.6
Customer Service Representatives	1.5
Waiters & Waitresses	1.5

Advanced Degree Occupation	Percentage
Postsecondary Teachers	12.0
Elementary & Middle School Teachers	11.3
Secondary School Teachers	5.3
Artists & Related Workers	5.0
Designers	3.9
Other Teachers & Instructors	2.5
Miscellaneous Managers	2.4
Education Administrators	2.0
Lawyers & Judges	2.0
Counselors	1.9

Appendix Table II-5: Top Ten Occupations: Drama and Theatre Majors

All	
Occupation	Percentage
Elementary & Middle School Teachers	4.2
Postsecondary Teachers	4.2
Waiters & Waitresses	4.0
Producers & Directors	3.9
Actors	3.7
Miscellaneous Managers	3.5
Secretaries & Admin Assistants	3.1
Other Teachers & Instructors	2.8
Designers	2.6
Retail Salespersons	2.5

Bachelor's only	
Occupation	Percentage
Waiters & Waitresses	5.0
Actors	4.2
Producers & Directors	4.2
Miscellaneous Managers	3.6
Secretaries and Administrative Assistants	3.5
Other Teachers & Instructors	3.0
Retail Salespersons	2.8
Elementary & Middle School Teachers	2.6
Designers	2.5
Customer Service Representatives	2.4

Advanced Degree	
Occupation	Percentage
Postsecondary Teachers	12.7
Elementary & Middle School Teachers	8.8
Secondary School Teachers	4.1
Lawyers & Judges	3.9
Producers & Directors	3.2
Miscellaneous Managers	3.2
Education Administrators	2.7
Designers	2.7
Actors	2.3
Other Teachers & Instructors	2.2

Appendix Table II-6: Top Ten Occupations: Music Majors

All		Bachelor's only		Advanced Degree	
Occupation	Percentage	Occupation	Percentage	Occupation	Percentage
Musicians	11.4	Musicians	10.4	Postsecondary Teachers	15.7
Other Teachers & Instructors	9.4	Other Teachers & Instructors	9.2	Musicians	12.7
Postsecondary Teachers	8.1	Elementary & Middle School Teachers	4.8	Other Teachers & Instructors	9.7
Elementary & Middle School Teachers	6.2	Secondary School Teachers	3.1	Elementary & Middle School Teachers	8.0
Secondary School Teachers	3.9	Secretaries & Admin. Assistants	3.0	Secondary School Teachers	5.0
Miscellaneous Managers	2.3	Retail Salespersons	2.9	Clergy	2.7
Secretaries & Administrative Assistants	2.2	Miscellaneous Managers	2.6	Education Administrators	2.5
Retail Salespersons	2.0	Postsecondary Teachers	2.3	Lawyers and Judges	2.3
Clergy	1.7	Supervisors of Retail Sales Workers	2.2	Miscellaneous Managers	1.9
Supervisors of Retail Sales Workers	1.5	Customer Service Representatives	1.8	Physicians and Surgeons	1.4

Appendix Table II-7: Top Ten Occupations: Visual and Performing Arts Majors

All		Bachelor's only		Advanced Degree	
Occupation	Percentage	Occupation	Percentage	Occupation	Percentage
Other Teachers & Instructors	9.0	Other Teachers & Instructors	9.8	Postsecondary Teachers	15.3
Elementary & Middle School Teachers	5.5	Designers	6.0	Elementary & Middle School Teachers	11.1
Postsecondary Teachers	4.9	Elementary & Middle School Teachers	3.6	Other Teachers & Instructors	6.7
Designers	4.8	Recreation & Fitness Workers	3.5	Secondary School Teachers	4.9
Secondary School Teachers	3.8	Secondary School Teachers	3.4	Physicians & Surgeons	3.9
Recreation & Fitness Workers	3.0	Secretaries & Administrative Assistants	3.1	Education Administrators	2.5
Secretaries & Admin Assistants	2.7	Retail Salespersons	3.0	Social Workers	2.4
Retail Salespersons	2.4	Waiters & Waitresses	2.9	Accountants & Auditors	1.9
Artists & Related Workers	2.4	Artists & Related Workers	2.7	Optometrists	1.8
Waiters & Waitresses	2.3	Dancers & Choreographers	2.2	Lawyers & Judges	1.7

Appendix Table II-8: Top Ten Occupations: Graphic Design Majors

All Occupation	Percentage
Designers	30.8
Retail Salespersons	3.9
Artists & Related Workers	3.6
Miscellaneous Managers	3.3
Supervisors of Retail Sales Workers	2.5
Elementary & Middle School Teachers	2.1
Secretaries & Admin Assistants	1.9
Customer Service Representatives	1.5
Marketing & Sales Managers	1.4
Postsecondary Teachers	1.4

Bachelor's only Occupation	Percentage
Designers	32.3
Retail Salespersons	4.2
Artists & Related Workers	3.8
Miscellaneous Managers	3.3
Supervisors of Retail Sales Workers	2.6
Secretaries & Admin Assistants	2.1
Customer Service Representatives	1.6
Elementary & Middle School Teachers	1.6
Marketing & Sales Managers	1.4
Sales Reps, Wholesale & Mfg.	1.3

Advanced Degree Occupation	Percentage
Designers	17.0
Postsecondary Teachers	9.0
Elementary & Middle School Teachers	6.9
Miscellaneous Managers	3.7
Architects	3.0
Artists & Related Workers	2.5
Supervisors of Retail Sales Workers	1.9
Secondary School Teachers	1.8
Education Administrators	1.6
Marketing & Sales Managers	1.6

Appendix Table II-9: Top Ten Occupations: Film, Video and Photographic Arts Majors

All		Bachelor's only		Advanced Degree	
Occupation	**Percentage**	**Occupation**	**Percentage**	**Occupation**	**Percentage**
Photographers	8.8	Photographers	9.5	Postsecondary Teachers	10.5
Producers & Directors	6.5	Producers & Directors	6.7	Elementary & Middle School Teachers	6.6
TV, Video, and Motion Picture Camera Opers	3.9	TV, Video, & Motion Picture Camera Opers	4.3	Producers & Directors	5.2
Miscellaneous Managers	3.8	Miscellaneous Managers	3.8	Photographers	4.7
Designers	3.0	Designers	3.4	Lawyers & Judges	4.4
Editors	2.9	Editors	3.1	Miscellaneous Managers	3.5
Postsecondary Teachers	2.6	Retail Salespersons	2.0	Writers & Authors	3.4
Secretaries & Administrative Assistants	2.0	Secretaries & Admin Assistants	2.0	Other Teachers & Instructors	2.7
Elementary & Middle School Teachers	1.9	Waiters and Waitresses	1.9	Artists & Related Workers	2.7
Retail Salespersons	1.9	Supervisors of Retail Sales Workers	1.7	Editors	2.2

Appendix Table II-10: Top Ten Occupations: Art History Majors

All Occupation	Percentage	Bachelor's only Occupation	Percentage	Advanced Degree Occupation	Percentage
Postsecondary Teachers	4.6	Retail Salespersons	5.8	Postsecondary Teachers	10.7
Retail Salespersons	4.5	Secretaries & Admin Assistants	5.8	Elementary & Middle School Teachers	6.6
Secretaries & Admin Assistants	4.3	Supervisors of Retail Sales Workers	4.4	Lawyers & Judges	5.9
Elementary & Middle School Teachers	4.0	Designers	4.3	Archivists & Curators	5.6
Miscellaneous Managers	3.8	Miscellaneous Managers	3.2	Miscellaneous Managers	4.7
Supervisors of Retail Sales Workers	3.4	Elementary & Middle School Teachers	2.4	Librarians	4.0
Archivists & Curators	3.3	Marketing & Sales Managers	2.2	Secondary School Teachers	3.2
Designers	3.1	Artists & Related Workers	2.1	Education Administrators	2.7
Lawyers & Judges	2.4	Other Teachers & Instructors	1.9	Retail Salespersons	2.4
Artists & Related Workers	2.1	Archivists & Curators	1.9	Physicians & Surgeons	2.3

Appendix Table II-11: Occupations: Studio Arts Majors

All Occupation	Percentage
Designers	8.4
Postsecondary Teachers	5.6
Artists & Related Workers	5.4
Elementary & Middle School Teachers	5.3
Retail Salespersons	3.5
Secondary School Teachers	2.7
Supervisors of Retail Sales Workers	2.4
Secretaries & Admin Assistants	2.4
Waiters & Waitresses	2.3
Miscellaneous Managers	2.2

Bachelor's only Occupation	Percentage
Designers	10.1
Artists & Related Workers	5.4
Retail Salespersons	4.5
Elementary & Middle School Teachers	3.1
Waiters & Waitresses	2.9
Supervisors of Retail Sales Workers	2.9
Secretaries & Admin Assistants	2.6
Miscellaneous Managers	2.4
Other Teachers & Instructors	1.8
Postsecondary Teachers	1.7

Advanced Degree Occupation	Percentage
Postsecondary Teachers	16.0
Elementary & Middle School Teachers	11.0
Secondary School Teachers	7.1
Artists & Related Workers	5.3
Designers	3.9
Education Administrators	2.4
Other Teachers & Instructors	2.0
Secretaries & Admin Assistants	1.8
Counselors	1.8
Librarians	1.6

Appendix Table II-12: Top Ten Occupations: Miscellaneous Fine Arts Majors

All		Bachelor's only		Advanced Degree	
Occupation	Percentage	Occupation	Percentage	Occupation	Percentage
First-line supervisors of office workers	6.2	First-line supervisors of office workers	6.7	Postsecondary Teachers	12.0
Customer Service Representatives	4.2	Customer Service Representatives	4.1	Education Administrators	8.2
Unemployed	3.0	Unemployed	3.5	Miscellaneous Managers	6.8
Computer Programmers	2.7	Computer Programmers	3.2	Tellers	6.8
Cashiers	2.7	Cashiers	3.2	Elementary & Middle School Teachers	6.6
Elementary & Middle School Teachers	2.6	Food Preparation Workers	3.0	Training & Development Specialists	5.9
Food Preparation Workers	2.6	Software Developers	2.9	Computer Occupations, All Other	5.2
Software Developers	2.5	Training & Development Managers	2.8	Psychologists	5.2
Training & Development Managers	2.4	General & Operations Managers	2.3	Customer Service Representatives	5.1
Waiters & Waitresses	2.3	Waiters & Waitresses	2.3	Meeting, Convention & Event Planners	4.6

Appendix Table II-13: Top Ten Occupations: Language and Drama Education Majors

All	
Occupation	Percentage
Elementary & Middle School Teachers	29.8
Secondary School Teachers	13.2
Postsecondary Teachers	5.0
Education Administrators	4.4
Other Teachers & Instructors	2.9
Secretaries & Admin Assistants	2.1
Counselors	1.9
Librarians	1.4
Miscellaneous Managers	1.2
Retail Salespersons	1.1

Bachelor's only	
Occupation	Percentage
Elementary & Middle School Teachers	27.1
Secondary School Teachers	13.6
Other Teachers & Instructors	3.4
Secretaries & Admin Assistants	3.3
Retail Salespersons	1.8
Teacher Assistants	1.6
Miscellaneous Managers	1.5
Childcare Workers	1.5
Preschool & Kindergarten Teachers	1.3
Supervisors of Retail Sales Workers	1.3

Advanced Degree	
Occupation	Percentage
Elementary & Middle School Teachers	32.3
Secondary School Teachers	12.8
Postsecondary Teachers	8.6
Education Administrators	7.4
Counselors	3.1
Other Teachers & Instructors	2.3
Librarians	2.2
Lawyers & Judges	1.7
Special Education Teachers	1.2
Other Education & Library Workers	1.1

Appendix Table II-14: Top Ten Occupations: Art and Music Education Majors

All	
Occupation	Percentage
Elementary & Middle School Teachers	28.3
Secondary School Teachers	14.9
Other Teachers & Instructors	5.1
Postsecondary Teachers	4.3
Musicians	4.0
Education Administrators	2.4
Secretaries & Admin Assistants	1.8
Clergy	1.7
Retail Salespersons	1.5
Supervisors of Retail Sales Workers	1.1

Bachelor's only	
Occupation	Percentage
Elementary & Middle School Teachers	25.9
Secondary School Teachers	14.4
Other Teachers & Instructors	5.5
Musicians	3.6
Secretaries & Admin Assistants	2.6
Retail Salespersons	2.1
Supervisors of Retail Sales Workers	1.6
Preschool & Kindergarten Teachers	1.3
Postsecondary Teachers	1.3
Designers	1.3

Advanced Degree	
Occupation	Percentage
Elementary & Middle School Teachers	31.1
Secondary School Teachers	15.5
Postsecondary Teachers	7.9
Other Teachers & Instructors	4.6
Musicians	4.6
Education Administrators	4.4
Clergy	2.9
Counselors	1.5
Miscellaneous Managers	1.1
Librarians	1.0

Appendix Table II-15: Top Ten Occupations: English Majors

All

Occupation	Percentage
Elementary & Middle School Teachers	7.9
Postsecondary Teachers	6.8
Lawyers & Judges	5.6
Secondary School Teachers	3.4
Miscellaneous Managers	3.1
Secretaries & Admin Assistants	2.8
Education Administrators	2.4
Writers & Authors	2.3
Editors	2.1
Retail Salespersons	1.8

Bachelor's only

Occupation	Percentage
Elementary & Middle School Teachers	5.5
Secretaries and Admin Assistants	4.2
Miscellaneous Managers	3.5
Retail Salespersons	2.7
Editors	2.7
Secondary School Teachers	2.5
Writers & Authors	2.4
Supervisors of Retail Sales Workers	2.4
Customer Service Representatives	1.9
Marketing & Sales Managers	1.8

Advanced Degree

Occupation	Percentage
Postsecondary Teachers	13.2
Lawyers & Judges	12.4
Elementary & Middle School Teachers	10.8
Secondary School Teachers	4.6
Education Administrators	4.3
Librarians	2.6
Miscellaneous Managers	2.5
Physicians & Surgeons	2.3
Writers & Authors	2.1
Counselors	1.8

Appendix Table II-16: Top Ten Occupations: Composition and Speech Majors

All

Occupation	Percentage
Elementary & Middle School Teachers	5.8
Postsecondary Teachers	5.5
Writers & Authors	4.5
Miscellaneous Managers	3.0
Editors	2.9
Lawyers and Judges	2.3
Retail Salespersons	2.2
Technical Writers	2.1
Other Teachers & Instructors	2.0
Secondary School Teachers	2.0

Bachelor's only

Occupation	Percentage
Writers & Authors	5.1
Elementary & Middle School Teachers	4.2
Miscellaneous Managers	3.3
Editors	2.8
Retail Salespersons	2.7
Technical Writers	2.7
Waiters and Waitresses	2.3
Secretaries and Admin Assistants	2.0
Cashiers	1.9
Postsecondary Teachers	1.9

Advanced Degree

Occupation	Percentage
Postsecondary Teachers	13.7
Elementary & Middle School Teachers	9.7
Lawyers & Judges	7.2
Speech-Language Pathologists	4.2
Secondary School Teachers	3.7
Writers & Authors	3.3
Editors	3.0
Other Teachers & Instructors	2.7
Education Administrators	2.5
Miscellaneous Managers	2.2

CHAPTER 3

EARNINGS OF ARTISTS AND ARTS MAJORS

Introduction

Once arts majors graduate and enter the workforce, their well-being is influenced by the same factors that affect the well-being of other workers: how stable their job is, how much they earn, whether they derive satisfaction and enjoyment from their work, and whether they feel that their work is meaningful. In the American Community Survey there are several sources of information that shed light on how successful arts (or any) majors become once they enter the labor market, but nothing on how much they enjoy their jobs and their careers.

We have already seen that only one-fourth of arts majors actually work as artists. Although this may be disappointing to the three-fourths of these majors working in other fields, it is certainly possible that some did not plan to have careers as artists, or that they are content with the careers they have chosen. Since the ACS does not ask opinion questions and does not create questions specific to artist occupations, we look toward another recent source to learn how arts majors feel about their jobs.

The Strategic National Arts Alumni Project (SNAAP) has been surveying graduates of selected arts schools for several years. Based on data collected from 13,581 art school graduates Lindemann and Tepper (2011) produced a study that reports on job satisfaction among art school graduates. In their sample, 41 percent of the surveyed graduates who were working actually worked as artists. Some results from the survey are summarized below by Berrett (2011):

> …very few professional artists reported being happy with their income -- from a low of zero craft artists to a high of 29 percent of art directors… Only one-third of professional artists surveyed by SNAAP said they were satisfied with their level of job security. Still, nearly half (47 percent) said they were very satisfied with opportunities to be creative in their work. An even larger share (64 percent) of arts graduates who became teachers reported high levels of satisfaction. Among professional artists, there were stark differences in satisfaction between different disciplines: more than two-thirds of actors, craft artists, dancers, fine artists, musicians, photographers and writers said they were pleased that they were able to do work that reflected their personality, interests and

values. In contrast, about one-third of art directors, graphic designers and web designers reported the same sense of satisfaction.

Compared to other college graduates, are arts school alumni especially satisfied with their jobs? It is impossible to say. The SNAAP survey responses cannot be compared to similar or identical responses by other college grads in the labor force, as no non-arts majors were surveyed using the same instrument. Another problem is that the SNAAP surveys are not random samples of arts majors, since the choice of which art school's alumni to survey is subjective and alumni choose (or not) to respond to the survey.

Though it cannot be used to gain insight on job satisfaction, the ACS is an excellent data source to determine how financially successful arts majors become when they enter the labor market, and how stable their careers are. In this chapter we explore the earnings[22] of arts majors in a variety of ways. We address the following questions. What do artists earn? What do arts majors earn? How do artists' and arts majors' earnings relate to each other? Does having an arts major help one achieve financial success in the arts? Does having an arts major help one achieve financial success outside the arts? In the following chapter we address a related question: How do the earnings of arts majors compare to those of other creative majors, when working both inside and outside occupations that their major prepared them for?

In a subsequent chapter we explore unemployment, hours and weeks worked by arts majors. In both cases, since the ACS provides similar information about every college graduate, we compare the outcomes of arts majors to those of other creative majors.

What Do Artists Earn?

Artists have traditionally earned less than other professionals in the labor force. Using Census data, Alper and Wassall (2006) documented average NEA (narrow) artist earnings for ten-year intervals between 1940 and 2000. We reproduce those findings in Table III-1, and add earnings numbers for 2010 using the ACS data.[23] As with our earlier estimates of the number of artists in the labor force, we used the prevailing NEA definition of artist in each year. In this table artists' earnings are compared to those in all professional occupations except artists.[24] We see that artists' earnings have ranged between 68 and 89 percent of other professionals' earnings, with no obvious trend. The fact that artists' earnings have consistently fallen short of those of other professional occupations may explain the SNAAP survey finding that "very few professional artists reported being happy with their income."

[22] Earnings are defined as wage and salary income plus self-employment income.

[23] The 2010 earnings estimate is the earnings of all artists in the 2009-11 ACS, in 2010 dollars. We will use the same methodology to generate other 2010 earnings data in this chapter.

[24] Currently 62 percent of all professionals hold at least a bachelor's degree, compared to 58 percent of artists.

Table III-1. Earnings of NEA Artists, 1940-2010		
Year	**Artists' Earnings:**	
	In Current Dollars	**% of Other Professional Earnings**
1940	$905*	71.2%*
1950	$2,658	83.8%
1960	$4,857	82.1%
1970	$8,305	88.9%
1980	$12,657	76.8%
1990	$23,992	77.1%
2000	$36,590	82.0%
2010	$45,491	68.0%
*Includes wage and salary income only. Source: Alper and Wassall (2006), Table 4, and authors' calculations using the ACS.		

Using the ACS, in Table III-2 we profile 2009-11 average earnings for narrow and broad artists groups and for each individual narrow artist occupation, and show how their earnings are affected by the amount of education they completed. For reference, we provide comparable earnings data for the entire labor force and for all other non-artistic professional occupations.[25] To highlight the differential effects of greater educational attainment on earnings, we use an earnings index normalized at 1.000 for bachelor's degree recipients in each occupational category. How to interpret this index can be seen by looking at the numbers for the entire labor force. Average earnings in the entire labor force were $41,779. Using the index numbers, we see that these earnings were 70 percent of that earned by the average worker with a bachelor's degree only. Also, the average labor force member with a bachelor's degree earned roughly twice as much as the average labor force member without a bachelor's (1.000 vs. 0.499), and the average labor force member with any degree beyond a bachelor's earned 48. 6 percent more than one with a bachelor's only. These numbers effectively measure the raw return from continuing one's education, first to the bachelor's degree level, and then to the graduate degree level.[26]

Limiting the labor market to only those with professional jobs eliminates most low-end jobs which require less formal training, leaving jobs with narrower gaps in qualifications and earnings. Thus the earnings premiums to professionals only from more education are not as great, but still substantial.

[25] Other professionals include the following broad occupation groups: managerial, business and finance, computing, engineering, science, counseling, legal, education, entertainment (excluding artists), and medical.
[26] These numbers represent actual differences in earnings, and do not take into account whether personal characteristics other than education may have affected them. Later in this chapter we estimate the return from education in the context of a multivariate earnings model.

Table III-2. Earnings of Artists, by Amount of Education

Occupation	Earnings:	Education Index: All	No Bachelor's	Bachelor's Only	More Than Bachelor's
All Labor Force Members	$41,779	0.700	0.499	1.000	1.486
Professionals Less NEA Artists	$66,882	0.986	0.678	1.000	1.382
Narrow (NEA) Artists	$45,491	0.875	0.657	1.000	1.137
Broad Artists	$45,768	0.866	0.627	1.000	1.146
Architects	$70,348	1.005	0.784	1.000	1.081
Visual Artists	$40,135	0.834	0.654	1.000	0.931
Designers	$44,791	0.906	0.755	1.000	1.267
Actors	$32,753	0.935	0.894	1.000	0.886
Producers and Directors	$67,036	0.957	0.780	1.000	1.117
Dancers and Choreographers	$23,823	0.714	0.665	1.000	0.950
Musicians	$30,588	0.934	0.804	1.000	1.182
Entertainers	$32,748	0.923	0.798	1.000	1.783
Announcers	$41,426	0.697	0.503	1.000	1.277
Writers and Authors	$50,711	0.946	0.693	1.000	0.998
Photographers	$30,937	0.774	0.620	1.000	0.917

Comparing artists to other professional occupations yields some interesting differences. Although the premium for holding a bachelor's degree is about the same for artists as for other professionals (both are just over 30 percent), the premium for holding a graduate degree is much less for artists: 14 percent versus 38 percent. Certainly part of this differential lies in the choice of graduate degree, which we cannot document. Artists would be more likely to earn graduate degrees in fine arts and music, for example, and less likely in business, law and medicine, which yield higher financial payoffs. However, part of the explanation may be that formal education may simply do less to advance artists' careers than in other fields.

All eleven arts occupations show earnings premiums for those who received a bachelor's degree. However, five artist occupations reported higher earnings for those who stopped after a bachelor's than those who went on to earn a graduate degree. For the average artist in those occupations, the financial return from earning a graduate degree would appear to be negative. Among these five occupations, actors who never received a bachelor's earned more than their counterparts with graduate degrees! Visual artists, dancers, writers, and photographers with graduate degrees all earned less than their counterparts who stopped at a bachelor's, but more than those with no college degree.

In Table III-3, earnings are presented by gender and race. Again, to enable comparisons an index is used. Men's earnings are set at 1.000 and then compared to women's earnings. The earnings

Table III.3. Earnings of Artists, by Gender and Race

Occupation	Average Earnings:	Gender Index: Men	Gender Index: Women	Race index: White	Race index: Black	Race index: Asian	Race index: Other
All Labor Force Members	$41,779	1.000	0.670	1.000	0.685	1.141	0.630
Professionals Less NEA Artists	$66,769	1.000	0.615	1.000	0.747	1.114	0.741
Narrow (NEA) Artists	$45,491	1.000	0.668	1.000	0.807	1.141	0.783
Broad Artists	$45,768	1.000	0.701	1.000	0.861	1.056	0.750
Architects	$70,348	1.000	0.695	1.000	0.742	0.995	0.820
Visual Artists	$40,135	1.000	0.642	1.000	0.844	1.220	0.899
Designers	$44,791	1.000	0.670	1.000	0.924	1.171	0.861
Actors	$32,753	1.000	0.799	1.000	0.802	0.577	0.886
Producers and Directors	$67,036	1.000	0.823	1.000	0.775	1.062	0.728
Dancers and Choreographers	$23,823	1.000	0.819	1.000	1.255	1.112	0.888
Musicians	$30,588	1.000	0.605	1.000	0.879	1.037	0.782
Entertainers	$32,748	1.000	0.621	1.000	0.681	1.356	0.685
Announcers	$41,426	1.000	0.771	1.000	0.910	0.988	0.564
Writers and Authors	$50,711	1.000	0.672	1.000	1.038	1.003	0.864
Photographers	$30,937	1.000	0.573	1.000	0.739	0.870	0.746

of whites are set to 1.000 and then compared to the earnings of blacks, Asian-Americans and "other races."[27] It is well known that women in general earn less than men and that blacks and other races earn less than whites and Asian-Americans in our labor markets. These differences are reflected in the earnings indexes for all labor force members.[28]

What is perhaps less well-known is that part of these earnings gaps come from different career choices made by gender and racial cohorts. For example, for a long time men who did not attend college had better remunerative choices available to them (construction and factory work, e.g.) than women (secretarial and clerical work, e.g.). These differentials have narrowed as sexual stereotyping in jobs has diminished, and as the labor market has increasingly rewarded brains over brawn. We now live in a world where remunerative factory jobs have become scarce, and service jobs are open to both women and men. At one time, many career choices of college graduates were essentially unavailable to women. Now there are as many women college graduates in the labor market as there are men, and as the percentage of college graduates in the labor force has risen to an all-time high, women can be found in all professions. Nevertheless, female college graduates still disproportionately enter lower-paying

[27] The ACS collects very detailed racial data. We collapsed the following categories into "other races": American Indian, Alaska native, Native Hawaiian and other Pacific Islander, two or more race groups, and "some other race."
[28] Note that this sample contains all labor force members, whether working full- or part-time. Since women are more likely to work fewer hours than men, the male-female differentials reported here are greater than when comparing full-time workers only.

occupations such as preschool, elementary and secondary school teaching, while male graduates disproportionately enter higher-paying occupations, such as engineering and computer science. If we eliminate gender-based occupational sorting by focusing only on persons in single or narrow occupations, it would be expected that gender and racial earnings gaps would narrow.

The numbers in Table III-3 only partially support this hypothesis. The gender earnings gap among professionals is actually wider than the overall labor market gender gap, although the racial gaps are narrower. Among all broad and narrow artist occupations the gender gap is similar to that of all workers, but racial disparities are generally narrower. Among the individual artist occupations, women receive between 57 and 82 percent of men's earnings. The earnings gaps between men and women visual artists, musicians, entertainers, and photographers are greater than the gender gap between all labor force members.

Racial disparities are more nuanced. White architects, actors, announcers and photographers earn more than their non-white counterparts. However, Asian-American visual artists, designers, producers and directors, musicians, and entertainers earn more than any other racial group. Black dancers and writers earn more than any other racial group.

The fact that gender and racial disparities in earnings exist is not de facto proof of discrimination. Many factors lie behind reported differences in earnings. To determine the effect of discrimination, the effect of other factors on earnings differentials must first be accounted for using multivariate statistical modeling. Economists have conducted many such studies, and conclude that, after accounting for other causal factors, gender and racial discrimination still exist, although gender and racial earnings gaps diminish.[29] To our knowledge, we have published the only estimates of the effect of gender discrimination on earnings of NEA artists, using 2000 Census data.[30] In that study we found that substantial unexplained gender differences in earnings.

What Do Arts Majors Earn?

In this section we focus on earnings of arts majors who are in the labor force. As we have seen, arts majors are more likely to work in non-arts jobs than in arts jobs. However, it is also of interest to see how the training arts majors receive while in college translates into productivity in both artistic and non-arts careers. We report on earnings in both situations.

Table III-4 reports on earnings for all narrow and broad arts majors, whether they worked in an artistic job or not, by each major and in the aggregate.[31] For reference, the earnings of all college graduates minus narrow arts majors are presented. Last, the earnings of arts majors

[29] See Borass and Rodgers (2003), Hirsch (2006), and Lang and Lehmann (2012) for summaries of this research.
[30] Germiniaisi, Alper and Wassall (2011).
[31] Since these are the majors chosen by college graduates, there are no comparable earnings of anyone with less than a bachelor's degree.

Table III-4. Earnings of Arts Majors, by Amount of Education

Major	Earnings	Earnings Index: Bachelor's Only	Earnings Index: More than Bachelor's
College grads less narrow arts majors	$71,073	1.000	1.484
All narrow arts majors	$51,166	1.000	1.326
All broad arts major	$54,100	1.000	1.411
Architecture	$68,197	1.000	1.247
Fine Arts	$48,146	1.000	1.240
Drama and Theater Arts	$46,188	1.000	1.448
Music	$47,910	1.000	1.332
Visual and Performing Arts	$42,301	1.000	1.516
Commercial Art and Graphic Design	$48,398	1.000	1.334
Film, Video and Photographic Arts	$50,152	1.000	1.258
Art History	$55,410	1.000	1.526
Studio Arts	$39,464	1.000	1.392
Misc. Fine Arts	$39,578	1.000	1.215
Language and Drama Education	$47,886	1.000	1.370
Art and Music Education	$45,849	1.000	1.438
English Language and Literature	$61,820	1.000	1.491
Composition and Speech	$51,568	1.000	1.497

with only a bachelor's degree and with a graduate degree are reported separately, in index form (bachelor's only = 100). Consistent with our comparison of artists' earnings to those of other professionals, we see that narrow arts majors earn considerably less – 27 percent less – than other college majors.[32] Among narrow arts majors – architecture through miscellaneous fine arts – average earnings range from $39,000 to $68,000. Earnings in every one of these majors are less than that of the average college graduate. The same is true for the four majors we add that constitute our broad art majors. Earnings of education majors are particularly low.

Spending the extra time to acquire a graduate degree is less financially rewarding for narrow arts majors than for college graduates in general, with a 33 percent return to narrow majors versus a 48 percent return to all college graduates excluding narrow arts majors. Only two narrow majors – visual and performing arts and art history – received a higher return with a graduate degree than the average college graduate.[33]

[32] Broad arts majors earn 23 percent less than all college majors.

[33] The greater success of persons with these two majors when they earn graduate degrees is reflected in the jobs they chose, and the graduate degrees they must have earned to get them. Lawyers and judges is the third most common occupation of art history majors with a graduate degree; and physicians and surgeons, accountants,

Since we cannot determine exactly what graduate degrees narrow majors actually receive, we can often only speculate on what causes this difference. We saw in Chapter 2 that narrow arts majors often choose to work in other fields, with teaching being a more common job choice than artist. Narrow arts majors with graduate degrees chose teaching as a career even more frequently, with teaching or education administration jobs accounting for five of the ten most popular occupations. Thus is it likely that many graduate degrees earned by narrow arts majors are in the field of education. We will see in Chapter 4 that education rivals the arts in being among the least rewarding of the creative major fields in terms of earnings.[34]

Broad arts majors received a 41 percent earnings increase when they completed a graduate degree. Since this category adds four majors to the ten narrow arts majors, these additional four majors all have greater returns to a graduate degree than narrow arts majors combined. The returns to a graduate degree for English and composition and speech were the greatest.[35]

Table III.5 examines the same earnings data for arts majors, but by gender and race. Here a pattern emerges for arts majors similar to that of all working artists. For both narrow and broad arts majors, women's earnings are 68 percent of men's earnings. In only one major – miscellaneous fine arts – do women earn more than men. However, this major has the smallest sample size. The overall gender earnings gap of arts majors is less than that of all college graduates, as would be expected since similar majors are more likely to cluster in similar jobs.

Narrow and broad arts majors who are white earn more than arts majors of other races. As with gender, the earnings gaps among races are narrower than for the entire population of college graduates. Among individual majors, only in studio arts (Asians), miscellaneous fine arts (Blacks) art and music education (Blacks) and composition and speech (Asians) do minorities have higher reported earnings than whites.

Last, for those arts majors who do not work in artistic occupations, we can explore whether having an arts major gives them a greater advantage in the larger job market. Since roughly three-fourths of arts majors work in this larger job market, we are interested in how they their arts major aids them when not working as artists. We observe the earnings of arts majors, combined and by major, either when working in any of the eleven NEA artist occupations or when working in all other, non-arts occupations in Table III-6.

At the top of Table III-6 we draw the usual comparisons between arts majors and all other majors. Note first that a college graduate who did not major in the arts earns essentially the same amount when working in an artistic occupation as does a narrow or broad arts major.

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optometrists, and lawyers and judges appear among the ten most common occupations of visual and performing arts majors with a graduate degree.

[34] We define "creative major" in Chapter 4.

[35] Recall that the most common occupation for both these majors when they have graduate degrees is postsecondary teaching. Also, lawyers and judges is second most common job for English majors with graduate degrees, and the third most common job for composition and speech majors with graduate degrees.

Table III.5. Earnings of Arts Majors, by Gender and Race

		Gender Index:		Race index:			
Major	**Earnings**	**Men**	**Women**	**White**	**Black**	**Asian**	**Other**
College grads less narrow arts majors	$71,073	1.000	0.612	1.000	0.744	0.982	0.746
All narrow arts majors	$51,166	1.000	0.676	1.000	0.841	0.966	0.793
All broad arts degrees	$54,100	1.000	0.682	1.000	0.852	0.931	0.801
Architecture	$68,197	1.000	0.670	1.000	0.758	0.919	0.743
Fine Arts	$48,146	1.000	0.725	1.000	0.901	0.958	0.788
Drama and Theater Arts	$46,188	1.000	0.757	1.000	0.835	0.856	0.711
Music	$47,910	1.000	0.683	1.000	0.819	0.860	0.699
Visual and Performing Arts	$42,301	1.000	0.660	1.000	0.825	0.910	0.919
Commercial Art and Graphic Design	$48,398	1.000	0.674	1.000	0.889	0.977	0.920
Film, Video and Photographic Arts	$50,152	1.000	0.690	1.000	0.763	0.799	0.683
Art History	$55,410	1.000	0.690	1.000	0.885	0.937	0.944
Studio Arts	$39,464	1.000	0.740	1.000	0.907	1.199	0.817
Misc. Fine Arts	$39,578	1.000	1.200	1.000	1.025	0.836	0.604
Language and Drama Education	$47,886	1.000	0.795	1.000	0.960	0.930	0.945
Art and Music Education	$45,849	1.000	0.759	1.000	1.036	0.834	0.936
English Language and Literature	$61,820	1.000	0.641	1.000	0.807	0.847	0.786
Composition and Speech	$51,568	1.000	0.771	1.000	0.913	1.411	0.841

However, when working in non-arts occupations, a college graduate who did not major in the arts earns on average $21,000 more than narrow arts majors and $17,000 more than broad arts majors. Both these conclusions are startling. One implication is that there is a substantial opportunity cost of choosing an arts major while in college, regardless of whether one ends up working as an artist or not. Further implications will be pursued below, and later in this study when we examine the same data in the context of a multivariate model.

Overall, the pay differential for all arts majors between working in arts and non-arts jobs is not great – narrow arts majors make $3,600 less in non-arts jobs, and broad arts majors make $1,100 more. However, there are wider gaps among some individual arts majors. In seven of the eleven narrow arts majors, persons in those majors earn more when working as artists. In only one of the four "broader" arts majors do persons earn more when working as artists.

Among narrow arts majors, the largest earnings gaps occur among music majors ($9,500 more when working in non-arts jobs) and film, video and photographic arts ($9,000 more when working in arts jobs). Despite the premium music majors receive when working outside the arts, their earnings in both arts and non-arts jobs are below those of the average arts major. Among the four majors incorporated into the broad arts definition, the two education majors earn

Table III-6. Earnings of Arts Majors, in Artistic Jobs and in Non-Arts Jobs

Major	Earnings: Any Artist Job	Non-Arts Job
College grads less narrow arts majors	$53,672	$71,279
All NEA (narrow) arts majors	$53,943	$50,298
All broad arts majors	$53,114	$54,271
Architecture	$68,619	$67,923
Fine Arts	$49,516	$47,824
Drama and Theater Arts	$46,614	$46,119
Music	$39,753	$49,292
Visual and Performing Arts	$42,964	$42,203
Commercial Art and Graphic Design	$50,330	$47,294
Film, Video and Photographic Arts	$57,119	$48,116
Art History	$51,254	$55,765
Studio Arts	$44,796	$38,423
Misc. Fine Arts	$28,053	$40,526
Language and Drama Education	$28,612	$48,237
Art and Music Education	$32,409	$46,757
English Language and Literature	$53,504	$62,208
Composition and Speech	$56,111	$51,187

$14- 20,000 more in non-arts jobs.[36] Despite this large premium, earnings for them both inside and outside the arts fall below those of the average broad arts major as well.

The comparison of earnings in both arts and non-arts jobs between arts majors and all other majors is not flattering. Are students who become arts majors less capable in the job market? Probably not to that extent. Do arts majors graduate college with fewer tools that enable them to cope in non-arts jobs? Possibly. It is also possible that some of that $21,000 difference in earnings in non-arts jobs lies in the job choices made by arts majors relative to non-arts majors. For example, are arts majors competing with persons trained more directly for jobs in fields like engineering and business? Or are they targeting non-arts jobs with lower earnings, partly causing the $21,000 differential by their career choices? If they are targeting jobs with lower earnings, is it their choice or do they fail to break into higher-paying job markets? Again a more sophisticated approach is needed to take these complicating factors into account. We will continue to discuss this issue in the next chapters.

[36] We saw in Chapter 2 that a significant percentage of Language and Drama Education and Art and Music Education major teach for a living.

Earnings functions

A more sophisticated way to determine what factors affect the earnings of artists, and how those factors explain the differences between artists and other professionals as reflected in the tables above, is to use earnings functions. We will explore this approach in the rest of this chapter.

Earnings, according to economists, are determined by a number of factors. Primary among these factors are investments made in oneself. They are made with the expectation of receiving a return in the future to justify their costs. These investments in human capital primarily take the form of education, both formal and informal, and the return is usually considered as the enhanced earnings that derive from them.[37] Human capital also includes the skills and knowledge obtained through work experiences. Other factors recognized by economists as affecting earnings include innate abilities, both physical and mental; personal characteristics, such as age, gender, and race; characteristics of the market in which one works, e.g., the industry, the type of work environment (i.e., private for-profit, private not-for profit, government, self-employed) and the location of where one works, reflecting differences in the cost-of-living and regional product and labor market conditions; how much time one spends working; and demographic characteristics.

These influences on earnings can be quantified in a regression equation called an earnings function. In its elementary version, often called a Mincerian earnings function, it takes the form:[38]

$$Ln(w) = \rho S + \beta_i X_i + \varepsilon,$$

Where:
w = the natural logarithm of the wage (per period);
ρ = the rate of return on an increment of schooling;
S = measure of schooling (years, degrees, e.g.);
X_i = a vector of i other variables that determine wages;
β_i = a vector of coefficients of these variables, also measuring percentage returns;
ε = an error term.

[37] There is a distinction – and disagreement - as to whether having a college degree on one's resume reflects a valuable bundle of skills acquired in the process, or instead serves as a "credential." The degree as credential is probably more important to earnings in job markets where applicants are initially screened for this credential by a potential employer, and not having it presents an entry barrier. It would be less important in job markets where academic credentials are not required, which would describe job markets for many artistic professions.
[38] This format is adapted from Laing (2011). A more complete discussion of earnings and the role of human capital as a determinant can be found in Chapter 5 of that text.

In the jargon of regression analysis, ln(wage) is the dependent variable, and the S and X_i variables are the independent variables. Ideally, causality will run from the independent variables to the dependent variable.

The advantages of using an earnings function to measure the effect of the level of education and choice of major on earnings include the following: (1) the estimates of the effects of education on earnings are determined while simultaneously taking into account other important causal factors, (2) a more precise estimate is determined, and (3) the effect of education on earnings can be tested for statistical significance.

This technique, like much of econometric analysis, has issues. One issue relates to possible causal variables that are not in the ACS data. – are there important factors that affect earnings which are not in our data base (consisting of individuals in the ACS sample)? Measures of ability, such as IQ or SAT scores, are not available. Also missing are parents' occupations, as well as other information about parents. Although the major field for college graduates is known, we don't know the name of the college, nor do we know the fields in which graduate degrees have been earned. And of course no data set contains measures of artistic talent. A second issue relates to selection bias. For example, in this data set we observe persons who have completed differing amounts of education. Of those who have completed college, we observe the major they chose. One would expect that smarter people attend college than those who don't, and that people who choose a major (in part) do so because they believe that field best reflects their perceived abilities.

Earnings functions: artists vs. non-artists

We now report on the statistical earnings functions we created using data from the same 2009-11 Public Use Microdata Sample in the ACS. Since each observation in every equation is a person in the sample who worked for pay during this period, the sample size is the number of persons surveyed who worked in each relevant occupation. For each function in the accompanying tables, the sample size, a measure of goodness of fit (R^2), and the independent variables, their coefficients and level of statistical significance are shown.

We first focus on an earnings function for all persons in the survey who work as artists. The all-artist earnings function is compared to an earnings function for all working persons other than artists. They are juxtaposed in Table III-7. There are separate functions for men and women.

In each instance, the dependent variable is the log of total personal earnings (inflation adjusted). This variable includes earnings from self-employment and from jobs that pay wages and salaries. It is a measure of net earnings, or income minus costs. The independent variables – the factors that arguably determine earnings - are defined and discussed in more detail in what follows.

One advantage of using the log of earnings as the dependent variable is that the coefficients of the independent variables define the percentage change caused by the presence of that

variable. For example, a coefficient for the bachelor's degree variable of .20 would imply that having a bachelor's degree, while taking into account other variables in the function, increases earnings by 20 percent over what those with less than a bachelor's degree earn.

Among the findings that we discuss, of most interest is the role of education in determining earnings, and for college graduates, the role of college major. Additionally, we discuss the roles of age (as a proxy for experience), a variety of personal characteristics, whether a person worked full-time, and the type of employer.[39]

From the data in Table III-2 we saw that working artists in general earn less than other professionals, and that having a bachelor's degree does not appear to increase artists' earnings as much as it increases earnings for those in non-arts fields. These differences in earnings by degree earned were not tested for statistical significance. Below, in Table III-7 and the ones that follow, we see the partial effects that having additional degrees has on earnings while holding the effects of other earnings-influencing factors constant, accompanied by a measure of the degree of statistical significance of these effects.

In Table III-7 we see that the rate of return to an artist who holds a bachelor's degree is 30 percent, and that the return to holding a master's or professional degree lies between 36 and 40 percent. In addition, for artists with a bachelor's degree or higher, having any arts major increases earnings by 4 percentage points. While the returns to men and women artists from more education are similar, women benefit disproportionately more from having a professional degree or an arts major. It is noteworthy that having a narrow arts major does not have a significant impact on the earnings of men.

When we compare the returns from a college education for artists to those for working non-artists, we see the disparities that we noted earlier in this chapter. The return to the rest of the labor force for holding a bachelor's degree is 45 percent, and the return to a master's or professional degree ranges from 68 to 98 percent. Both sets of results occur after accounting for differences in personal characteristics, differences in experience (via the age variables) and in time spent at work (via the full-time hours and full-time weeks variables).[40]

Having variables for age and age-squared in each equation permits us to measure the effect of age (as a proxy for experience) on earnings. In earnings functions the relationship between age and earnings is always non-linear, with earnings rising after entry into the labor force, reaching a peak, and then declining. We can use the age and age-squared variables to calculate a "peak age" for earnings. We do this for all workers, all artists, and members of each artistic profession. These calculations may be found in Table III-8. For all workers other than artists, peak earnings occur at age 50. For all artists, they occur at age 49.

[39] Also in these equations are binary variables identifying the region of the country and the industry in which each person works. They are not reported in these tables, but complete results can be obtained from the authors.
[40] Full-time hours is defined as working 35 hours a week or more; full-time weeks is defined as working 50 weeks a year or more.

Table III-7. Earnings Functions: All workers and All artists						
	All workers excluding artists			**All artists**		
Variable	All	Women	Men	All	Women	Men
BA	.45***	.44***	.45***	.30***	.32***	.28***
MA	.68***	.68***	.67***	.36***	.35***	.37***
Prof. Degree	.98***	.94***	1.00***	.40***	.45***	.35***
Arts Major				.04***	. 07***	.005
Age	.08***	.08***	.09***	.10***	.10***	.11***
Age^2	-.001***	-.001***	-.001***	-.001***	-.001***	-.001***
Male	.20***			.25***		
Black	-.12***	-.08***	-.18***	-.03	.001	-.05*
Hispanic	-.05***	-.04***	-.07***	-.05**	.001	-.09***
US born	.15***	.16***	.14***	.06**	.11***	.02
Full-time hours				.99***	.99***	.99***
Full-time weeks				.88***	.91***	.83***
For-profit	-.004	-.06***	.05***	.20***	.19***	.19***
Non-profit	-.05***	-.05***	-.08***	.08**	.08*	.05
Self-employed	-.15***	-.26***	-.07***	-.10***	-.12***	-.09*
Married	.07***	.02***	.10***	.04	-.06	.08
Divorced/separated	-.03***	-.01*	-.06***	.01	.05	-.09
Never married	-.08***	-.02***	-.13***	.004	.03	-.07
Child under 5	.09***	.10***	.07***	.14***	.20***	.06***
English only	.04***	.01***	.07***	-.01	-.04	.01
Disability	-.20***	-.18***	-.21***	-.33***	-.31***	-.35***
R2	.58	.58	.58	.47	.45	.46
N	23,139,357	1,114,890	1,199,067	65,221	31,191	34,030

Other personal characteristics of individual labor force members affect artists' and non-artists' earnings as well, although the extent of these effects differs. Economy-wide, the "extra" return to being male is 20 percent, but it is 25 percent for artists. Among non-artists, being black and being Hispanic reduce earnings by 12 percent and 5 percent respectively; among artists, there is no significant difference in earnings for blacks, but Hispanics suffer the same 5 percent penalty. Note that there are often significant differences in earnings between being a male minority and a female minority.

Table III-8. Peak Earnings Year by Occupation

Occupation	Peak Earning Age
All workers	50
All Artists	49
Architects	53
Designers	52
Photographers	44
Visual artists	49
Dancers	44
Musicians	49
Actors	48
Producers and directors	50
Writers and authors	51
Announcers	49
Entertainers	49

Being married is almost always associated with greater earnings in studies of the American labor force, especially for married males. Here, being married is associated with a seven percent earnings premium (10 percent for males) for non-artists. For artists, there is no significant marriage premium. Being born in the US provides a 15 percent earnings premium for non-artists, but a 6 percent premium for artists. Growing up in a household where English only is spoken leads to a four percent earnings premium for non-artists; it has no significant effect for artists. Having a work-affecting disability reduces earnings by 20 percent for non-artists, and by 33 percent for artists.

Artists, like non-artist workers, work in one of several employment settings: the private for-profit sector, the private not-for-profit sector, the government sector or as a self-employed person. In which sector of the economy they decide to work can have a significant impact on their earnings, as is true for other workers. In Table III-7, the coefficients of for-profit, non-profit, and self-employment should be interpreted relative to the return for working in the government sector, which is excluded.[41]

Artists who work in the for-profit sector earn the most - 20 percent more than those working for a government employer; artists working in non-profit earn relatively less, and self-employment leads to even lower earnings. Gender differences associated with employment setting are minimal. By comparison, non-artist workers, holding other personal characteristics constant, are most rewarded when working in government, and earn progressively less when working in the for-profit sector, the non-profit sector, or in self-employment. The earnings

[41] There is perfect correlation among all the choices in the employer variable, so one has to be left out in order to run the regression analysis. Employment in the federal, state, or local government sector was dropped, as it will be in subsequent earnings functions.

penalty to self-employment is greater for women, and men earn more than any alternative when working in the for-profit sector.

Earnings functions: individual artistic occupations

In this section we report on the outcomes from estimating earnings functions for each of the eleven artistic occupations tracked by the ACS. These earnings functions are found in Tables III-9 through III-14. For brevity's sake, we focus on the effects of education and experience on earnings in each occupation. We also discuss the effect on earnings of having any arts major. The reason for continuing to use an "any arts major" variable rather than a specific arts major is that graduating in several arts majors does not necessarily lead to work in one specific occupation; also, some artists in the sample earned two different arts majors.[42]

Earnings functions for **Architects** and **Designers** are shown in Table III-9. Of the eleven arts professions, these two most closely resemble "mainstream" occupations outside the arts, as we have noted earlier. Nevertheless, the return to earning a bachelor's degree for architects is only 18 percent, and 24 percent for a master's or professional degree. These returns are below artist averages, and well below non-artist averages. Women architects benefit disproportionately from having a Master's degree relative to men. Having any arts major does not significantly enhance architects' earnings overall, although there is a significant financial benefit for female architects.

The return from a college education is greater for designers, more closely approximating that received by all artists. As with architects, there is a higher return to a master's (35 percent) or professional degree (42 percent) than to a bachelor's (25 percent). Unlike architects, the return to any college degree is higher for men than women. Having any arts major increases designers' returns to a bachelor's degree by 6 percentage points. The return to having an arts major is twice as great for women and not significant for men.

Work experience as described by age significantly enhances the earnings of all architects. Their peak earnings occur at age 53. The age-earnings profile of designers is similar to that of architects. Designers reach peak earnings at age 52.

In table III-10 we look at the earnings of **Photographers** and **Visual Artists**. The returns to a bachelor's degree in both these occupations – 25 percent for photographers and 20 percent for visual artists - lie below that of all artists. In neither occupation is having a master's or professional degree very remunerative. However, the financial benefit of having majored in the arts is large for members of both occupations. Having any arts major enhances earnings by 19 percentage points for photographers, almost doubling the return to a bachelor's degree, and by 13 percentage points for visual artists. This return is similar and statistically significant for men, but the return to women is not statistically significant.

[42] We have separately estimated earnings functions for each artistic occupation using specific arts majors as independent variables where appropriate. For brevity's sake, these estimates are not reported here.

Table III-9. Earnings Functions: Architects and Designers

	Architects			Designers		
Variable	**All**	**Women**	**Men**	**All**	**Women**	**Men**
Bachelor's degree	.18***	.30***	.14***	.25***	.24***	.25***
Master's degree	.24***	.33***	.23***	.35***	.28***	.41***
Prof. degree	.24***	.23	.24***	.42***	.34**	.46***
Arts Major	.05	.12**	-.003	.06***	.12***	-.03
Age	.09***	.08***	.09***	.09***	.08***	.10***
Age^2	-.001***	-.001***	-.001***	-.001***	-.001***	-.001***
Male	.16***			.24***		
Black	-.24***	-.13	-.27***	-.05	.02	-.11*
Hispanic	-.04	.09	-.08	-.07**	-.02	-.10**
US born	.09	.11	.08	.07*	.09*	.04
Full-time hours	.87***	.81***	.87***	.93***	.89***	.92***
Full-time weeks	.91***	.86***	.92***	.87***	.91***	.81***
For-profit	.09	.15	.08	.25***	.32***	.14**
Non-profit	.08	-.06	.11	.22***	.31***	.08
Self-employed	-.16**	-.21	-.14*	-.07	.02	-.17**
Married	.29	.14	.39	.04	-.07	.16
Divorced/separated	.17	.18	.21	-.01	-.03	-.02
Never married	.17	.14	.22	.03	.001	.04
Child under 5	-.03	.06	-.06	.09***	.21***	-.04
English only	.02	.09	-.01	-.004	-.03	.03
Disability	-.26***	-.58**	-.20**	-.22***	-.24***	-.21***
R^2	.46	.49	.43	.46	.45	.42
N	5,832	1,570	4,262	24,384	13,502	10,882

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

Earnings of photographers peak at younger ages than other artists, and other labor force members. For photographers, earnings peak at age 44. The age-earnings profile of visual arts reaches as maximum at age 49, the same age as all artists combined.

We turn next to performing artists. Earnings functions for **Dancers and Choreographers** and **Musicians** are shown in table III-11. We saw in Table III-2 that dancers earn the least of any artist occupation, and that dancers with a graduate degree earn less than those with a bachelor's. Using the dancers' earnings function, we see that this earnings function predicts no earnings benefit from holding either bachelor's and master's degrees, and a significant negative effect from holding a professional degree. Both men and women dancers failed to benefit significantly from college-level education.

By comparison, musicians benefit from holding bachelor's through professional degrees. Returns from attaining bachelor's, master's, and professional degrees cluster around 20 percent. The return to musicians with a bachelor's degree from having an arts major is increased by 31 percentage points (and higher for women than men). Women musicians don't benefit from a bachelor's degree unless they have an art major, and men musicians don't benefit from having a professional degree.

Not surprisingly, the peak earnings age of dancers is relatively low, at 44. Earnings of musicians peak at age 49.

Two more (related) groups of performing artists are **Actors** and **Producers and Directors**. Earnings functions for these two occupations are found in Table III-12. Earlier (again referring to Table III-2) we noted that, based on mean earnings, actors showed little financial improvement from having a bachelor's degree, and that those with a graduate degree actually earned less. By comparison, producers and directors showed greater earnings with greater amounts of education through the graduate level. The earnings function results sharpen these conclusions.

The regression results show no statistically significant earnings benefit to actors for holding any degree, from a bachelor's on up. However, having any college major in the arts yields a 26 percent earnings increase, which in turn is greater for women than men.

It is interesting to note the large size of the earnings penalty (69 percent) for being a disabled actor. It would seem intuitive that having disabilities would especially adversely affect earnings in a professional occupation which requires some degree of looks plus physical and speaking skills, but the penalty still seems huge. Compared to other performers, being a dancer and having a disability reduces earnings by 31 percent (though not statistically significant); being a musician and having a disability reduces earnings by 58 percent.

Producers and directors show a more traditional relationship between earnings and education, similar to those shown for all workers and all artists in Table III-7. Every additional degree completed, from a bachelor's (31 percent) to a master's (30 percent) to a professional degree (52 percent), enhances earnings. Having an arts major does not increase earnings, and

Table III-11. Earnings Functions: Dancers and Musicians

	Dancers			Musicians		
Variable	**All**	**Women**	**Men**	**All**	**Women**	**Men**
BA	-.17	-.05	-.44	.17***	.10	.23***
MA	-.37	-.44	-.33	.22***	.16**	.27***
Prof. Degree	-.90***	-.59	†	.23**	.34***	.19
Arts Major	.40	.24	1.35***	.31***	.41***	.22***
Age	.18***	.21***	.12*	.11***	.11***	.12***
Age^2	-.002***	-.002***	-.001	-.001***	-.001***	-.001***
Male	.10			.29***		
Black	.10	.16	-.17	.03	.16	-.02
Hispanic	.13	.09	.99**	-.06	-.07	-.10
US born	.11	.23	-.57	.000	-.02	.07
Full-time hours	.48***	.46***	.47**	.92***	1.10***	.84***
Full-time weeks	.75***	.75***	.54*	.98***	1.04***	.95***
For-profit	.08	.54	-.47	.07	-.31	.41**
Non-profit	.02	.44	-.41	.28*	-.18	.67***
Self-employed	-.04	.46	-.65**	-.22	-.63**	.12
Married	.28			-.10	-.16	.04
Divorced/separated		-.26	-.06	-.22**	.02	-.25
Never married	.12	-.14	-.09	-.18*	-.16	-.09
Child under 5	.04	-.01	.16	.17**	.22	.14
English only	.003	-.12	.99*	.03	.26***	-.11
Disability	-.31	-.33	-.34	-.58***	-.67***	-.54***
R^2	.35	.35	.55	.44	.47	.42
N	641	529	112	6,746	2,644	4,102
† None in sample						

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

Table III-12. Earnings Functions: Actors and Producers and Directors

	Actors			**Producers and Directors**		
Variable	All	Women	Men	All	Women	Men
BA	.06	.05	.05	.31***	.34***	.28***
MA	.05	.03	-.08	.30***	.22**	.32***
Prof. Degree	-.08	-.16	.05	.52***	.57***	.43***
Arts Major	.26**	.40**	.12	-.08	-.14**	-.04
Age	.11***	.11***	.13***	.13***	.16***	.11***
Age^2	-.001***	-.001***	-.001***	-.001***	-.002***	-.001***
Male	.21***			.13***		
Black	.08	.05	.09	-.12**	-.13	-.14*
Hispanic	.04	-.13	.22	-.11	-.17	-.06
US born	-.23	.004	-.41	.15**	.13	.15*
Full-time hours	1.13***	1.27***	.97***	1.08***	1.15***	1.00***
Full-time weeks	1.14***	1.11***	1.16***	.59***	.62***	.55***
For-profit	.84***	.89**	.60*	.24***	.12	.34***
Non-profit	.56**	.48	.39	-.10	-.17	.01
Self-employed	1.13***	1.17***	.87***	.07	-.04	.16*
Married	.43	.48	.18	.12	.18	.28
Divorced/separated	.35	.66*	-.29	.07	-.13	.16
Never married	.37	.74**	-.20	.06	-.02	.05
Child under 5	-.24	-.25	-.35	.06	.02	.08
English only	-.09	-.32*	.19	-.02	.02	-.04
Disability	-.69***	-.85***	-.55**	-.26**	-.31	-.24**
R^2	.40	.42	.42	.43	.47	.42
N	1,675	780	895	4,379	1,659	2,720

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

significantly reduces earnings for women. Though we did not test for this, it is possible that having managerial and business skills is more important to succeeding in producing and directing than are acting skills.

Actors' earnings increase until reaching a peak at age 49; producers and directors' earnings peak at age 50.

Next, we examine earnings functions for **Writers and Authors** and **Announcers** in Table III-13. Like producers and directors, writers and authors also experience significantly greater earnings with every college degree earned. The returns to writers and authors with bachelor's (40 percent) and master's degrees (also 40 percent) are greater than for artists in general. The return to completing a professional degree (37 percent) is slightly less.[43] In addition, writers who have any artistic major show an additional 14 percent increase in earnings. This earnings increase for choosing an arts major is statistically significant only for men.

Looking at the average earnings presented in Table III-2, we find that announcers generate more earnings growth per extra degree than any other artist occupation (though still less than the average labor force member).The degree coefficients on the respective earnings function bear this out; they are large and significant for having a bachelor's (36 percent), master's (48 percent and professional (97 percent) degree. However, there is no significant effect for having an arts major.

Writers and authors experience peak earnings at age 51. For announcers, it occurs at age 49.

The last group of earnings functions is for the catch-all occupation of **Entertainers** (Table III-14). The sample size is smallest for this category, which lumps together several diverse fringe arts occupations. In Table 3-2 we saw that earnings of entertainers with a bachelor's degree were moderately greater than those who did not earn one. However, the earnings function indicates that having a bachelor's degree has no significant effect on earnings; the sign of earnings is positive but not significant, probably due to the small sample size. There is a positive and significant return to having a master's degree, but not to having any arts major.

The peak earnings age for entertainers occurs at the same age – 49 – as that for all artists combined.

Does having an arts major help achieve financial success in the arts?

It is well-known that graduating from college will significantly increase lifetime earnings; we saw that in Table III-2 for all labor force members. It is also well-known that the choice of major while in college will have a significant effect on lifetime earnings, and that choice can have

[43] Recall that, in Table 3-2 we saw that writers and authors with post-bachelor's degrees earned no more than those with a bachelor's degree.

Table III-13. Earnings Functions: Writers and Authors and Announcers

	Writers and authors			Announcers		
Variable	All	Women	Men	All	Women	Men
BA	.40***	.46***	.32***	.36***	.32***	.37***
MA	.40***	.40***	.41***	.48***	.40**	.53***
Prof. Degree	.37***	.49***	.23*	.97**	-.51	1.27***
Arts Major	.15**	.17*	.10	.09	.13	.04
Age	.10***	.09***	.11***	.10***	.11***	.10***
Age^2	-.001***	-.001***	-.001***	-.001***	-.001***	-.001***
Male	.21***			.24***		
Black	.07	-.07	.30**	.11	.38	.05
Hispanic	-.12	-.22*	-0.03	.01	.25	-.04
US born	.31**	.35*	.23	.21*	.50*	.18
Full-time hours	1.06***	1.02***	1.06***	.92***	.89***	.94***
Full-time weeks	.86***	.90***	.80***	1.02***	.93***	1.03***
For-profit	.09	.09	.05	-.12	-.63**	-.15
Non-profit	-.06	-.01	-.23*	-.38	-.74**	-.44
Self-employed	-.17*	-.09	-.33**	-.10	-.41	-.18
Married	-.09	-.12	.02	.12	-.20	.53
Divorced/separated	-.01	.01	-.01	.08	-.08	.45
Never married	-.09	-.05	-.11	-.004	-.32	.41
Child under 5	.21***	.28***	.10	.17*	-.03	.17
English only	-.03	-.05	.03	.02	.03	.001
Disability	-.35***	-.29**	-.43***	.32**	-.03	-.37**
R^2	.41	.43	.39	.56	.65	.56
N	6,788	3,975	2,813	1,624	327	1,297

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

Table III-14. Earnings Functions: Entertainers, all other

	Entertainers, all other					
Variable	All	Women	Men	All	Women	Men
BA	.14	.19	.09			
MA	.45**	.44	.46**			
Prof. Degree	.03	1.03***	-.49*			
Arts Major	-.24	-.31	-.20			
Age	.12***	.04	.19***			
Age^2	-.001***	-.000	-.002***			
Male	.15*					
Black	-.12	.05	-.30*			
Hispanic	-.21	.21	-.56**			
US born	-.14	-.16	-.22			
Full-time hours	1.04***	1.20***	.85***			
Full-time weeks	.91***	.90***	.87***			
For-profit	.62**	.56*	.76			
Non-profit	.72**	1.03***	.70			
Self-employed	.49	.57*	.59			
Married	-.27	.13	-.66*			
Divorced/separated	-.16	.34	-.64*			
Never married	-.27	.07	-.66*			
Child under 5	.50***	.37*	.37*			
English only	-.18	-.08	-.30*			
Disability	-.31*	-.26	-.35			
R^2	.43	.39	.50			
N	1,421	679	742			

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

either a positive or negative influence. Along these lines, one would expect that majoring in the arts would enhance earnings for artists in general. Yet the data in Table III-6 show that college graduates with no arts major earn essentially the same as arts majors when working as artists. Does having an arts major help in some occupations but not in others? Our earnings function estimates in Tables III-9 to III-14 suggest that this is so, although our findings may not be replicated for other time periods. They also show that different artistic jobs benefit differentially from having an arts major.

Does having an arts major help achieve financial success outside the arts?

We have seen above (Table III-6) that arts majors typically fare not much better in the job market when they work in artistic as opposed to non-artistic jobs. We have seen that college graduates who are not arts majors on the whole earn substantially more working in non-arts jobs than as artists (Table III-6 again). We have also seen that college graduates without arts majors fare as well as arts majors when they work in artistic occupations.

What about other college majors? Do all of them earn more than artists? Do some or all of them earn more when working in their specialty field, or not?

Rather than examine this question for all types of college major, we will limit our efforts to creative majors and creative fields. Arguments have been made recently that persons trained in the arts have equivalent skills in the job market to those of other creative majors. Although there is no commonly accepted definition of a creative major, existing definitions usually encompass the sciences, computer science, engineering and some social sciences.

In the next chapter we first review these arguments and then evaluate the evidence.

CHAPTER 4: ARTS MAJORS IN THE CREATIVE ECONOMY

Introduction

In recent decades we have witnessed a groundswell of recognition, backed by empirical evidence, of the increasing role of creativity in economic growth. Production and jobs in first world economies have grown to depend less on natural resources, agriculture, and manufacturing of standard traditional goods, but have shifted to products and services that can be called "creative." The sectors that produce these goods and services are often collectively referred to as the "creative economy."

The ways in which creativity has changed our lives over the past several decades are so diverse that it is impossible to identify all of them. Certainly the development of the Internet, and the advances in communications, research, education, and consumption it has spawned should top this list. Further examples include the development of cell and smart phones and tablets, the replacement of mainframe computers with desktop computers and now with even smaller portable devices, the growth of social media on the internet, the digitization of artistic performances, the development of smart transportation equipment and smart buildings powered by non-fossil fuel sources, and even new products in banking and finance. Almost all of these innovations come from creative thinking and strategizing and the development of new intellectual property.

Along with these changes in society, pundits have frequently argued that the U.S. needs more creative persons in its workforce, and that we are not graduating enough of these individuals from our colleges and universities. An example of this argument comes from Florida:

"The global talent pool and the high-end, high margin creative industries that used to be the sole province of the U.S., and a critical source of its prosperity, have begun to disperse around the globe. A host of countries—Ireland, Finland, Canada, Australia, New Zealand, among them—are investing in higher education, cultivating creative people, and churning out stellar products, from Nokia phones to the Lord of the Rings movies.. Many of these countries have learned from past U.S. success and are shoring up efforts to attract foreign talent—including Americans. … The United States may well be the Goliath of the twentieth century global economy, but it will take just half a dozen twenty-first-century Davids to begin to wear it down. To stay innovative, America must continue to attract the world's sharpest minds. And to do that, it needs to invest in the further development of its creative sector. Because wherever creativity goes—and, by extension, wherever talent goes—innovation and economic growth are sure to follow." Florida (2004)

Other writers have taken Florida's argument a step further, claiming that particular creative people will be in great demand in the coming years. An example of this commentary can be found in Pink:

"The last few decades have belonged to a certain kind of person with a certain kind of mind—computer programmers who could crank code, lawyers who could craft contracts, MBAs who could crunch numbers. But the keys to the kingdom are changing hands. The future belongs to a very different kind of person with a very different kind of mind—creators and empathizers, pattern recognizers and meaning makers. These people—artists, inventors, designers, storytellers, caregivers, consolers, big picture thinkers—will now reap society's richest rewards and share its greatest joys." (Pink, 2006)

Although Pink's statement includes his own concept of what creative people are and do, others have argued that the academic experiences that students receive in this country generally do not encourage creativity. Some have further asserted that only an arts education provides the type of skills that professionals working in the "creative economy" need. This reasoning is seen in Tepper and Kuh:

"Simply put, America cannot maintain a competitive position in the world order unless we better understand how to nurture creative talent and put in place policies and practices to do so. Nor can we just leave it to chance that we are adequately training rising generations to assume their roles as creative workers and responsible citizens… Where can we find this kind of rigorous training and deliberate practice in creativity? One place to look is arts-degree programs, which squarely address and nurture the cornerstone abilities and skills of creativity—analogizing; imaginative leaps; observation; ambiguity; dealing with criticism and feedback; producing complex, collaborative projects; and the ultimate challenge of communicating new ideas to discerning publics. Indeed, it is hard to compose and perform new music, stage a drama, design a new community center or video game, mount a solo exhibition, or interpret and perform a dance by Merce Cunningham without tapping into many of the creative abilities listed above." (Tepper and Kuh, 2011)

Similar to Tepper and Kuh, Brady makes an argument for the role of arts education in creativity:

To compete in a global market place, our leaders are doing everything in their power to push a focus on STEM education. Sure, it's great to see our leaders unite under a common goal, but are they going the wrong way down the field?... Is the United States completely misinformed and heading down the wrong track? Not entirely. Science, technology, engineering and math are great things to teach and focus on, but they can't do the job alone. In order to prepare our students to lead the world in innovation, we need to focus on the creative thought that gives individuals that innovative edge….The arts being the major brain booster and spark behind creativity is overwhelming and shouldn't be a complete shock. It should be obvious, the arts need to take a seat at the table in this national education reform effort and bright students such as Sarah Pease are attempting to pull that seat up closer. (Brady, 2014.)

Brady's argument is more nuanced; he states that education in the arts is complementary with an education in STEM, and in fact will make STEM graduates more productive. This line of reasoning reflects the language of the STEM to STEAM movement, which argues essentially the same point, at least with respect to the role of designers and visual artists in creating new technology.

We saw in Chapter 3 that arts majors, at least in terms of earnings, seemed to be valued no more highly when they worked in non-arts occupations. Do they have more value when working in other creative occupations? Are arts majors the only college graduates who have earned "creative" degrees? Most would argue certainly not. If not, do other "creative" college majors exhibit a pattern of similar rewards when they work outside their areas of expertise? More generally, what do other creative majors earn when they work both inside and outside their areas of expertise? How do their experiences compare to those of arts majors? In this chapter we will attempt to answer these questions. First, however, we establish a working definition of creative college majors.

What are creative majors?

What college majors are comparable to arts majors, in the sense of being creative? There are two guidelines that can be used to identify comparable majors. First, we know that artists, and by extension arts majors, belong to that group of occupations which the Census Bureau calls "professional." Most college majors lead to "professional" jobs. This group of occupations is very broad, ranging from managers to nurses to veterinarians. It would be preferable to find a narrower and more homogeneous group of college graduates with greater comparability to artists. Here is where the guidance of the authors quoted above becomes relevant. In their own ways they discuss creativity and who they feel are the creative members of the labor force.

The definition closest to what we are describing can be found in an earlier work by one of the authors quoted above. Florida, in his book *The Rise of the Creative Class*[44], defined two groups of workers whom he believed to be "people who are paid principally to do creative work for a living."[45] One, the "Creative Class," is a broad grouping of occupations, encompassing virtually all professional occupations. He also defined a second, narrower group of professionals as the "Super-Creative Core" of the Creative Class. Here is his description of this group:

"Whether they are software programmers or engineers, architects or filmmakers, they fully engage in the creative process. I define the highest order of creative work as producing new forms or designs are readily transferable and widely useful – such as designing a product that can be widely made, sold and used; coming up with a theorem or strategy that can be applied in

[44] Florida (2002).
[45] Ibid., p. xiii.

many cases; or composing music that can be performed again and again. People at the core of the Creative Class engage in this kind of work regularly; it's what they are paid to do."[46]

One can find in an appendix to his book an exact description of the occupational groups which comprise Florida's Super-Creative Core: computer and mathematical, architecture and engineering, life, physical and social science, education, training, and library, and arts, design, entertainment, sports, and media.

The occupational data that Florida used to buttress the arguments made in his book were drawn from the 2000 Census. Since we are utilizing the survey which is the successor to the Census, these occupational groups remain essentially intact in the ACS. Because we wish to examine how creative college majors fare when they enter the labor market, we construct a grouping similar to Florida's but for creative majors. The college major groups we define as creative are: arts, engineering, computer science, physical and life science, education, and social science. Although we will primarily compare these entire groups to one another, a list of the individual majors in each group can be found in Appendix Tables IV-1a to IV-7bat the end of this chapter. Also in these tables are lists of the individual occupations which that skill-wise match these fields and majors.

Comparing arts majors to other creative majors – a first cut

It would be informative to test some of the hypotheses implied in the above commentaries. Although there is evidence[47] that persons trained to work in most STEM professions generally command greater compensation, are their skills valued only in the profession that they trained for, or are their skills more general and equally valued in other professions as well? Also, what about the non-STEM creative professions? Several of the above commentators place occupations such as visual and performing artists, entertainers, architects and others into the umbrella of creative occupations. Is there a premium for skills in these areas? And does that premium also carry over if they work in other occupations?

Thus the necessary data base to address these questions should contain information about the specific education that persons received before entering the labor force. Since virtually all creative occupations, regardless of definition, normally require a college degree, that specific training can be captured by identifying their choice of a college major. It then becomes necessary to develop a methodology to determine how that specific education benefitted these workers (1) if they worked in the occupation group that best matched that specific training, or (2) if they worked in an unrelated occupation group.

In this section we look at descriptive data to compare the creative majors to each other. We look at the numbers of majors in each group, whether they work in complementary

[46] Ibid., p. 69.
[47] For Example, see Carnevale, Rose, and Cheah (undated).

occupations or outside the area of their major, the percentages with bachelor's vs. advanced degrees, and mean earnings by major.

Although we are limiting this analysis to creative majors, these majors and their corresponding occupations nevertheless account for a significant portion of all college graduates and of the labor force. Creative majors constitute 66.5 percent of all majors,[48] and creative workers constitute 14.7 percent of the entire labor force, college-educated or not.

Tables IV-1 a and IV-1b provide basic information about creative majors in the labor force: whether creative majors primarily work in their field of expertise, and how many go on to earn post-graduate degrees.

It is clear that an important factor in determining whether creative majors work in their field of expertise is how extensive the job market is in their major field. On the high end, roughly half of education and computer science majors work as educators and computer professionals. On the low end only one percent of social science majors work as social scientists. About one quarter of narrow arts and engineering majors work in fields related to their degree.

Many creative majors go on to earn a degree beyond the bachelor's. The reasons for this are diverse. In some fields, an advanced degree may be necessary to be considered fully trained to hold a job relating directly to one's major; physics and economics are examples of this. Also, college graduates use additional degrees to change fields; biology majors becoming physicians or English majors becoming lawyers are examples. In any event, narrow arts majors and computer science majors are the least likely to earn a degree beyond a bachelor's. Most likely are physical science and education majors; about half of each group have advanced degrees.

Tables IV-2a, IV-2b, and IV-2c depict the earnings of creative majors in different contexts. Table IV-2a shows earnings of creative majors when working in jobs associated with their major field, and when working in jobs not associated with their major field. One thing that stands out overall, alluded to in earlier chapters, is the large earnings gap between arts and education majors and all the other creative majors. The earnings gap between arts and education majors and the other creative majors ranges between $23,000 and $46,000 annually. These gaps persist regardless of whether these majors are working in jobs associated with their major field or not.

Comparing earnings in jobs associated with the major field and earnings in jobs in other fields, the evidence for creative majors is mixed. Outside of arts majors, three creative majors show greater earnings in jobs outside their fields, and two show greater earnings in jobs related to

[48] This percentage was calculated using the narrow arts major definition. If we count all broad arts majors as creative majors, the percentage rises to 70.8

Table IV-1a. Creative Majors, Working in Jobs Inside and Outside Their Fields			
MAJOR	**# in Labor Force**	**% In Jobs Matching Major**	**% in Other Jobs**
Narrow Arts	2,235,804	23.8%	76.2%
Broad Arts	4,214,486	14.8%	85.2%
Engineering	3,671,012	28.7%	71.3%
Computer Science	1,452,826	45.6%	54.4%
Physical Science	3,827,606	9.5%	90.5%
Education	5,084,629	57.7%	42.3%
Social Science	4,729,429	1.0%	99.0%

Table IV-1b. Creative Majors, with Bachelor's Only or with Advanced Degrees			
MAJOR	**# in Labor Force**	**% with Bachelor's Only**	**% with Advanced Degrees**
Narrow Arts	2,235,804	73.6%	26.4%
Broad Arts	4,214,486	64.7%	35.3%
Engineering	3,671,012	60.1%	39.9%
Computer Science	1,452,826	73.7%	26.3%
Physical Science	3,827,606	43.6%	56.4%
Education	5,084,629	53.9%	46.1%
Social Science	4,729,429	56.5%	43.5%

their major field. Even among arts majors the evidence is mixed; narrow arts majors earn more when working in arts jobs, but broad arts majors earn less.

More insight into these earnings differences can be found in Tables IV-2b and IV-2c, where creative majors who stopped with a bachelor's degree are compared to their counterparts who earned at least one post-bachelor's degree. Here we see that creative majors with a terminal bachelor's earned more when working in the field of their major; education majors were the only exception. However, creative majors with advanced degrees always earned more when working outside the field of their major. This earnings difference is especially striking for physical science majors, and probably most affected by biology and related majors earning M.D. degrees.

Table IV-2a. Earnings of Creative Majors, in Jobs Inside and Outside Their Fields			
MAJOR	**Earnings**	**In Jobs Matching Major**	**In Other Jobs**
Narrow Arts	$51,166	$53,943	$50,298
Broad Arts	$54,100	$53,114	$54,271
Engineering	$94,035	$91,607	$95,013
Computer Science	$77,789	$81,529	$74,653
Physical Science	$91,950	$77,760	$93,447
Education	$47,872	$46,217	$50,129
Social Science	$79,545	$89,731	$79,477

Table IV-2b. Earnings of Creative Majors with Bachelor's only, in Jobs Inside and Outside Their Fields			
MAJOR	**Earnings**	**In Jobs Matching Major**	**In Other Jobs**
Narrow Arts	$47,185	$52,249	$45,475
Broad Arts	$47,240	$51,691	$46,308
Engineering	$83,170	$86,081	$81,884
Computer Science	$72,165	$78,215	$67,080
Physical Science	$56,526	$61,613	$56,136
Education	$40,243	$38,396	$42,305
Social Science	$62,130	$70,854	$62,073

Table IV-2c. Earnings of Creative Majors with Graduate Degrees, in Jobs Inside and Outside Their Fields			
MAJOR	**Earnings**	**In Jobs Matching Major**	**In Other Jobs**
Narrow Arts	$62,555	$59,939	$62,829
Broad Arts	$66,676	$57,591	$67,695
Engineering	$110,434	$101,516	$113,531
Computer Science	$93,517	$90,841	$95,747
Physical Science	$119,326	$85,554	$123,677
Education	$56,793	$53,820	$61,956
Social Science	$102,206	$101,359	$102,217

This first cut of comparing creative majors to one another still leaves some questions unanswered. We have yet to address the question of how each of these creative majors is rewarded when choosing to work in other specific creative fields. Are the differences shown in Tables IV-2a through IV-2c consistent regardless of the non-major field chosen? How do these differences interact with the presence of an advanced degree? To address questions like these we again turn to earnings functions.

Comparing arts majors to other creative majors using earnings functions

We now develop a methodology to determine how the specific education received by each of these creative majors benefitted these workers (1) if they worked in the occupation group that best matched that specific training, or (2) if they worked in an occupation group that was unrelated to their specific training. We include the creative majors identified in the tables above, with two minor changes. First we look only at the effects of having a narrow arts major. Second, we add business and economics as a creative major category. To test how having these creative majors affects earnings in a variety of occupations, we look at a broader set of occupational groups: artists and entertainers, engineers, computer scientists and math specialists, natural scientists, educators, social scientists, managers, financial specialists, legal professionals, sales workers, and food service workers.

To do this, we again use data from the 2009-11 American Community Survey combined public use samples. The sub-sample we work with includes all who are in the labor force and who possess one of the seven majors we have identified as creative. For each of these majors, we construct three Mincerian earnings functions. In Tables IV-3, IV-4, and IV-5 we show the return to working in these twelve occupational groups from having a one or more college degrees with a major in the arts, engineering, computer science, science, education, social science, and business and economics. Table IV-3 includes all who work in each of the above-referenced occupations. Tables IV-4 and IV-5 include all women and men, respectively, who work in the same referenced occupations.

The dependent variable in each earnings function is the log of annual earnings. The individual's human capital is accounted for by variables capturing whether each person in the sample had a bachelor's, master's and/or professional degree, and by identifying the specific major of everyone in the sample with a bachelor's degree. In these three tables, only the coefficients for these human capital variables are shown, along with their level of statistical significance. The twelve occupations run down the left column; the seven majors run across the top row, after the degree variables. To see the effect of any of the seven majors on earnings in any of the twelve occupations, read down the column for that major. For example, in Table IV-3, having an arts major increases the financial return to being an artist by .04 (four percentage points), but lowers the return to being an engineer by .18.

Table IV-3
Major Premiums in Occupations Unrelated/Related to BA Major: All
(In annual earnings)

Occupation (n)	BA	MA	Prof.	Art	Bus./Econ.	Comp.	Educ.	Engin.	Sci.	Soc. Sci.
Artist (65,221)	.32***	.37***	.41***	.04***	-.02	.08***	-.28***	.13***	-.13***	.02
Managers (445,053)	.38***	.57***	.70***	-.11***	.07***	.10***	-.14***	.15***	.01	.06***
Engineer (55,180)	.32***	.44***	.54***	-.18***	-.05***	.09***	-.13***	.11***	.07***	.01
Financial Specialists (106,852)	.35***	.54***	.61***	-.03	.15***	.06***	-.16***	.11***	.06***	.09***
Comp/Math Specialists (107,098)	.28***	.41***	.45***	-.12***	-.001	.07***	-.11***	.15***	.03***	.01
Natural Scientists (20,870)	.21***	.36***	.59***	-.10	.02	.13***	-.03	.14***	.03***	.01
Social Scientists (11,343)	.37***	.48***	.70***	-.08	.14***	.14**	-.06	.08	-.03	.09***
Legal (54,386)	.23***	.53***	.85***	.0002	.03**	.04	-.16***	.22***	.01	.06***
Education (308,639)	. 43***	.67***	.88***	.01	-.05***	.08***	.03***	.01	-.02**	-.001
Sales (505,861)	.36***	.46***	.47***	-.07***	.13***	.08***	-.17***	.16***	.04	.06***
Food Service (253,935)	.29***	.25***	.13**	.11***	.01	-.10**	-.14***	-.14***	-.03	.03

There are other independent variables entered in each equation that are not reported in these tables. This is done to enable the reader to focus on the effects of human capital endowment on earnings. These other variables include the following. Experience is estimated by age in the standard quadratic form as the more traditional proxy (age minus years of schooling minus five) is not available since the ACS does not report on years of schooling completed. The nature of the individual's employment status is accounted for with a variable that indicates whether s/he is an employee of a for-profit business, a non-profit business or self-employed. The demographic independent variables include a person's gender, race, ethnicity, nativity, marital status and whether s/he had a disability.

To account for the heterogeneity in earnings within occupations across industries, (e.g., an accountant employed in the finance industry is likely to earn more than one employed in the social services industry), industry controls are included. Sixteen industry specific controls are included in the model based on the ACS's industry groupings. Place of employment (Census division) and whether a person works full-time (35 hours or more per week) and full-year (50 weeks or more per year) are controlled for. The survey year is also controlled for.

Does a degree, regardless of major, pay off when working in a creative occupation?

For each occupational group, we first measure the return to having a bachelor's, master's, and/or professional degree. Then, for those in an occupational group who also majored in the same general field (e.g., engineering majors working as engineers), we estimate the return for having the educational credentials noted above plus any return from having that major in the same field. Last, for all persons with any creative major who are working in a creative occupations outside their major group (e.g., engineering majors working as managers), we estimate the return to having the educational credentials noted above plus any return from having that creative major. We do this for all majors and occupation groups.

Looking at the eleven occupations, we see that the return to having a bachelor's, and in addition, a master's and/or a professional degree in any of the creative majors is large and significant. How these creative majors fare in general in the labor market can be seen in Table IV-3. We saw earlier that earnings for creative majors vary dramatically, depending on major. In some cases, creative workers earn more when working outside their major field.

Some general findings include the following. Post-high school education has a significant positive impact on individual earnings, with the returns generally increasing with higher levels of schooling. Those with bachelor's degrees earn between about 20% and 45% more than those with less than bachelor's degrees, with natural scientists and legal specialists benefiting the least, and educators benefiting the most.

The additional value of post-baccalaureate degrees varies quite considerably depending on the occupation. Food services gain the least from creative majors working in that industry continuing their education beyond the bachelor's degree. Artists also are among those who gain the least from graduate degrees for creative workers in this profession. On the other hand natural scientists see their return almost triple (21% to 59%) and in several other occupations the return to a professional degree is more than double the return to the B.A. (education and law).

Women working in creative occupations generally benefit more from earning a bachelor's degree than the men in the same occupations. With the exception of working as a financial specialist and in a legal occupation, the returns to the B.A. degree, regardless of major, is comparable or higher for women than it is for men. The same is generally true for women who earn post-baccalaureate degrees as well.

The benefit from obtaining additional degrees beyond the B.A. with regard to the return to the recipient is not clear in all the occupations. For example, men who work as artists increase their return by nine percentage points having earned a M.A. degree relative to a B.A. degree, but if they earn a professional degree their returns actually are lower than they are for the M.A. degree. Women working as financial specialists apparently get no additional gain from earning a professional degree beyond what they get having earned a M.A. degree.

Does a degree with a major in a creative field pay off when working in the same or related creative occupations?

We now look at only those earnings functions for each of the occupations within the creative areas (artists through social scientists). For many occupations there is a reasonably clear association between the undergraduate major and the occupation, such as for artists and engineers. For other occupations the association isn't quite as clear, such as for managers and financial specialists.

The coefficients in red focus on the earnings effect of a creative major working in the same field. In Table IV-3 we see that, in fact, for all the creative majors included in this analysis having a major that is related to one's occupation significantly enhances the returns to an undergraduate degree. The enhancement ranges from a three percentage point increase (or almost 15 percent) for those who majored in science and are working as natural scientists to a 15 percentage point increase (or almost 45 percent) for those who majored in business or economics and are working as financial specialists. Artists who majored in art have returns that are four percentage points (12.5 percent) higher than those who didn't. Computer scientists who majored in computer science have earnings that are seven percentage points higher (25 percent) than those who didn't. Engineers who majored in engineering have earnings that are eleven percentage points higher (almost 35 percent).

There are some gender differences with regard to the impact on earnings of having an undergraduate major related to one's creative occupation. The largest difference is between male and female arts majors who work as artists. The evidence suggests that men who major in the arts at the undergraduate level have earnings not significantly different than those who don't have an arts major. On the other hand, women who majored in the arts earn significantly more (seven percent) than those who did not major in the arts. The findings are reversed for men and women who are working as natural scientists and majored in a natural science. Women with a natural science major do not have a significant return with regard to earnings as a natural scientist; for male natural scientists, their earnings are significantly higher (about three percent). Female computer science/mathematics majors receive a higher earnings premium, about 50 percent higher, than male computer science/mathematics majors who worked as computer scientists/mathematicians. For female engineering majors the difference in the earnings premium received by female engineers compared to their male colleagues' premium is even higher at approximately 80 percent.

Does a degree with a major in a creative field pay off when working in unrelated occupations?

Many writers, including those quoted at the beginning of this paper, have argued for the importance to our society of producing more young people who are qualified to contribute to the information or creative economy. However, some have argued that using appropriate educational methods will inculcate in these creative majors the ability to excel in fields for which they were not originally trained as well. This is an intriguing argument, one which has not

been empirically tested to our knowledge. One would not expect business majors to make great veterinarians, though many veterinarians successfully run businesses. Are there some majors that endow graduates with general as well as specific skills that are transferable to other occupations? Will they be found among our creative majors?

The empirical methodology to test this hypothesis is essentially the same as that used to test the previous hypothesis. An earnings function is estimated to explain total personal earnings. It is estimated separately for eleven broad occupational groups identified in the ACS, eight of which Richard Florida classified a part of the 'super-creative core'.

The components of the estimated earnings function are the same. Included are the same demographic characteristics and proxies for labor market experience and work circumstances. The individual's human capital is again accounted for by the degrees earned and whether the undergraduate major is in each creative field, but no distinction is made as to the type of

Table IV-4
Major Premiums in Occupations Unrelated/Related to BA Major: Females
(In annual earnings)

Occupation (n)	BA	MA	Prof.	Art	Bus./Econ.	Comp.	Educ.	Engin.	Sci.	Soc. Sci.
Artist (31,191)	.35***	.37***	.47***	.07***	-.07	.12***	-.25***	.05	-.08	.04
Managers (171,657)	.37***	.57***	.73***	-.09***	.06***	.14***	-.10***	.20***	.03***	.05***
Engineer (6,706)	.48***	.58***	.68***	-.17	-.10**	.08*	-.04	.18***	.08**	.17***
Financial Specialists (59,963)	.32***	.53***	.53***	.02	.17***	.02	-.14***	.13***	.05*	.07***
Comp/Math Specialists (29,968)	.30***	.42***	.48***	-.10***	.03**	.09***	-.12***	.19***	.01	.04**
Natural Scientists (8,183)	.23***	.37***	.53***	-.15	.07	.01	-.03	.04	.02	-.03
Social Scientists (6,776)	.32***	.49***	.66***	-.04	.12***	-.01	-.03	.17**	-.04	.08**
Legal (27,204)	.19***	.45***	.84***	.0002	.03	.03	-.13***	.17***	.02	.08***
Education (228,420)	.44***	.71***	.86***	.02	-.009***	.07***	.04***	-.06**	-.02*	-.002
Sales (258,604)	.35***	.42***	.42***	-.01	.14***	.08***	-.16***	.14***	.04	.04**
Food Service (147,702)	.31***	.26***	.10	.14***	.005	-.12*	-.15***	-.09	.01	.04

Table IV-5
Major Premiums in Occupations Unrelated/Related to BA Major: Males
(In annual earnings)

Occupation (n)	BA	MA	Prof.	Art	Bus./Econ.	Comp.	Educ.	Engin.	Sci.	Soc. Sci.
Artist (34,030)	.28***	.37***	.35***	.005	-.01	.07*	-.25***	.14***	-.18***	.01
Managers (273,396)	.37***	.55***	.68***	-.12***	.07***	.09***	-.19***	.15***	-.002	.06***
Engineer (48,474)	.30***	.42***	.52***	-.18***	-.04**	.09***	-.15***	.10***	.07***	-.02
Financial Specialists (46,889)	.36***	.54***	.64***	-.11*	.13***	.09***	-.17***	.08***	.06*	.09***
Comp/Math Specialists (77,130)	.27***	.40***	.43***	-.13***	-.02*	.06***	-.11***	.14***	.03**	-.002
Natural Scientists (12,687)	.20***	.33***	.61***	-.02	.02	.17***	-.05	.17***	.03**	.05
Social Scientists (4,567)	.42***	.43***	.72***	-.16	.15***	.21***	-.11	.06	-.02	.10***
Legal (27,182)	.25***	.56***	.78***	.0002	.02	.05	-.16***	.21***	.01	.04***
Education (80,219)	.33***	.48***	.76***	.004	.004	.10***	-.01	.04**	-.02	-.002
Sales (247,257)	.35***	.47***	.48***	-.12***	.12***	.08***	-.15***	.14***	.03	.06***
Food Service (106,233)	.27***	.24***	.15*	.07	.01	-.09	-.11**	-.17***	-.08*	.01

creative major earned by the individual. An additional control is included to account for an individual's major if it is one that is closely identified with that occupation, e.g., someone with a bachelor's degree in business employed in a finance occupation. This is to determine whether the individual with the creative degree is disadvantaged or advantaged relative to other individuals who also have majored in some academic degree not directly related to occupation in which s/he is working.

I. Arts Majors and Unrelated Occupations

The evidence from the estimated earnings functions is quite consistent. Arts majors are, for the most part, at a competitive disadvantage when they decide to work in an occupation outside the arts. This evidence, coupled with the earnings functions for arts majors working in arts occupations, compellingly contradicts the arguments made by Pink (2006) and Tepper and Kuh (2011) above about the job market benefits of being an arts major.

More specifically, for every 'creative' occupational group, having a bachelor's degree in the arts produced a negative earnings premium (an earnings penalty?). In four of the eleven occupational groups that earnings penalty is statistically significant.[49] Arts majors earn between 10 and almost 20 percent less than non-arts majors in those occupations where the difference is statistically significant. One occupation in which arts majors do receive a significant

[49] The number of occupational groups in the professional category will vary slightly depending on which groups have to be excluded because of the identity of the group under study.

premium is the food service occupation. The premium is slightly more than ten percent higher earnings than those without an arts major.

Gender differences are relatively slight with respect to the impact of having an arts major on earnings in an unrelated occupation. Women seem to be slightly less negatively impacted than men when working in a 'creative' occupation, e.g., men with an arts major working as financial specialists earn a little more than ten percent less (statistically significant at the 10% level) than men without an arts major while there is no statistically difference between the earnings of women in the same occupation associated with having earned an arts major. On the other hand, women with arts majors earn almost fifteen percent more in the food services occupation than women without an arts major, while having an arts major doesn't significantly impact male earnings in the same occupation.

II. Engineering Majors and Unrelated Occupations

The earnings of engineering majors working in unrelated occupations are higher and statistically significant in all the 'creative' occupations including that of artist. The engineering major premium ranges from a little over ten percent for those who work as financial specialists to more than twenty percent for those with a legal occupation. Having a major in engineering doesn't have a statistically significant impact on earnings for social scientists or for educators, and it has a significantly negative impact on the earnings among the food service workers.

There are some interesting gender differences in the impact of having an engineering major on earnings in some of the unrelated 'creative' occupations. An engineering major does not have a statistically significant impact on women artists while it has a significant positive one for men. The same is true in the natural science occupations as in the arts. The opposite is true for those who work as social scientists; women with engineering degrees earn significantly more while men don't relative to men without engineering degrees. Having an engineering degree has no statistically significant impact on the earnings of women holding a food services occupation, but has a relatively large impact on men, almost a twenty percent reduction in earnings relative to men without an engineering major.

III. Computer Science Majors and Unrelated Occupations

The outcomes for computer science majors show that they earn a premium that is statistically significant in all but one of the unrelated 'creative' occupational groups, except for the legal occupations. The premium ranges from around five percent for those working as financial specialists to almost fifteen percent for those working as social scientists. College graduates with a computer science or mathematics major have significantly lower earnings relative to those with some other major for those who work in a food service occupation.

A computer science major has a statistically significant positive impact for the men in the 'creative' occupations relative to the men without this major, while there are several of these

occupations in which women with a computer science major don't receive a significant premium (financial specialist, natural scientist and legal occupations). Male computer science majors earn a premium of more than twenty percent if they works as social scientists while the female majors in the same occupations don't receive a premium at all.

IV. Science Majors and Unrelated Occupations

Science majors are a lot like the computer science/mathematics and engineering majors in that, for the most part, having an undergraduate science degree significantly enhances their earnings in the unrelated 'creative' occupations. The premium going to the science majors isn't very large and ranges from about three to seven percent. The statistically significant exceptions to this are for science majors who are artists and those who are educators. Science majors who are artists have earnings that are almost fifteen percent lower than those artists with some other major, and those who are educators have earnings that are about two percent lower.

There are few gender related differences between the impacts on earnings of having a science major. The clearest difference is for men and women who are artists. For women majoring in a science has no significant impact on earnings, while for men it leads to earnings as artists that are almost twenty percent lower than those men with some other major. Another difference is that women with science majors earn significantly more as managers while being a male science major doesn't significantly impact their earnings as managers. The opposite is true for those who work as computer or mathematics specialists.

V. Education Majors and Unrelated Occupations

Education majors are much more like the arts majors than they are like the engineering, computer/mathematics and science majors. When education majors work in a 'creative' occupation unrelated to their major they are adversely impacted. In fact with only one exception, having received an undergraduate degree in education significantly decreases earnings in all the 'creative' occupations except for being the natural scientists. The impact ranges for an earnings penalty of just over ten percent for education majors working as computer/mathematics specialists to as much as just under thirty percent for education majors who are artists. The size of the penalty for education majors who are artists suggests that if someone is thinking of going to college to major in education but really wants to be an artist, the person might actually be better off not going to college at all. Unlike arts majors, education majors are also penalized for working in food service occupations.

The impact on earnings of having an education major isn't all that different when comparing men to women in the unrelated occupations. The two occupations with the largest difference are the managerial and engineering occupations. The earnings penalty associated with being an education major is twice as large for men as it is for women (almost twenty percent

compared to ten percent). Women engineers are not penalized for having majored in education, while male engineers with education majors earn about fifteen percent less than if they had some other major.

VI. Social Science Majors and Unrelated Occupations

For the most part, graduating college with an undergraduate degree in the social sciences has little impact on the earnings of those who end up working in an unrelated 'creative' occupation. With the exception of working in a legal or managerial occupation or as a financial specialist, having a social science major does not significantly impact earnings in the 'creative' occupations. In these three occupations having a social science major enhances earnings by between five and ten percent over the earnings of those without a social science major.

There are some very clear gender related distinctions for the social science majors working in some unrelated 'creative' occupations. Women social science majors working as engineers have significantly higher earnings (almost twenty percent) than women with other majors, while there's no difference for the male engineers who majored in a social science. Similarly for female social science majors in the computer/mathematical specialist occupations, though the gain in earnings for the women was not as large. Lastly, the premium associated with the social science major is twice as large for women in legal occupations than for men.

VII. Business and Economics Majors and Unrelated Occupations

The findings for the business and economics majors suggest impacts that vary considerably with occupation. For three of the 'creative' unrelated occupations having a business or economics major has no significant impact on earnings. This is the case if a person is an artist, computer/mathematics specialist or a natural scientist. In two occupations, engineering and educator, having a major in business or economics leads to significantly lower earnings. In only one occupation, the legal occupations, does majoring in business or economics significantly enhance earnings, though the difference is small, less than five percent.

There apparently are gender related differences in the impact of this major on earnings for several of the unrelated 'creative' occupations. The earnings penalty associated with this major is twice as large for female engineers as it is for male engineers. Male computer/mathematical specialists have a slight, marginally significant earnings penalty associated with this major while females in the same occupation have a small significant earnings premium.

What Do These Findings Tell Us?

We should expect that having a degree with a major in the field in which one works gives one a competitive advantage over others in that same occupation with otherwise similar academic

credentials but no major in the field. In general our results support this conclusion, most strongly for engineering occupations and least strongly for artistic occupations.

However, the more surprising conclusion is that having a bachelor's degree in ***some*** creative fields leads to a competitive advantage in working in other fields as well, as some of the pundits quoted at the beginning of this paper have suggested. This conclusion is quite robust for engineering majors and does not hold for arts majors and education majors. It is mostly true for computer science majors. Most striking is the extreme differences between the engineering and arts majors. Having an engineering major yields an earnings premium almost regardless of what occupational group an engineering major joins. Having an arts major almost never yields an earnings premium regardless of what occupational group an arts major works in.

We have seen that the earnings of engineers are among the highest in the work force, with computer scientists not far behind, and that artists generally have low earnings, despite some noteworthy exceptions. What these results add to this information is that being trained as an engineer enhances one's earnings virtually regardless of occupational choice. There may have been some a priori logic in arguing that artists are likely to have better earnings outcomes in unrelated fields – as suggested by the quotes at the beginning of this chapter, but our findings strongly reject this logic.

Focusing on these extreme differences in outcomes – engineers versus artists – it is interesting to speculate why we see these dramatic differences. Several possibilities come to mind.

Perhaps we should first consider the types of measurement error or omitted variables that can creep into a study like ours. High school students self-select into college majors, and after college, into occupations. Were these differences in future earnings already inherent in their predisposition to a major choice before entering college? They would not be detected in the ACS data.

A second possibility, related to the first, is that engineering majors are simply smarter than arts majors, and that these differences are reflected in salaries. While it may be true that engineering majors in a particular college may display signs of greater ability, such as measured by SAT scores, there are greater differences in test scores from college to college. Is an engineering major at Podunk U. smarter than a fine arts major at Harvard? No. Do colleges with engineering programs have higher general admissions standards than colleges that do not? The answer tends to be no. These questions require further analysis. In subsequent research, we plan to use SAT scores specific to individual majors to help account for this possible bias.

Another possible explanation for the results we observe is that some of these disparities may be due to marketable skills that college graduates acquire while or after earning their degrees. It would seem unlikely that only some majors would acquire these skills after graduation and not others. Also, it would not offer an explanation of why engineers do so well in occupations that their college education did not train them for.

Thus, if biases in our analysis are not sufficient to offset the conclusions we draw, we have to acknowledge that majoring in some creative occupations yields more benefits than majoring in others. If one can naively argue that engineering majors possess a talent called “quantitative skills” and arts majors possess a talent called “artistic skills,” then clearly there is little overlap between these two skill sets, and the job market values one much more than the other, perhaps because quantitative skills are undersupplied relative to demand. If having a “creative workforce” is essential to continued economic growth in the U.S., then subsidizing those majors which are most highly rewarded in the job market may be an appropriate strategy.

Chapter IV Appendix

Appendix Table IV-1a. Arts Majors	
Degree Code	**Arts Majors**
1401	Architecture
2313	Language and Drama Education
2314	Art and Music Education
3301	English Language and Literature
3302	Composition and Speech
6000	Fine Arts
6001	Drama and Theater Arts
6002	Music
6003	Visual and Performing Arts
6004	Commercial Art and Graphic Design
6005	Film, Video and Photographic Arts
6006	Art History
6007	Studio Arts

Appendix Table IV-1b. Arts Occupations	
SOC	**Arts Occupations**
171010	Architects
271010	(Visual) Artists and Related Workers
271020	Designers
272011	Actors
272012	Producers and Directors
272030	Dancers and Choreographers
272040	Musicians, Singers, and Related Workers
273043	Writers and Authors
274021	Photographers

Appendix Table IV-2a. Engineering Majors	
Degree Code	**Engineering Major**
2400	General Engineering
2401	Aerospace Engineering
2402	Biological Engineering
2403	Architectural Engineering
2404	Biomedical Engineering
2405	Chemical Engineering
2406	Civil Engineering
2407	Computer Engineering
2408	Electrical Engineering
2409	Engineering Mechanics Physics and Science
2410	Environmental Engineering
2411	Geological and Geophysical Engineering
2412	Industrial and Manufacturing Engineering
2413	Materials Engineering
2414	Mechanical Engineering
2415	Metallurgical Engineering
2416	Mining and Mineral Engineering
2417	Naval Architecture and Marine Engineering
2418	Nuclear Engineering
2419	Petroleum Engineering
2499	Miscellaneous Engineering

Appendix Table IV-2b. Engineering Occupations	
SOC	**Engineering Occupation**
172011	Aerospace Engineers
172041	Chemical Engineers
172051	Civil Engineers
172061	Computer Hardware Engineers
172070	Electrical and Electronics Engineers
172081	Environmental Engineers
1720XX	Biomedical and Agricultural Engineers
172110	Industrial Engineers
172121	Marine Engineers
172131	Materials Engineers
172141	Mechanical Engineers
1721XX	Petroleum and Mining Engineers
1721YY	Miscellaneous Engineers

Appendix Table IV-3a. Computer Science Majors	
Degree Code	**Computer Science Major**
2102	Computer Science

Appendix Table IV-3b. Computer Science Occupations	
SOC	**Computer Science Occupation**
1510XX	Computer Scientists and Systems Analysts
151061 &151071	Data Base, Network and Systems Administrators
152011 & 1520XX	Actuaries and Miscellaneous Mathematical Science Occupations

Appendix Table IV-4a. Science Majors	
Degree Code	**Science Major**
3600	Biology
3601	Biochemical Sciences
3602	Botany
3603	Molecular Biology
3604	Ecology
3605	Genetics
3606	Microbiology
3607	Pharmacology
3608	Physiology
3609	Zoology
3611	Neuroscience
3699	Miscellaneous Biology
4006	Cognitive Science And Biopsychology
5000	Physical Sciences
5001	Astronomy And Astrophysics
5002	Atmospheric Sciences And Meteorology
5003	Chemistry
5004	Geology And Earth Science
5005	Geosciences
5006	Oceanography
5007	Physics
5008	Materials Science
5098	Multi-Disciplinary Or General Science

Appendix Table IV-4b. Science Occupations	
SOC	**Computer Science Occupation**
1600	Agricultural And Food Scientists
1610	Biological Scientists
1640	Conservation Scientists And Foresters
1650	Medical Scientists, And Life Scientists, All Other
1700	Astronomers And Physicists
1710	Atmospheric And Space Scientists
1720	Chemists And Materials Scientists
1740	Environmental Scientists And Geoscientists
1760	Physical Scientists, All Other

Appendix Table IV-5a. Education Majors	
Degree Code	**Education Major**
2600	General Education
2301	Educational Administration And Supervision
2303	School Student Counseling
2304	Elementary Education
2305	Mathematics Teacher Education
2306	Physical And Health Education Teaching
2307	Early Childhood Education
2308	Science And Computer Teacher Education
2309	Secondary Teacher Education
2310	Special Needs Education
2311	Social Science Or History Teacher Education
2312	Teacher Education: Multiple Levels
2399	Miscellaneous Education

Appendix Table IV-5b. Education Occupations	
SOC	**Education Occupation**
2200	Postsecondary Teachers
2300	Preschool And Kindergarten Teachers
2310	Elementary And Middle School Teachers
2320	Secondary School Teachers
2330	Special Education Teachers
2340	Other Teachers And Instructors
2400	Archivists, Curators, And Museum Technicians
2430	Librarians
2440	Library Technicians
2540	Teacher Assistants
2550	Other Education, Training, And Library Workers

Appendix Table IV-6a. Social Science Majors	
Degree Code	**Social Science Major**
4007	Interdisciplinary Social Sciences
5401	Public Administration
5402	Public Policy
5500	General Social Sciences
5501	Economics
5502	Anthropology And Archeology
5503	Criminology
5504	Geography
5505	International Relations
5506	Political Science And Government
5507	Sociology
5599	Miscellaneous Social Sciences
6402	History
6403	United States History

Appendix Table IV-6b. Social Science Occupations	
SOC	**Social Science Occupation**
1800	Economists
1810	Market And Survey Researchers
1840	Urban And Regional Planners
1860	Misc. Social Scientists, Incl. Survey Researchers And Sociologists

Appendix Table IV-7a. Business Majors	
Degree Code	**Business and Economics Major**
6200	General Business
6201	Accounting
6202	Actuarial Science
6203	Business Management And Administration
6204	Operations Logistics And E-Commerce
6205	Business Economics
6206	Marketing And Marketing Research
6207	Finance
6209	Human Resources And Personnel Management
6210	International Business
6211	Hospitality Management
6212	Management Information Systems And Statistics
6299	Miscellaneous Business & Medical Administration

Appendix Table IV-7b. Managerial Occupations	
SOC	**Managerial Occupation**
0010	Chief Executives And Legislators
0020	General And Operations Managers
0040	Advertising And Promotions Managers
0050	Marketing And Sales Managers
0060	Public Relations And Fundraising Managers
0100	Administrative Services Managers
0110	Computer And Information Systems Managers
0120	Financial Managers
0135	Compensation And Benefits Managers
0136	Human Resources Managers
0137	Training And Development Managers
0140	Industrial Production Managers
0150	Purchasing Managers
0160	Transportation, Storage, And Distribution Managers
0205	Farmers, Ranchers, And Other Agricultural Managers
0220	Construction Managers
0230	Education Administrators
0300	Architectural And Engineering Managers
0310	Food Service Managers
0330	Gaming Managers
0340	Lodging Managers
0350	Medical And Health Services Managers
0360	Natural Sciences Managers
0410	Property, Real Estate, And Community Association Managers
0420	Social And Community Service Managers
0425	Emergency Management Directors
0430	Miscellaneous Managers, Including Funeral Service Managers And Postmasters And Mail Superintendents

CHAPTER 5

HOURS AND UNEMPLOYMENT

Introduction

Although we have looked extensively at the outcomes of arts majors in the labor market using annual earnings as a measure of success, the American Community Survey contains other markers of job market outcomes. In this chapter we look at unemployment rates, hours and weeks worked by artists and arts majors, and compare them to the same outcomes for other creative majors, as we did in Chapter 4.

Unemployment of Artists – A Brief History

It was noted in Chapter 3 that artists' earnings have consistently been less than those of other professionals. There is a similar history of artists experiencing greater unemployment.

It has been known for some time that artists are often more likely to be unemployed than those in other professional occupations against whom they can be compared. It is only with the advent of the American Community Survey collecting information on undergraduate college majors that a similar analysis could be undertaken for those who majored in the arts.

An early National Endowment for the Arts study examined the unemployment of artists over the decade of the 1970s[50] compared to all those who work in 'professional and technical' occupations. It reported that in just two of the nine artist occupations was the average unemployment rate over the decade lower than for those who work in all professional and technical occupations combined. The two arts occupations in which the average unemployment rate was lower were authors and instructors of art, drama and music in colleges and universities (an occupation that is no longer tracked by the Census). Architects' unemployment, at 2.8 percent, averaged only slightly above that of all professionals (2.7 percent), with designers next at an average of 3.6 percent. Actors had the highest average unemployment rate, which averaged almost 40 percent over the decade. The study also reported that the volatility of artists' unemployment rates was greater over the business cycles in that decade than for all professional and technical workers.

[50] 'Artist Employment and Unemployment 1971-1980,' National Endowment for the Arts, Research Report 16, 1982. The art occupations are: actors, architects, authors, designers, musicians and composers, painters and sculptors, photographers, radio-TV announcers, and teachers of art, drama and music in higher education.

Two decades later, another study, based on data from the Current Population Survey, had very similar findings with regard to the unemployment of artists.[51] In 2001 there were, again, only two arts occupations in which the unemployment rates were less than the 2.2 percent rate for all professional and technical workers. The two occupations were college instructors of art, drama and music, and architects. Actors and directors were again the arts occupation with the highest unemployment rate, at almost 10 percent. The remaining eight arts occupations had unemployment rates that ranged from 2.9 percent for photographers to 6.3 percent for dancers.

This Study's Findings

For the three year period covered by this study the unemployment rate for all NEA artists was 9.7 percent (Figure V-1). By comparison, the unemployment rate for the entire labor force was 9.3 percent in 2009, 9.6 percent in 2010 and 8.9 percent in 2011.[52] As in the past, artists, when compared to other professional and technical occupations, had considerably higher rates of unemployment. For example, over the three year period the unemployment rate for other professional and technical workers was 3.8 percent. The unemployment rate for those working in the arts occupations was almost double the rate of those working in the professional occupation with the next highest unemployment rate, mathematical and computer scientists, whose unemployment rate over this period was 5.0 percent. The professional occupation with the lowest unemployment rate over the period was physicians, with a rate of 0.7 percent.

As was found in previous studies, there was a great deal of variability in the unemployment of artists across the eleven arts occupations. In five of the occupations the unemployment rates were found to be higher than for the entire labor force; in the remaining six arts occupations they were lower. Those artistic occupations with higher unemployment rates were: actors and directors (35.2 percent), dancers and choreographers (15.1 percent), other entertainers and performers (12.4 percent), photographers (12.0 percent) and announcers (10.0 percent). Those occupations with lower unemployment rates were: writers and authors (7.2 percent), musicians and singers (8.0 percent), producers and directors (8.4 percent), architects (8.5 percent), visual artists (8.6 percent) and designers (9.1 percent).

[51] 'Artists' Employment Status,' Center for Arts and Cultural Policy Studies, Woodrow Wilson School of Public and International Studies, Princeton University, nd.

[52] U.S. Bureau of Labor Statistics, data.bls.gov/timeseries/LNU04000000?years_option=all_years&periods_option=specific_periods&periods=Annual+Data.

Figure V-1: Unemployment Rates for NEA Arts Occupations (2009-2011)

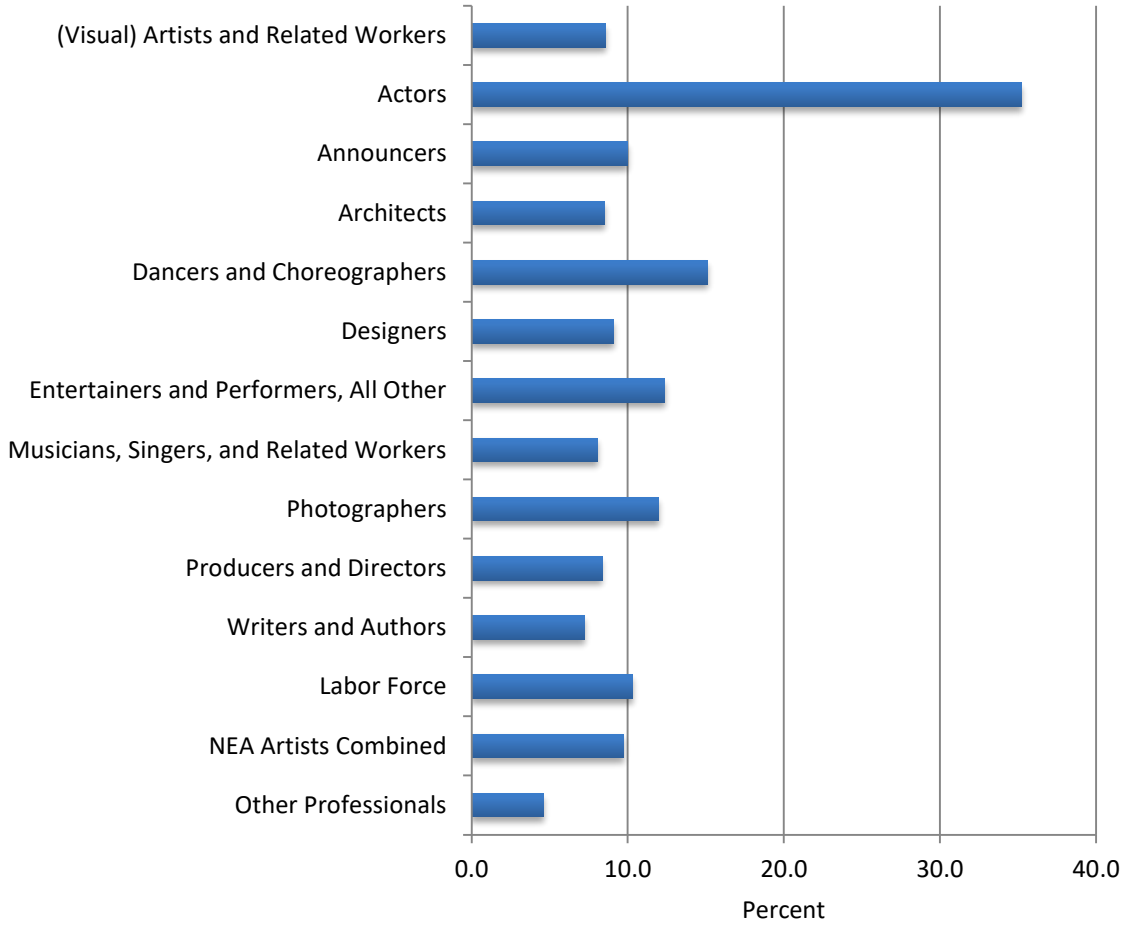
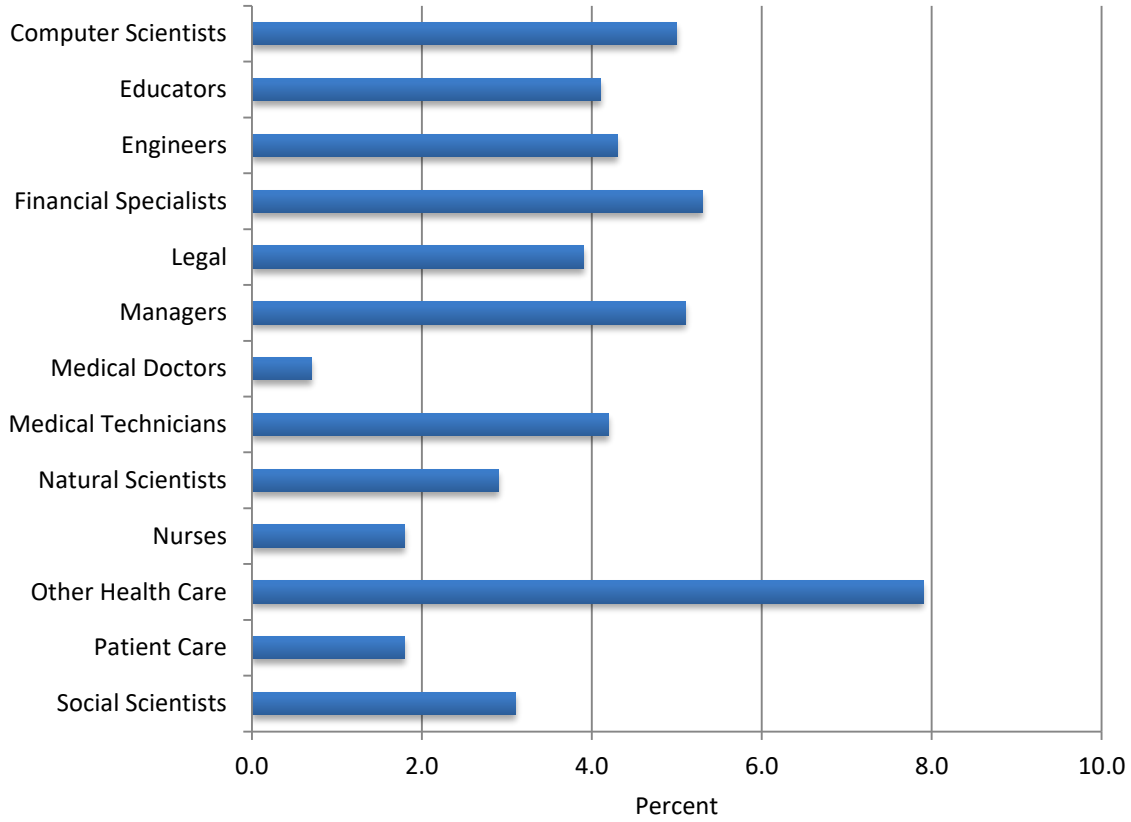
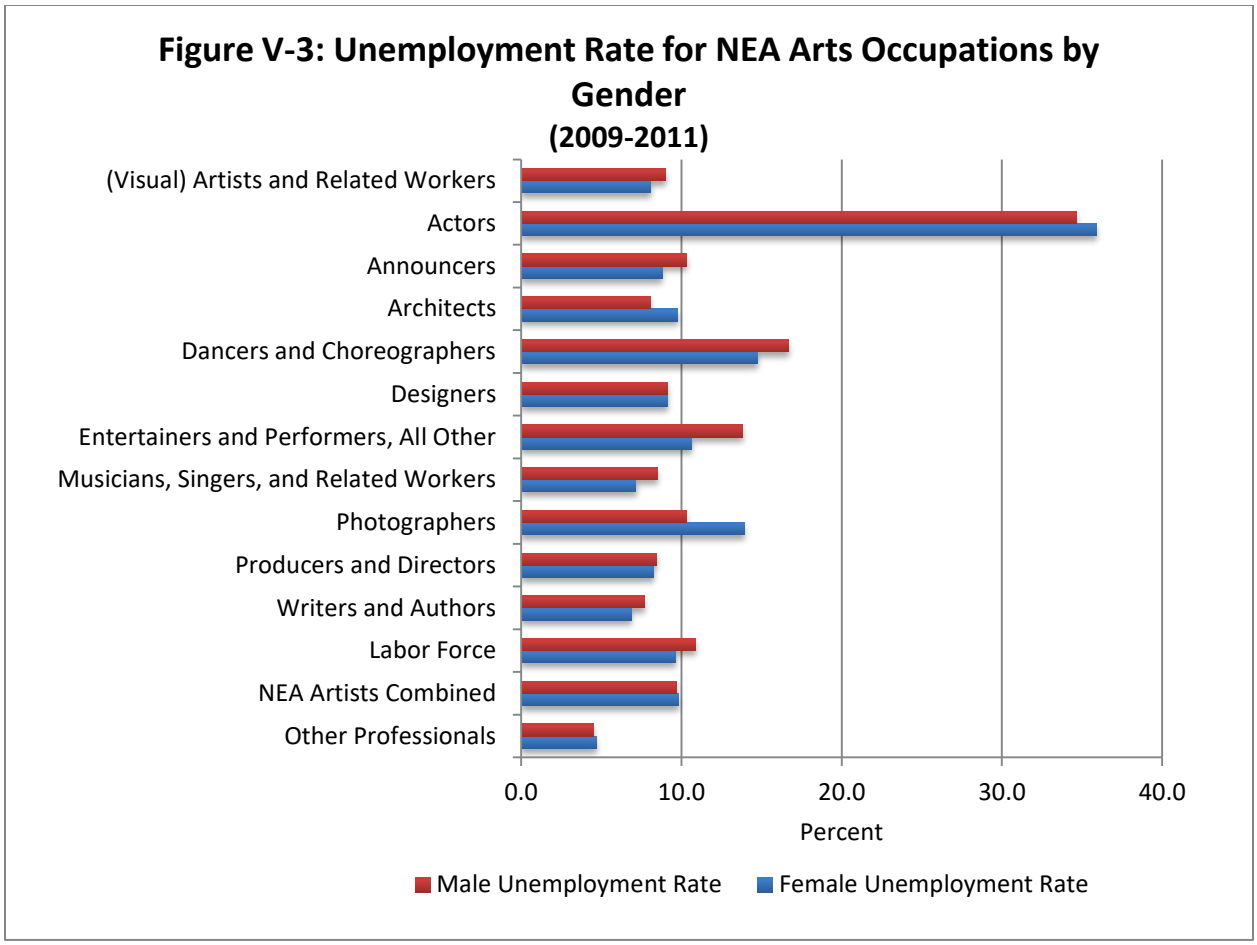


Figure V-2: Unemployment Rate for Other Professional and Managerial Occupations (2009-2011)



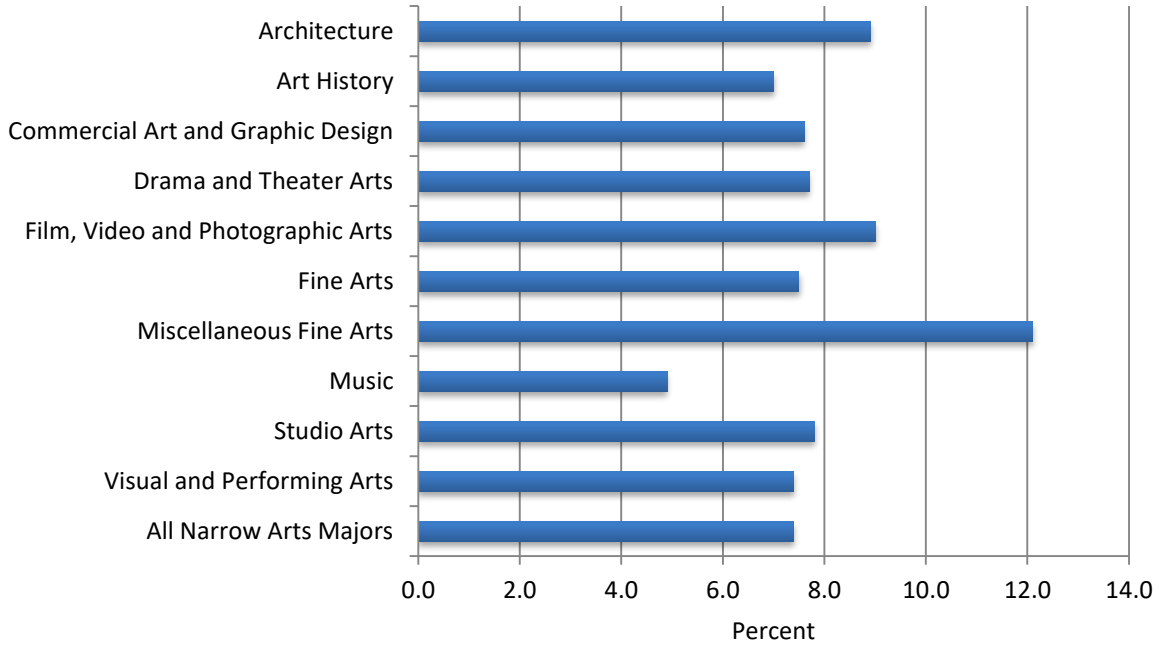
Overall, there is little difference in the unemployment of artists related to gender (Figure V-3). Over the 2009 to 2011 time period male artists had a slightly lower unemployment rate (9.7 percent) than female artists (9.8 percent). This differs from the labor force as a whole throughout the period, where male unemployment rates ranged from almost one percentage point to almost two and a half percentage points higher. By comparison, the unemployment rate differentials between men and women who worked in professional and related occupations ranged from about 0.1 percentage point to about 0.7 points, with the higher rates for men in these occupations. Women in seven of the arts occupations had a lower likelihood of being unemployed than men in the same occupations: visual artists, producers and directors, dancers and choreographers, musicians and singers, other entertainers and performers, announcers, and writers and authors. Women artists were more likely to be unemployed in three of the arts occupations: architects, actors, and photographers. Men and women designers were equally likely to be unemployed at a rate of 9.1 percent.



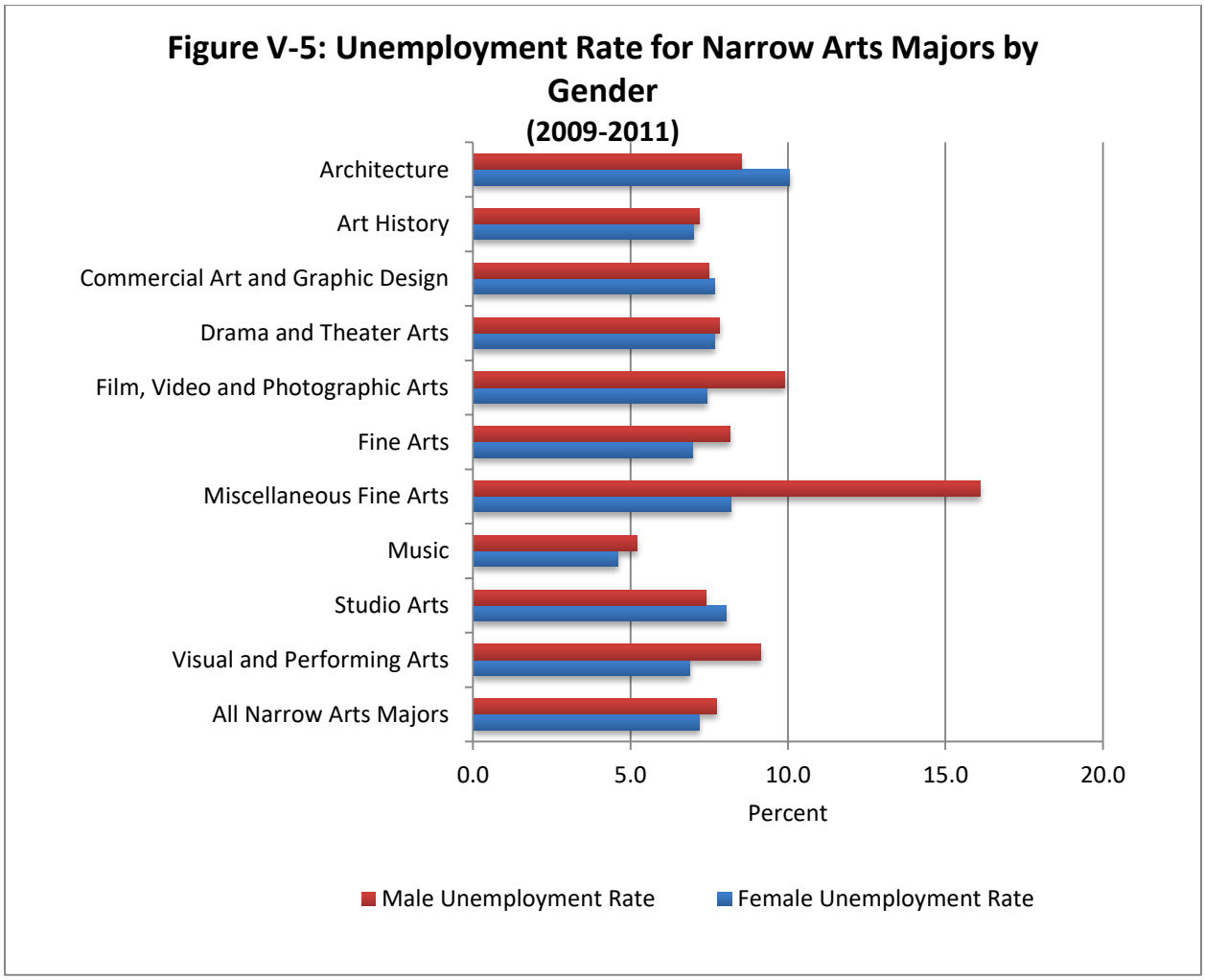
Unemployment of Arts Majors

As described in Chapter 2, undergraduate arts majors often end up working in arts occupations unrelated to their major or, more often, outside the arts entirely. The pattern of where arts majors work generally changes over their working careers and varies across arts majors. The result of this is that the overall unemployment rate for arts majors (using the narrow definition previously defined) was lower than it was for those who worked in arts occupations. In fact it was almost 25 percent lower (7.4 percent compared to 9.7 percent). With the broader definition of the arts majors, which includes those who majored in arts education, the difference was even more pronounced. The unemployment rate for the broad arts majors (6.4 percent) was approximately 33 percent lower than the unemployment rate for those in the eleven NEA arts occupations. The primary reason for these differences is that the overall unemployment rates in those other professional occupations where arts majors worked were considerably lower than for the arts occupations.

Figure V-4: Unemployment Rate for Narrow Arts Majors (2009-2011)



The difference in unemployment of arts majors by gender was more pronounced than for those in arts occupations (Figure V-5). Overall, men who majored in one of the narrow arts majors were more likely to be unemployed (7.7 percent) than women with the same majors (7.2 percent). The difference between the female and male unemployment rates was slightly larger when extending the arts majors to the broad majors, but the rates of unemployment for both men (6.7 percent) and women (6.1 percent) were lower. The higher male unemployment rate over this period for arts majors was consistent with the overall unemployment rate for all professional and technical workers over the same three years.



It might be expected that arts majors will have an advantage over non-arts majors in occupations that are related to their majors. With regards to unemployment, this doesn't appear to be true. Arts majors, defined using the narrow definition of the major, who worked in arts occupations had an unemployment rate of 8.3 percent. Using the broad arts major definition the unemployment rate was only slightly lower (8.2 percent). By comparison, the unemployment rate for all college graduates who worked in arts occupations was only 7.9 percent. Arts majors, regardless of definition, who had a non-arts occupation were less likely to be unemployed than if they had an arts occupation. The difference was almost 15 percent lower for the narrow arts majors and more than 25 percent lower for the broad arts majors.

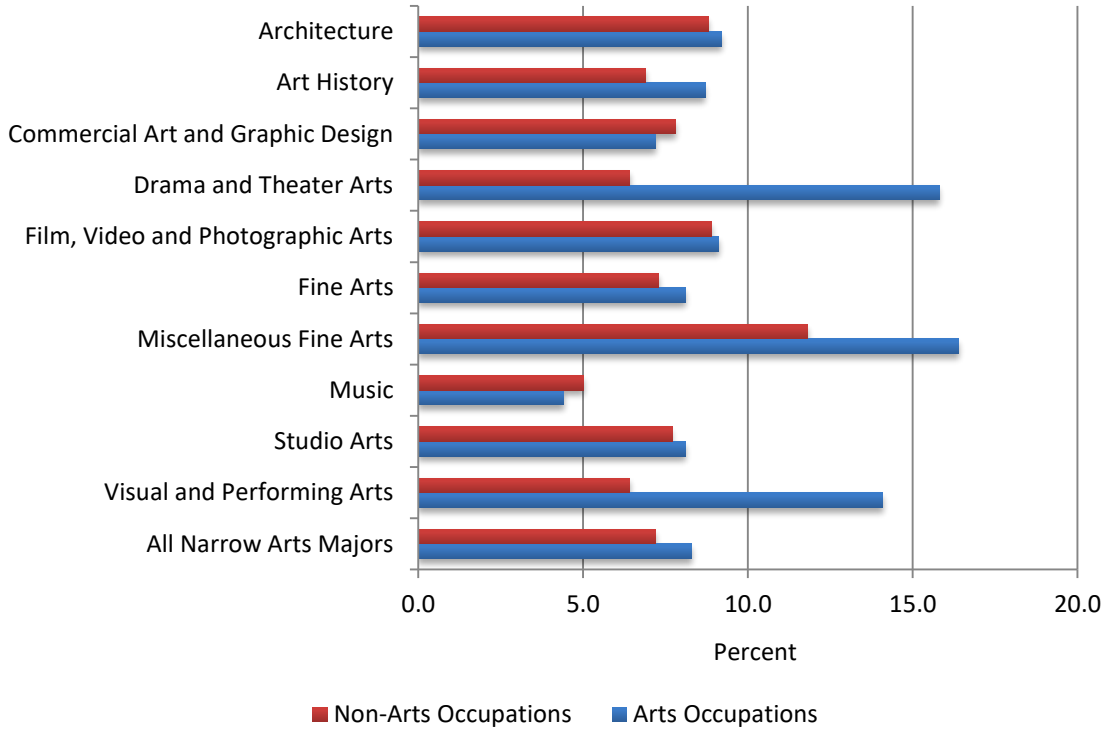
When working in arts occupations, female arts majors (narrow definition) were unemployed at the same rate as male arts majors. For broad arts majors, female majors' unemployment rate was about five percent lower than the male majors' unemployment rate. Male arts majors, regardless of definition, were more likely to be unemployed if they worked in non-arts occupations than their female peers. The difference was approximately eight percent. The unemployment rates for all college graduates, regardless of gender, in arts occupations was

lower than for arts majors, regardless of definition. This was true for the non-arts occupations as well.

With two exceptions, the unemployment rates of narrow arts majors, regardless of occupation, varied over a relatively small range. They ranged from a low of seven percent for those who majored in art history to almost nine percent for the architecture majors. The two outliers were the music majors with an unemployment rate of just under five percent and for those who majored in miscellaneous fine arts at just over 12 percent. Those who majored in the four arts majors that are added to comprise the broad arts majors were much less likely to be unemployed during this period, especially those who majored in the two majors directly related to education occupations. The unemployment rate for those who majored in art and music education was 3.4 percent and for those who majored in language and drama education, it was 3.9 percent. The English language and literature majors, and the composition and speech majors, had unemployment rates that were higher (5.7 percent and 6.5 percent, respectively).

With the exception of two arts majors (narrow definition), arts majors were more likely to be unemployed in occupations related to their major than in ones not related. For two of these majors the difference in their likelihoods of being unemployed was more than double. The drama and theater arts majors in arts occupations had an unemployment rate of just under 16 percent while those who worked in non-arts occupations were unemployed at a rate of slightly over six percent. The visual and performing arts majors were very similar, with slightly over 14 percent unemployment in the arts occupations and slightly more than six percent in the non-arts occupations. The difference in unemployment rates related to occupation for film, video and photographic arts majors, architecture majors, studio arts majors and fine arts majors was relatively small ranging from 0.2 percentage points to 0.8 percentage points. For art history majors the difference was almost two percentage points, or slightly more than 25 percent higher. Those who majored in music or in commercial art and graphic design had higher unemployment rates if they worked in non-arts occupations rather than in arts occupations. For both majors the difference was a little more than half a percentage point, or almost 15 percent more for the music majors and just under 10 percent more for the design majors. In the four majors added to define the broad arts majors, only those who majored in language and drama education had a higher unemployment rate in the non-arts occupations than in the arts occupations, just over ten percent higher. In the other three majors unemployment was more likely if they worked in the arts occupations with the greatest difference for those who majored in composition and speech, at more than 50 percent higher (6.2 percent in the non-arts occupations and 9.6 percent in the arts occupations).

Figure V-6: Unemployment Rate for Narrow Arts Majors in Arts Occupations and Non-Arts Occupations (2009-2011)

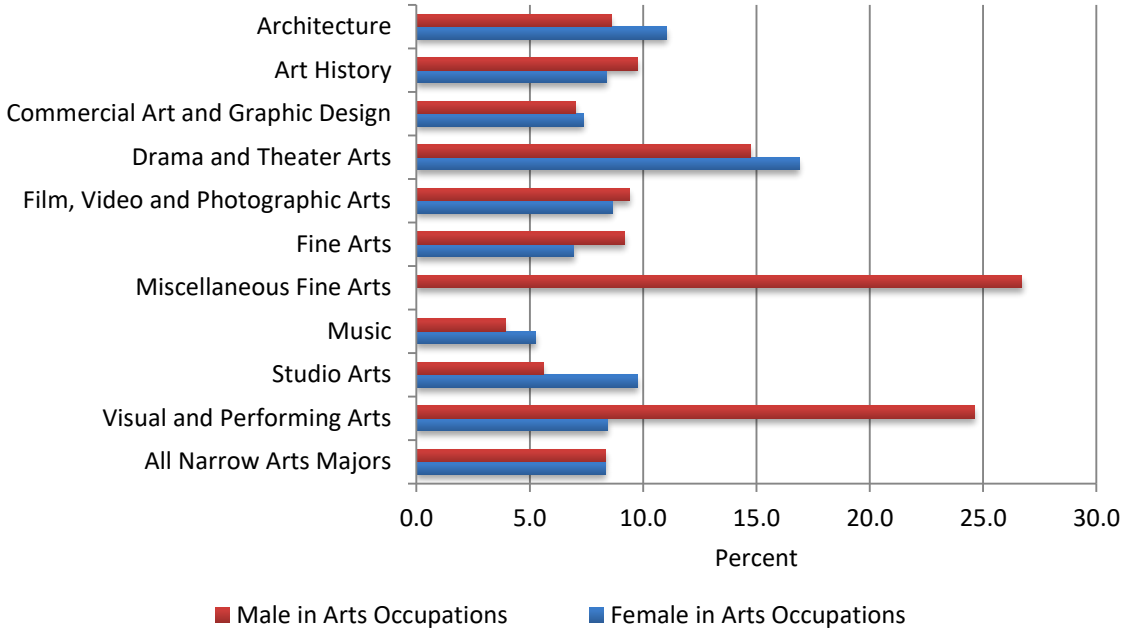


In seven of the narrow arts majors, men had a greater likelihood of being unemployed than women, regardless of their occupations. This included majors in fine arts, drama and theater arts, visual and performing arts, music, art history, miscellaneous fine arts and film, video and photographic arts. The difference in unemployment rates ranged from 0.1 percentage points for the drama and theater arts majors to 2.5 percentage points for the film, video and photographic arts majors, or from about one percent to one-third higher. The majors in which women were more likely to have been unemployed were architecture, commercial art and graphic design, and studio arts. The difference ranged from 0.2 percentage points for the design majors to 1.6 percentage points for the architecture majors, or from three percent to almost 20 percent higher. Female art and music education majors as well as English language and literature majors were more likely to have been unemployed than their male colleagues (20 percent and four percent, respectively); while the male language and drama education majors and composition and speech majors were more likely to have been unemployed than their female peers (five percent and 45 percent, respectively).

Focusing on narrow arts majors who work in arts occupations (Figure V-7), we find that in five of them (architecture, drama and theater arts, music, commercial art and graphic design, and studio arts) female arts majors were more likely to have been unemployed than male arts majors and in the other four majors (visual and performing arts, film, video and photographic

arts, art history and fine arts) the reverse is true. The smallest difference in a major where women had higher unemployment was six percent for the design majors; the largest difference was 80 percent for the studio arts majors. The smallest difference in a major where the men had higher unemployment was almost 10 percent for those who majored in film, video and the photographic arts; the largest difference was 300 percent for the visual and performing arts majors. For the four art majors that are included to make the broad arts major, only the female language and drama education majors had a greater likelihood of having been unemployed (almost 13 percent) than their male peers, while for the art and music education majors, English language and literature majors, and composition and speech majors it was the men that were more likely to have been unemployed (15 percent, almost 40 percent, and more than 80 percent more likely, respectively).

Figure V-7: Unemployment Rate for Narrow Arts Majors in Arts Occupations by Gender
(2009-2011)



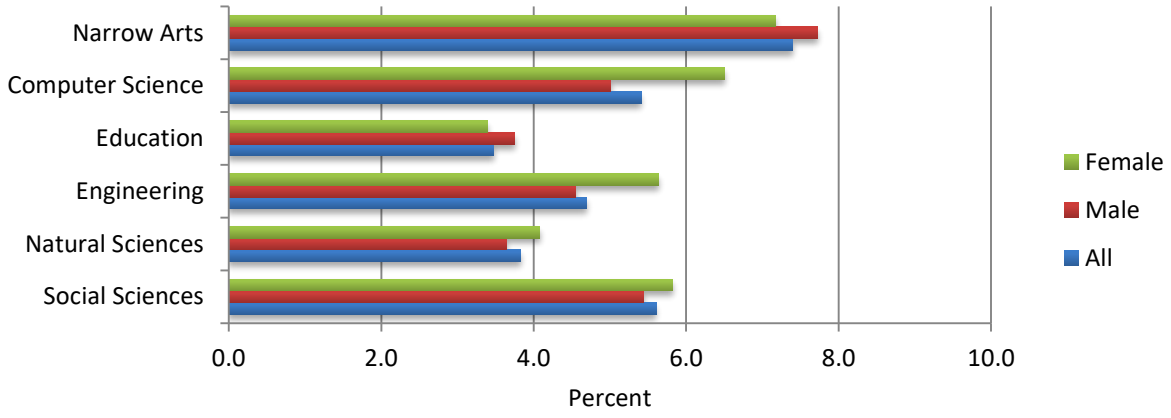
Note: There is no female observations in Miscellaneous Fine Arts in arts jobs in the sample.

No gender difference was found in the likelihood of having been unemployed for arts majors who worked in non-arts occupations if they had majored in commercial art and graphic design (7.8 percent) or in art history (6.9 percent). Females who majored in architecture, drama and theater arts, visual and performing arts, art and music education and English language and literature were all more likely to have been unemployed if they worked in non-arts occupations than their male colleagues. The difference in the unemployment rates was 12 percent for the architecture majors, 0.2 percent for the drama majors, 20 percent for the visual arts majors,

almost 30 percent for the art and music education majors, and eight percent for the English language majors. Males who majored in fine arts, music, film, video and photographic arts, studio arts, language and drama education and composition and speech all were more likely to have been unemployed if they worked outside the arts than their female peers. The differences were: 11 percent for the fine arts majors; 22 percent for the music majors; 41 percent for the film and video majors; one percent for the studio arts majors; five percent for the language and drama education majors; and almost 40 percent for the composition and speech majors.

In comparison to college graduates who majored in other creative majors (computer and mathematical sciences, education, engineering, natural sciences, and social sciences), narrow arts majors had higher unemployment rates or were more likely to have been unemployed over the three year period (Figure V-8). The difference was greatest for those who majored in education (almost four percentage points or more than twice as high); and least for those who majored in the social sciences (1.8 percentage points or 32 percent higher). The difference between male arts majors and male other creative majors was greatest for the science majors (4.1 percentage points or more than twice as high for the science majors) and smallest for the computer and mathematical science majors (2.7 percentage points or 54 percent higher). For the female arts majors the difference was largest when compared to the female education majors (3.8 percentage points or more than twice as high) and smallest when compared to the computer and mathematical science majors (0.7 percentage points or eleven percent higher).

Figure V-8: Unemployment Rate for Creative Majors by Gender (2009-2011)



Employment and Hours

Economic success is not only related to whether someone is employed or not but, as discussed in Chapter 3, it is also related to the amount of time spent working. The estimates of the artists' earnings functions consistently identified both hours of work and weeks of work as

significant positive determinants of their earnings. The American Community Survey asked of respondents who stated that they had worked in the previous year to estimate how many weeks they had worked and how many hours they 'usually worked each week.'[53]

Most people think of employment as consisting of a 50 week work year, with two weeks off for vacation, and a 40 hour work week. In fact there is a great deal of variation in both elements of work across occupations and within them as well. These differences reflect personal preferences, market conditions, occupational choice, age and many other factors.

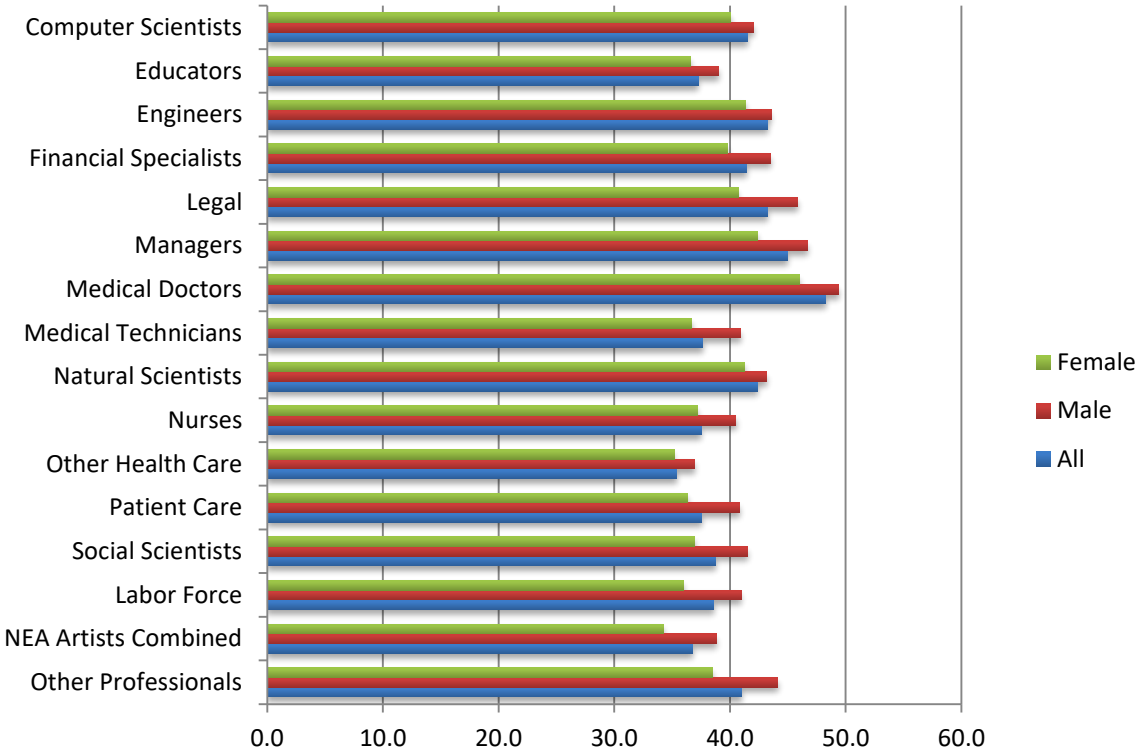
Hours Worked

Over the three year period that this report covers, NEA artists averaged fewer hours at work than the average worker in the U.S. labor force. The artists averaged 36.8 hours per week, while the average for the labor force as a whole was slightly over 38 hours per week.[54] In comparison to all those who worked in professional and technical occupations (including those in the eleven NEA arts occupations) the NEA artists averaged almost two hours less per week. In fact based on data from the ACS, artists worked fewer hours than all those in the professional and managerial occupations over the three year period, with the exception of some health care workers (Figure V-9). Perhaps it's unfair to compare artists to medical doctors, who averaged more than 48 hours per week, but engineers, natural scientists and computer and mathematical scientists all averaged more than 40 hours per week. The difference in hours was even greater when compared to those in the managerial occupations where the average work week was 45 hours. Those occupations with comparable work weeks included educators, at 37.3 hours, and clerical workers, at 36.5 hours.

Female artists worked, on average, fewer hours than male artists. The difference was slightly more than four and a half hours per week (34.3 hours, 38.9 hours, respectively). This difference was comparable to the gender difference in hours worked for the labor force as a whole but slightly less than for all professional workers over this time period.[55] Female artists averaged fewer hours than females in the other detailed professional occupations studied for this report. The same was true for the male artists, with two exceptions. Their average hours were comparable to the males who worked in the education occupations and almost two hours more than males who worked in the other health care occupations.

[53] The American Community Survey, Questions 39b and 40, www.census.gov/acs/www/Downloads/questionnaires/2013/Quest13.pdf.
[54] Tables from *Employment and Earnings*, Table 23 Persons at work by occupation, sex, and usual full- or part-time status, for the years 2009, 2010 and 2011, www.bls.gov/cps/cps_aa2011.htm.
[55] Ibid.

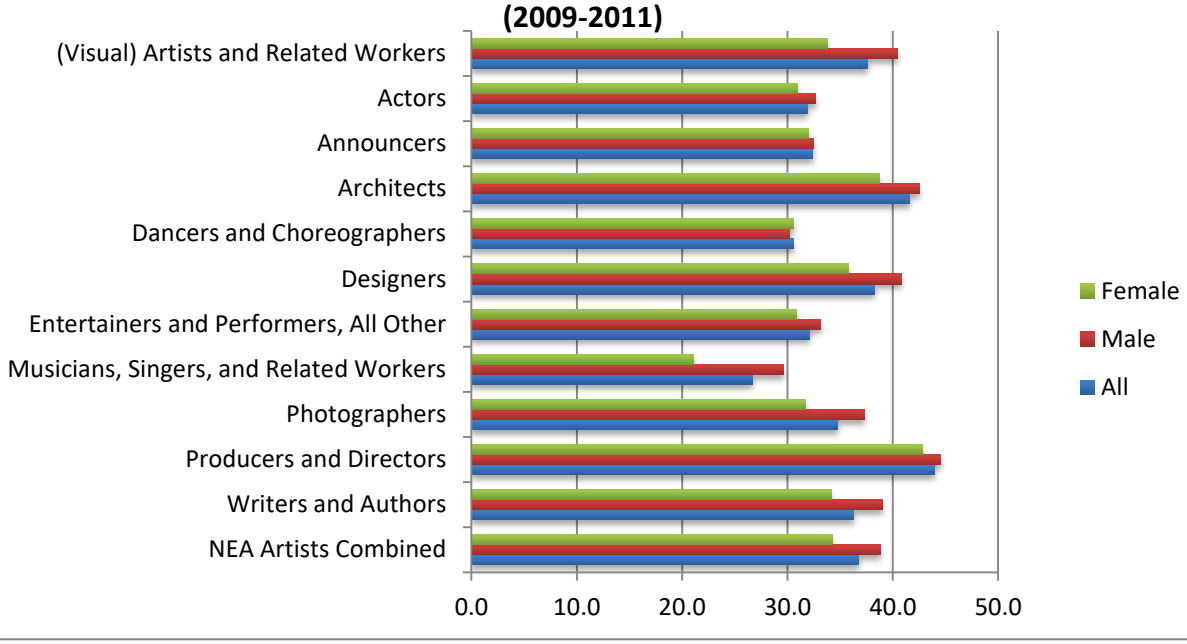
Figure V-9: Weekly Hours Worked for NEA Artists, Other Professional and Managerial Occupations by Gender (2009-2011)



There was considerable variation in the hours spent working across the NEA arts occupations (Figure V-10). Producers and directors worked, on average, more than any of those in the other arts occupations, almost 44 hours per week of work. Musicians, singers and related workers averaged the fewest hours of work per week, slightly less than 27 hours per week of work. Using a work week of at least 35 hours to differentiate between part-time and full-time work, there were five other arts occupations in which the average work week would have been considered less than full-time. These occupations were: dancers and choreographers (30.5 hours); actors (31.9 hours); other entertainers and performers (32.1 hours); announcers (32.4 hours); and photographers (34.8 hours). Besides producers and directors, architects also averaged a work week that was more than 40 hours, at 41.6 hours. The three arts occupations in which the average worker worked a full-time work week were: writers and authors (36.2 hours); visual artists (37.6 hours); and designers (38.2 hours).

There is only one NEA arts occupation in which women worked more hours than men: dancers and choreographers. The difference was less than half an hour. In all the other occupations

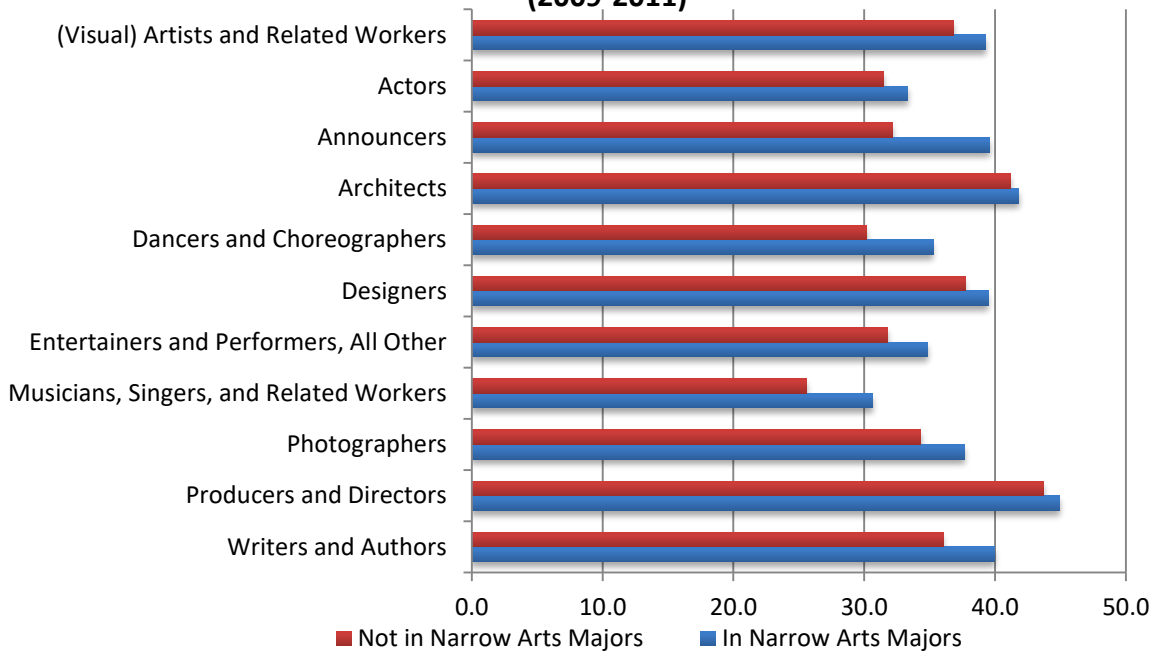
Figure V-10: Weekly Hours Worked for NEA Arts Occupations by Gender (2009-2011)



men worked more hours than women. The smallest difference between the genders in these arts occupations was between male and female announcers, one-half hour. The largest difference was the difference of eight and one half hours of more work by male musicians, singers and related workers than by females. Men worked full-time or more in six arts occupations (architects, visual artists, designers, producers and directors, writers and authors, and photographers). The same was true for women in only three arts occupations (architects, designers and producers and directors). Male architects, visual artists, designers and producers and directors all averaged more than 40 hours per week, while only female producers and directors averaged more than 40 hours of work.

People who worked as artists and who had narrow majors worked, on average, more hours per week than artists without arts majors regardless of the artistic occupation in which they worked (Figure V-11). In three of the performing arts occupations the difference in hours worked was ten percent or more. For other entertainers and performers the difference was 10 percent; for dancers and choreographers it was 17 percent; for musicians and singers it was 20 percent; and for announcers it was almost 25 percent. In the other two performing occupations, producers and directors and actors, the difference was three percent and six percent, respectively. In most of the visual arts occupations the difference in hours worked for those with narrow arts majors and those without was 10 percent or less. For photographers it was 10 percent; for visual artists and related workers it was seven percent; for designers it was five percent; and for architects it was only one percent. Writers and authors with narrow arts degrees worked eleven percent more hours per week, on average, than those without arts degrees.

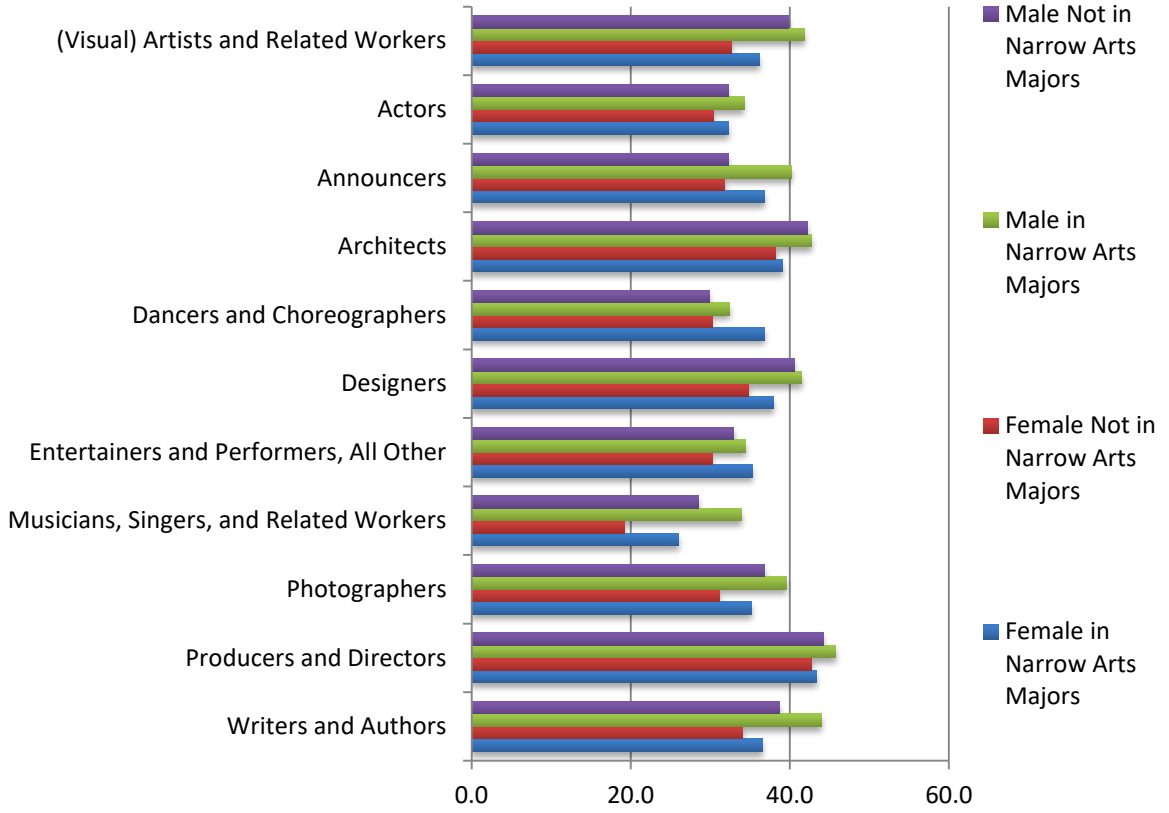
Figure V-11: Weekly Hours for NEA Arts Occupations by Arts and Non-Arts Majors (2009-2011)



Comparing artists with undergraduate narrow arts majors to artists with less than a college degree leads to the same conclusions, but with slightly larger differences in hours worked for the arts majors across all the arts occupations. For two occupations, announcers, and writers and authors, the difference in hours worked was quite a bit larger. This was because the average hours worked by those artists who didn't have college degrees was much lower than for those artists who had college degrees, but not a major in the arts. This resulted in the announcers with college degrees in the arts having worked 33 percent more hours than those without college degrees, and for writers and authors the hours differential was 20 percent.

For male artists, having a narrow arts major or some other major makes relatively little difference in the average hours they worked for all but three arts occupations (Figure V-12). The difference between arts majors and non-arts majors ranged from about one-half hour more per week for men who worked as architects to two and a half hours more for those who worked as photographers. In three occupations, musicians, singers and related workers, announcers, and writers and authors, the difference in men's work hours was five hours or more for those with arts majors compared to those with some other college major (5.5 hours, eight hours, and 5.2 hours, respectively). Since the hours worked by male artists without college degrees was less than for those with college degrees who didn't major in the arts in all but one arts occupation, the relationship was essentially the same. The one occupation in which men without a degree worked more hours than those with a college degree but without the arts major was dancers and choreographers.

Figure V-12: Weekly Hours for NEA Arts Occupations by Arts and Non-Arts Majors and Gender
(2009-2011)



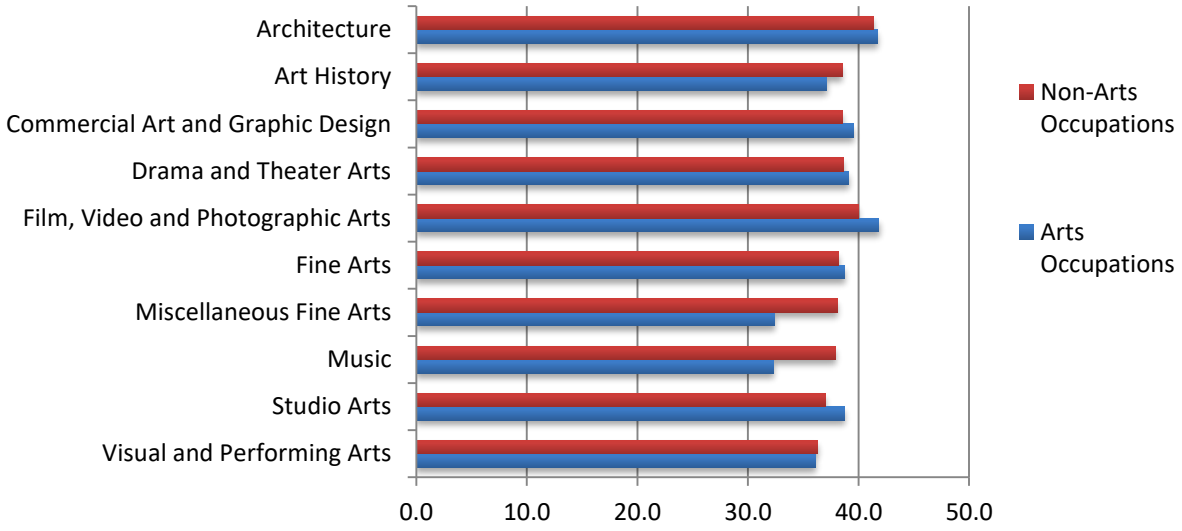
A similar pattern of hours worked by narrow arts major vs. other major or not graduating college holds for women artists as well. The difference between women artists who had an arts major and those who had some other major was under five hours per week for artists in the NEA arts occupations except for dancers and choreographers; musicians, singers and related workers; other entertainers; and announcers. The largest difference was almost seven hours per week more for the female musicians who had earned a college degree with an arts major vs. those with some other college major. Those female artists without college degrees worked even fewer hours, with the difference ranging from an additional one-half hour less per week for the female visual artists to more than four and one-half hours less for the female producers and directors.

Narrow arts majors worked an average of 38.8 hours per week over the three year study period. This was only slightly less than the typical work week for all college graduates, which was 41.2 hours. There was relatively little difference in the hours worked across arts majors

with the average arts major having worked full-time hours (i.e., at least 35 hours per week), and only architecture majors (41.5 hours) and film, video and photographic arts majors (40.4 hours) having worked more than 40 hours per week. Visual and performing arts majors worked the fewest hours (36.3), followed by those who majored in: music (37.1 hours), studio arts (37.3 hours), miscellaneous fine arts (37.6 hours), fine arts (38.3 hours), art history (38.4 hours), drama and theater arts (38.7 hours), and commercial arts and graphic design (38.9 hours). The differential in hours for the four majors that are added to make up the broad arts major is even smaller. Art and music education majors averaged 38.3 hours per week; composition and speech majors averaged 38.5 hours; language and drama education majors averaged 38.9 hours; and English language and literature majors averaged 39.4 hours.

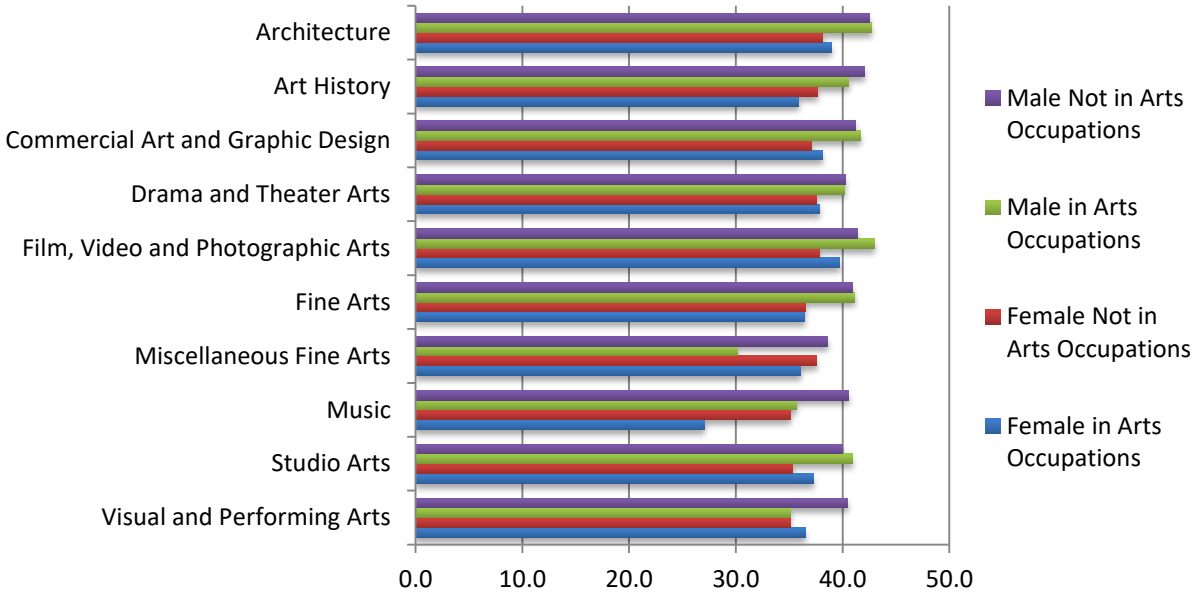
Overall, for both the broadly defined arts majors and the narrowly defined majors, the difference in average hours associated with working in an arts occupation or not was approximately half an hour which, relative to the average for each group, was a difference of about one-percent (Figure V-13). Broad arts majors worked the additional half hour in the non-arts occupations (39.1 hours) rather than the arts occupations (38.6 hours), but narrow arts majors worked the additional half hour in the arts occupations (39.2 hours) rather than the non-arts occupations (38.7 hours). For four of the arts majors (architecture, fine arts, dance and theater arts, and visual and performing arts) the differential was half an hour or less, and with the exception of the visual and performing arts majors the additional time was spent working in the arts occupations. For all the remaining arts majors the differential ranged from one hour to more than ten hours, with both the arts education majors averaging an additional ten hours working in non-arts occupations. Only three of the arts majors in this group spent more time working in arts occupations than in non-arts occupations. These were those who majored in: commercial art and graphic design; film, video and photographic arts; and studio arts. The other majors (music, art history, miscellaneous fine arts, English language and literature and composition and speech) all averaged more working time in non-arts occupations than in arts occupations.

Figure V-13: Weekly Hours Worked for Narrow Arts Majors in Arts Occupations and Non-Arts Occupations (2009-2011)



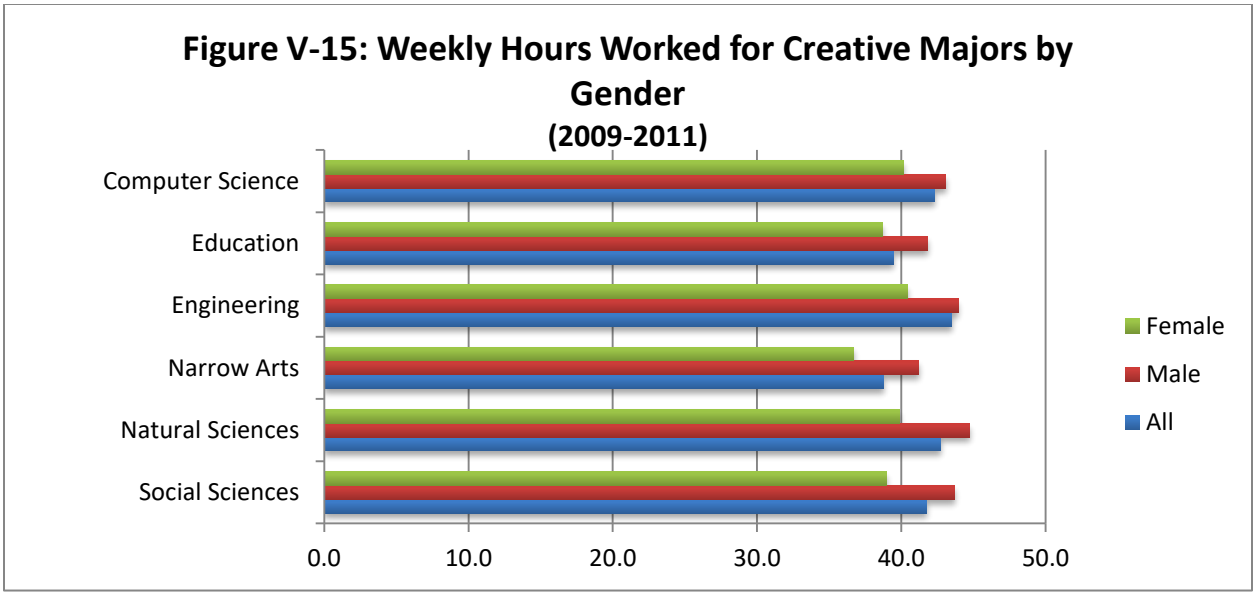
Female narrow arts majors worked, on average, two hours less per week than all female college graduates and two hours more than all females with less than a college degree regardless of their occupation (Figure V-14). This was essentially the same outcome as we saw for male arts majors. The men also averaged five hours a week more regardless of the type of work than their female peers, i.e., 41.2 hours for male arts majors compared to 36.7 hours for females. Female arts majors worked almost 37 hours per week in arts occupations, which was about four hours less than male arts majors. For only two of the narrow arts majors and one of the broad majors did females spend more time working in arts occupations than male arts majors, these were: visual and performing arts majors (36.6 hours, 35.2 hours respectively); miscellaneous fine arts (36.1 hours, 30.1 hours respectively); and composition and speech (38.7 hours, 36.3 hours respectively). The difference in working hours in arts occupations between males and females in the remaining arts majors ranged from 2.3 hours (six percent) for the drama and theater arts majors, to 8.6 hours (32 percent) for the music majors. None of the male narrow arts majors averaged less than full-time work (at least 35 hours per week) when working in an arts occupation, except for miscellaneous fine arts majors; for seven of the ten majors they averaged more than 40 hours per week working in their arts occupations. Similarly for the female arts majors, there was only one major, music, where they worked less than full-time in their arts occupations, but in none of the arts occupations did female arts majors average more than 40 hours of work per week.

Figure V-14: Weekly Hours Worked for Narrow Arts Majors in Arts Occupations and Non-Arts Occupations by Gender (2009-2011)



For male arts majors, regardless of the major, having worked in non-arts occupations meant having worked, on average, for at least 40 hours per week. Again the only exception was miscellaneous fine arts majors. Female arts majors, regardless of major, all averaged full-time work hours in non-arts occupations, but none of the majors averaged 40 hours per week or more in these occupations.

In comparison to college graduates who majored in other creative majors (computer and mathematical sciences, education, engineering, natural science, and social science), narrow arts majors worked fewer hours per week over the three year period (Figure V-15). The difference was greatest for those who majored in engineering (4.7 hours or twelve percent more); and least for those who majored in education (0.6 hours or two percent more). The difference between the male arts majors and male other creative majors was greatest for the natural science majors (3.5 hours or eight percent more work for the science majors) and smallest for the education majors (0.6 hours or one percent more weeks for the education majors). For the female arts majors the difference was largest when compared to the female engineering majors (3.8 hours or 10 percent more) and smallest when compared to the education majors (two hours or five percent more).

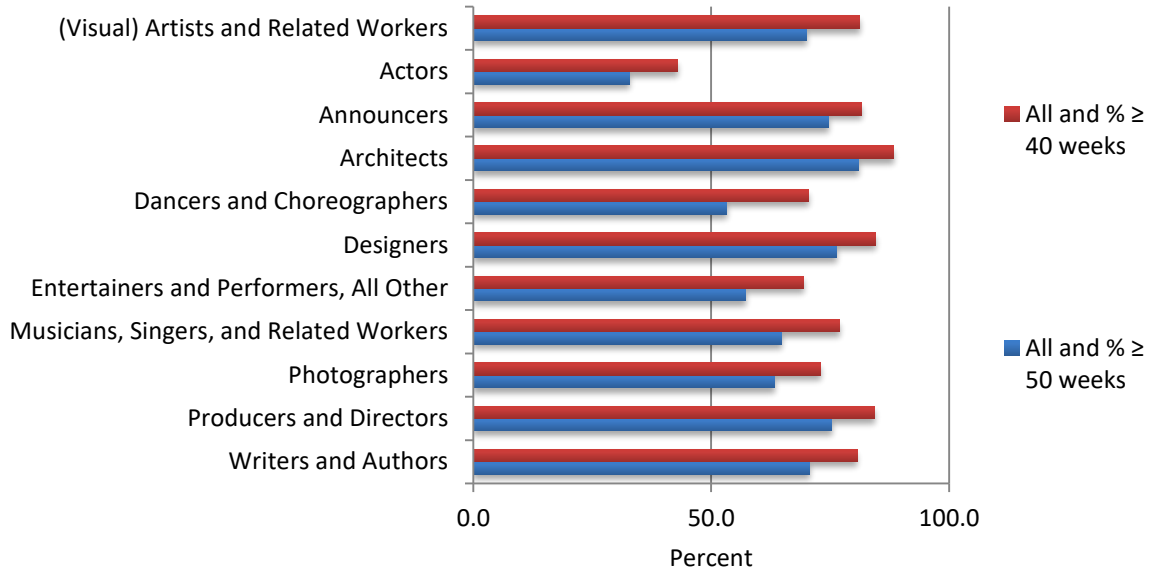


Weeks Worked

The work time put in by artists is not simply a function of the numbers of hours they work in a week, but is also related to the number of weeks they work in a year. The American Community Survey's information on weeks worked is categorical, and will be reported as the percentage of artists or art majors who worked 40 or more weeks in a year and the percentage who worked 50 or more weeks, or full-year.

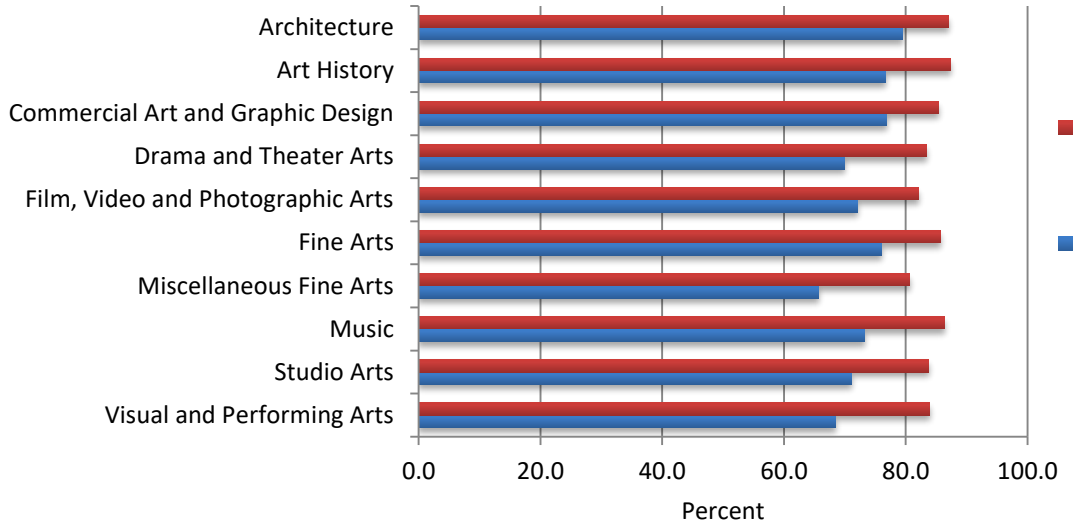
In six of the NEA arts occupations more than 80 percent of NEA artists worked 40 weeks or more (Figure V-16). These occupations were architects, visual artists, designers, producers and directors, announcers and writers and authors. In only one of the arts occupations did more than 80 percent work 50 weeks or more; this was architects. Actors were the least likely to have worked 40 weeks or more, with only slightly over 40 percent having done so. Artists in the three other performing arts occupations were much more likely to have worked 40 weeks or more with 70 percent of the dancers, 77 percent of the musicians and singers, and 70 percent of the other entertainers having done so. Only approximately one-third of actors worked for 50 weeks or more. The proportion of the other performers having done so is considerably larger (dancers and choreographers, 53 percent; musicians and singers, 65 percent; and other entertainers, 57 percent).

Figure V-16: Weeks Worked Past 12 Months for NEA Arts Occupations (2009-2011)



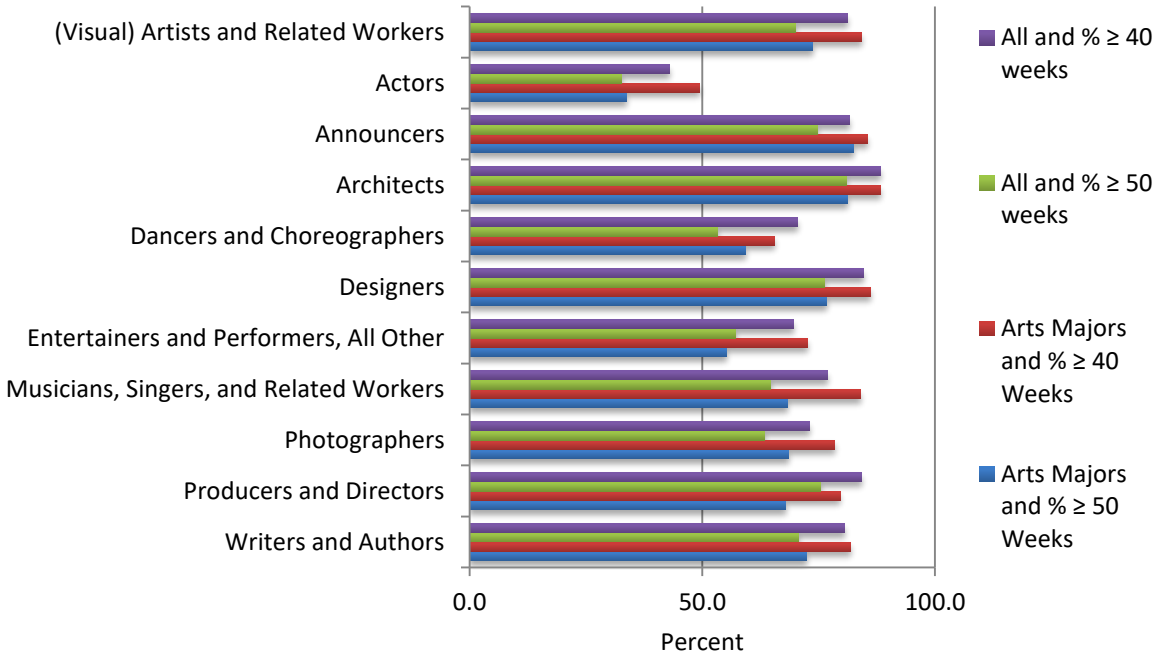
While there is relatively little difference in the proportion of narrow arts majors who worked at least 40 weeks associated with major regardless of occupation, there is considerably more difference in the proportion who worked full-year (Figure V-17). Every major had a likelihood between 80 and 90 percent of having worked at least 40 weeks. Miscellaneous fine arts majors were the least likely to have worked for at least 40 weeks, with about 80 percent having done so; art history majors were the most likely at slightly over 87 percent. The range in the proportion who worked full-year was lower. Miscellaneous fine arts majors were the least likely to have done so (66 percent) while architecture majors were the most likely to have worked full-year, at almost 80 percent.

Figure V-17: Weeks Worked Past 12 Months for Narrow Arts Majors
(2009-2011)



Narrow arts majors working as artists generally worked more weeks compared to other artists with no arts major or college degree (Figure V-18). Only dancers and choreographers and producers and directors with arts majors were less likely to have worked 40 weeks or more a year, though the degree does increase their likelihood of having worked full-year. Architects with arts majors were just as likely to have worked 40 weeks or more or to have worked full-year as those with any degree or major. Actors with arts majors saw the largest relative increase in the likelihood of having worked 40 or more weeks, an increase of almost 20 percent, but being arts majors didn't impact their likelihood of having worked full-year.

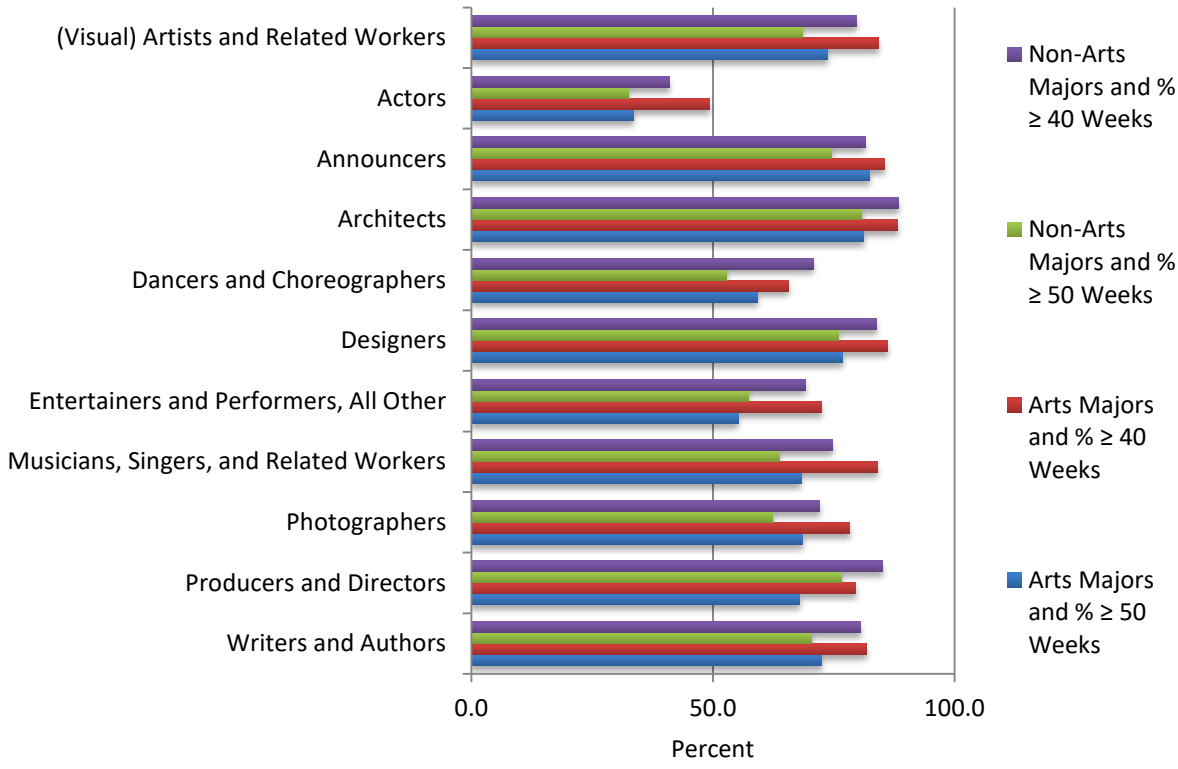
Figure V-18: Weeks Worked Past 12 Months for Arts Occupations by Arts Major and All Artists (2009-2011)



The proportion of arts majors who worked as artists 40 or more weeks or full-year was similar to comparable proportions of artists with college degrees without the arts majors (Figure V-19). With the exception of architects, producers and directors, and dancers and choreographers, arts majors working in arts occupations were more likely to have worked 40 weeks or more than college graduates without arts majors.

With regard to having worked full-year, only producers and directors with arts majors were less likely to have worked full-year than their peers without college degrees.

Figure V-19: Weeks Worked Past 12 Months for Arts Occupations by Arts and Non-Arts Majors (2009-2011)



In only one of the NEA arts occupations did a greater proportion of female than male artists work 50 weeks or more - announcers (76.7 percent, 74.2 percent, respectively). The same distinction held for women working for 40 weeks or more; a higher percentage female announcers than male announcers were in this category (84.1 percent, 81.0 percent, respectively).

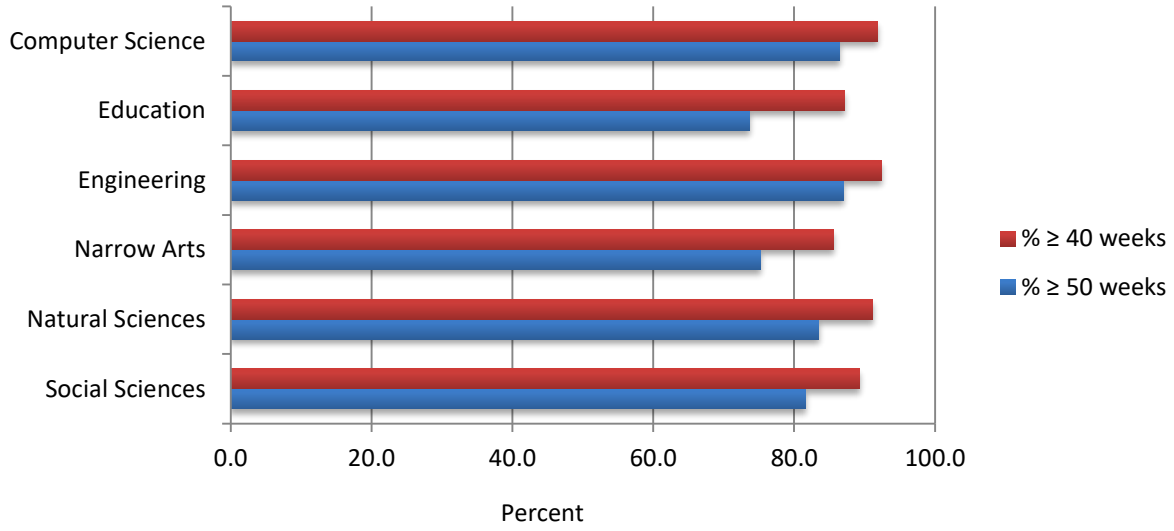
Actors had the lowest likelihood working 50 weeks or more (for both males and females, with only a slight difference between them: 33.3 percent, 32.0 percent, respectively). Actors also were by far the most likely to have worked 14 weeks or less per year. Almost 35 percent of female actors worked less than 14 weeks. By gender, almost 35 percent of female actors worked less than 14 weeks, but 25 percent of the male actors did so.

The greatest gender difference was in working full-year was among photographers; male photographers were almost 16 percent likely to work full-year. The smallest difference was among actors; male actors were only four percent more likely to have worked full-year.

By comparison to all college graduates and regardless of occupation, those who graduated with narrow arts majors were less likely to have worked full-year (81.8 percent compared to 75.2 percent), and slightly more likely to have done so than workers without bachelor's degrees (at 74.4 percent). For men, the proportion of college graduates having worked full-year was 85.1 percent, the proportion having narrow arts majors and having worked full-year was 78.0 percent, and the proportion without a college degree having worked full-year was 74.4 percent. For women, the proportion of college graduates having worked full-year was 78.5 percent, the proportion having narrow arts majors and having worked full-year was 72.7 percent, and the proportion without a college degree having worked full-year was 74.5 percent.

Besides arts majors, the only creative major group for which fewer than 80 percent worked 50 weeks or more per year was education (Figure V-20). In fact, education majors were less likely to do so than narrow arts majors. Engineering majors had the highest proportion (87.0 percent). When the work year is extended to incorporate anyone who worked 40 weeks or more, narrow arts majors come in last. Gender makes a difference as well. Male narrow arts majors were the least likely to have worked full-year (78.0 percent), but female education majors were the least likely (71.8 percent). At 40 or more weeks worked, the gender pattern was the same.

Figure V-20: Weeks Worked Past 12 Months for Creative Majors (2009-2011)



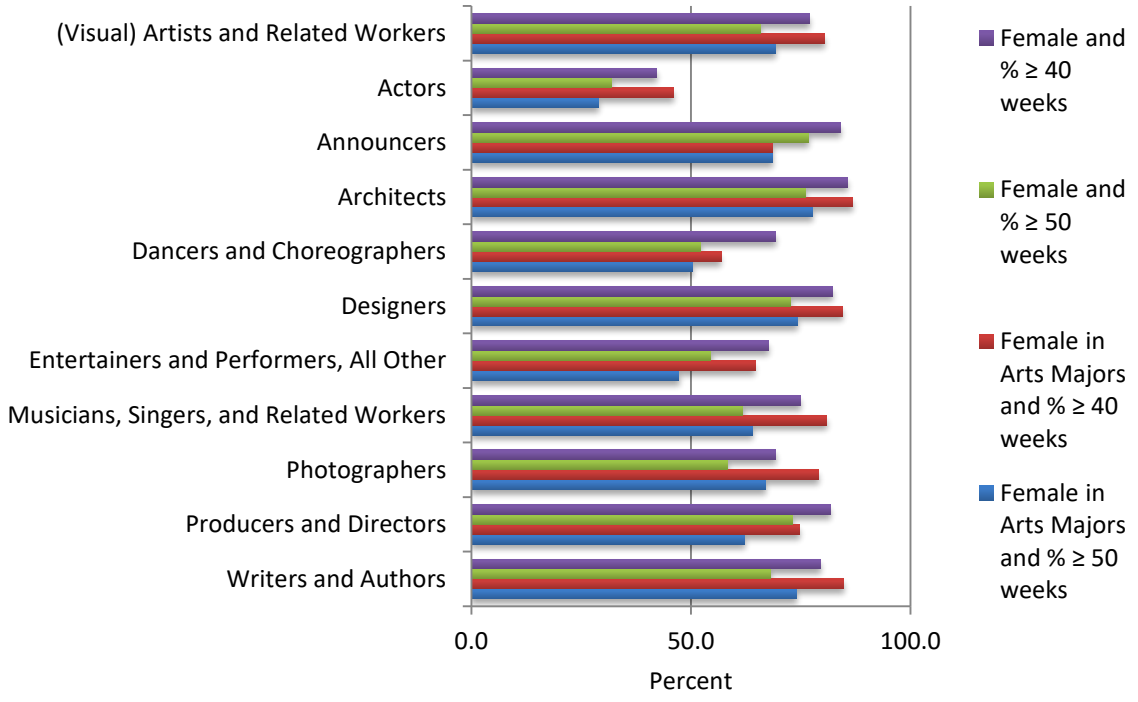
When limited only to those who worked in the NEA artist occupations, the likelihood of full-year work was slightly greater for workers with narrow arts degrees than it was for all college graduates regardless of major and for those without bachelor's degrees who worked in the same occupations (74.7 percent, 73.9 percent and 68.4 percent, respectively). This pattern did not differ by the gender of the artist.

When looking at those having worked 40 or more weeks, a greater proportion of narrow arts majors worked 40 or more weeks (84.3 percent) than those without a college degree (82.3 percent).

For women artists, having competed a narrow arts major increased the likelihood of working full year (50 weeks or more) in non-performing arts occupations but decreased it in all but one performing arts occupation. Only the musician occupation was an exception (Figure V-21). The largest positive impact of having a narrow arts major on full-year work was among photographers, with an increase of 15 percent in their likelihood of having worked 50 weeks or more. The most negative impact of having a narrow arts major on the likelihood of full-year work among producers and directors, reducing that likelihood by 15 percent.

The positive impact of female artists having a narrow arts major was generally less for some arts occupations when looking at the likelihood of working at least 40 weeks. Positive impacts were felt among architects, visual artists, writers and authors, photographers, designers, and musicians. A negative impact was observed among producers and directors, dancers and choreographers, other entertainers and announcers (68.6 percent).

Figure V-21: Weeks Worked Past 12 Months for Arts Occupations for All Females and Females with Arts Majors (2009-2011)



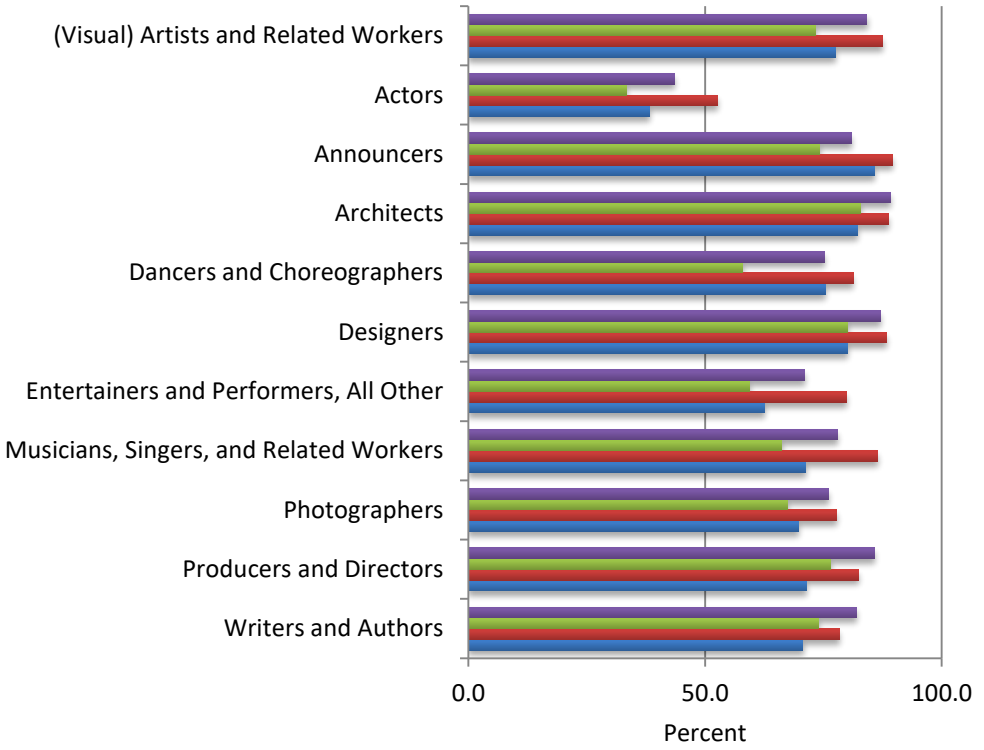
For men, having completed a narrow arts major increased the likelihood of having working 50 weeks or more in most of the NEA arts occupations (Figure V-22). The occupations in which male narrow arts majors were more likely to work 50 weeks are visual artists, actors, dancers and choreographers, musicians, other entertainers, announcers, and photographers. The occupations in which male narrow arts majors were less likely to work 50 weeks are architects, producers and directors, and writers and authors. Having a narrow arts major didn't change the likelihood of working full-year for male designers.

The largest increase in likelihood associated with having a narrow arts major was for dancers and choreographers, and it was an increase of 30 percent. Male actors and announcers also had double digit increases in the likelihood of full-year employment if they had a narrow arts major, both increasing by 15 percent.

Looking at a 40 or more week work year, having completed a narrow arts major enhances the likelihood for male artists in almost all NEA arts occupations. The largest benefit was associated with male actors whose likelihood is 20 percent higher than for male actors regardless of their major. The males with narrow arts majors who worked as musicians, other entertainers and announces had increased likelihoods of having worked at least 40 weeks of slightly more than ten percent. The increased likelihoods for male visual artists, designers, dancers and photographers with narrow arts majors were all less than ten percent, with the benefit to the designers being only about one percent.

For two arts occupations, producers and directors and writers and authors, their likelihood of having worked 40 or more weeks was reduced if they had a narrow arts major compared to those with any major or degree. The reduction in both occupations was slight, less than five percent. Completing a narrow arts major had essentially no impact on the likelihood of male architects working 40 or more weeks compared to male architects regardless of major or degree.

Figure V-22: Weeks Worked Past 12 Months for Arts Occupations for All Males and Males with Arts Majors (2009-2011)



Chapter 6

Industry of Employment

In previous chapters we saw that people who have undergraduate arts majors work in many different occupations over their working careers. Similarly, arts majors work in many different industries. For example, the majority of architecture majors worked in the professional services industry[56] (55 percent), but they were also employed in the construction (nine percent), education (6.5 percent) and wholesale and retail trade (6.1 percent) industries, among others.

As previously discussed, given a person's occupation, the industry of employment is important in understanding economic success, as people can be working in the same occupation in different industries, but paid differently. This reflects, in part, the differences in the market conditions for the goods or services produced in different industries.

The choice of major, whether an arts major, another creative major, or some other major altogether, has more to do with occupational choice than industrial choice. A person who wants to work as a graphic designer is likely choose to be a graphic design major but can end up working as a graphic designer in the automobile industry, in advertising, or in many other industries. Summarizing, people generally don't select a college major because they want to work in a particular industry, but because they want to work in a particular occupation.

Thus this chapter only provides a description of how narrow arts majors and the five other creative majors are distributed across the twelve industry groups. It will show how much each of the arts and other creative majors penetrate these twelve industries, and what portion of an industry's employment is accounted for by arts majors vs. other creative majors. It is important to remember that the ACS categorization of industry of employment, like occupation, doesn't take into account the fact that artists and arts majors often are multiple jobholders; the respondents were asked to identify the industry in which they worked based on the number of hours they worked at a particular job. The survey instrument asks the respondent to identify the job and the industry in which s/he spent the most hours working during the reference period.

All Arts Majors **– Distribution Among Industries**

[56] The American Community Survey groups several hundred industries into 18 industry groups. The authors have combined some of the industry groups based on the percentage of arts majors employed in them and disaggregated one industry group into two resulting in 12 industry groups: construction; education; finance; government (not including education); independent artist (from the entertainment industry group); information; manufacturing; other entertainment (the remainder of the entertainment industry group); other industries (agriculture, extraction, utilities, and personal services); professional, medical and social services; transportation services; and wholesale and retail trade.

Over the 2009-2011 period, the industry that accounted for the largest percentage of employment of narrow arts majors was professional services. Almost thirty percent of narrow arts majors worked in the professional services industry (Table VI-1). Male arts majors were slightly more likely to have worked in this industry than the female arts majors (31.1 percent compared to 27.6 percent). There was little difference in this relationship associated with having earned a post-baccalaureate degree. Those with a degree higher than the bachelor's degree were only slightly less likely to have worked in the professional services industry.

The education industry was second in terms of employment of arts majors. Slightly more than seventeen percent of narrow arts majors worked in this industry. A considerably larger share of female arts majors worked in the education industry than male arts majors, 21 percent vs. 13 percent. Narrow arts majors with degrees beyond the bachelor's degree[57] were three times more likely to have worked in the education industry than those with just the bachelor's degree (33 percent compared to slightly less than 12 percent). The large percentage of women with narrow arts majors working in this industry, a relatively low paying industry, may go a long way to explain the earnings difference that exists between male and female arts majors.

The third industry, in which almost twelve percent of the narrow arts majors worked, was wholesale trade and retail trade. Female arts majors were about 30 percent more likely to have worked in this industry than male arts majors. Not surprisingly, arts majors who also earned graduate degrees were considerably less likely to have worked in the trade industry than those with just the bachelor's degree. Those whose highest degree was the bachelor's degree were almost three times as likely to have worked in this industry.

The industry ranking fourth was other entertainment. About seven percent of arts majors worked in it. This industry group includes industries that are clearly related to the arts, such as museums and art galleries, but it also includes ones that are not likely to be considered as arts-related by most readers, such as: casinos, restaurants, bars and RV parks. Female arts majors are somewhat more likely to work in this industry (seven percent compared to six percent), and, again not surprisingly, arts majors with graduate degrees are about half as likely to have worked in this industry as those with just the bachelor's degree.

The bulk of the remaining industries had between four and six percent of narrow arts majors working in them over this three year period. These include independent artists (4.8 percent), finance (5.3 percent), transportation services (5.9 percent), information (5.9 percent) and manufacturing (6.0 percent) industries. The independent artist industry includes self-employed artists, the performing arts industry and spectator sports. Male arts majors were more likely to have worked in three of these industries than female arts majors, i.e., independent artists, information, and manufacturing. In the other two industries, finance and transportation services, the female arts majors were more likely to have worked there than the male arts majors. With the exception of the independent artist industry, arts majors with graduate degrees were less likely to have worked in them than if they had earned only the bachelor's

[57] The field of study for graduate degrees is not available from the American Community Survey.

degree. Arts majors with more than a bachelor's degree were only slightly more likely to have worked in the independent artist industry as those with just the bachelor's degree.

There were three industries in which three percent or less of the narrow arts majors found employment. These industries were construction (3.1 percent), government (3.0 percent) and other (1.2 percent). In all three of these industries male narrow arts majors were more likely to have worked in them than female arts majors. The biggest difference was in the construction industry in which male narrow arts majors were almost four times as likely to have been employed rather than females (5.0 percent compared to 1.3 percent). Those art majors who only completed the bachelor's degree were more likely to be employed in construction; those with a graduate degree were more likely to be employed in government.

Table VI-1
Narrow Arts Majors – Industry of Employment
by Gender and Highest Degree

	All	Male	Female	BA	>BA
Construction	3.1%	5.0%	1.3%	3.4%	2.2%
Education	17.4%	13.2%	21.0%	11.7%	33.1%
FIRE*	5.3%	4.8%	5.8%	5.8%	4.0%
Government	3.0%	3.3%	2.7%	2.8%	3.5%
Independent Artist	4.8%	5.4%	4.2%	4.6%	5.1%
Information	5.9%	6.8%	5.1%	6.6%	4.1%
Manufacturing	6.0%	7.1%	5.1%	7.0%	3.2%
Other Entertainment	6.6%	6.0%	7.1%	7.6%	3.7%
Other Industries	1.2%	1.2%	1.1%	1.3%	0.9%
Professional and Medical Services	29.2%	31.1%	27.6%	29.4%	28.9%
Transportation Services	5.9%	5.6%	6.1%	5.9%	5.9%
Wholesale and Retail Trade	11.7%	10.4%	13.0%	14.0%	5.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

By comparison, the distribution of employment across these same industries for those who graduated with bachelor's degrees in other creative majors (computer science and mathematics, education, engineering, science and social science), have some interesting similarities and some not so surprising differences (Table VI-2). The two industries with the largest concentration of other creative majors were the same as for the arts majors, professional services (28.6 percent) and education (26.3 percent), though the percentage in the

education industry was 50 percent greater for the other creative majors. Not surprisingly, the other creative majors were much less likely to have worked in the independent artist industry and the other entertainment industry. They were only one tenth as likely to have worked in the independent artist industry and about 40 percent as likely to have worked in the other entertainment industry. The other creative majors were more likely to have worked in four other industries: finance, government, manufacturing, and other. They were less likely to have done so in the remaining four: construction, information, transportation services, and wholesale and retail trade.

A comparison across the two majors by gender shows some differences in the distribution of industry of employment. Men with other creative majors were more heavily concentrated in manufacturing and government relative to women. Professional services, with the largest concentration of both types of majors, had roughly the same concentration of men and women in both arts and other creative majors. The relative concentration of women in education was greater for other creative majors. Although other creative majors showed differential penetration into several industries, the relative share of men and women in those industries was similar between both types of major.

Table VI-2
Other Creative Majors* – Industry of Employment by Gender

	All	Male	Female
Construction	2.5%	3.9%	0.7%
Education	26.3%	14.5%	41.2%
FIRE**	6.9%	8.0%	5.5%
Government	6.0%	6.8%	5.2%
Independent Artist	0.4%	0.4%	0.4%
Information	2.5%	2.9%	2.0%
Manufacturing	10.4%	14.8%	4.8%
Other Entertainment	2.8%	2.7%	2.8%
Other Industries	2.2%	2.9%	1.4%
Professional and Medical Services	28.6%	30.7%	26.1%
Transportation Services	4.5%	4.8%	4.1%
Wholesale and Retail Trade	6.8%	7.7%	5.8%
Total	100.0%	100.0%	100.0%

*Other Creative Majors are: computer science and mathematics; education; engineering; sciences; and social sciences.

**FIRE includes the finance, insurance and real estate industries.

Architecture

The most common industry of employment for the architecture majors is professional services, accounting for almost 55 percent of their total employment (Table VI-3). There was no other industry in which more than ten percent of architecture majors worked. Second was the construction industry, accounting for almost nine percent of the employment of the architecture majors. Three industries (education, wholesale and retail trade, and government) each accounted for between five and seven percent of the employment of architecture majors. Four industries each accounted for between three and five percent: finance, manufacturing, other entertainment, and transportation services. The remaining industries (independent artist, information, and other) each accounted for less than two percent. The independent artist industry accounted for the least at less than half a percent of the architecture majors.

The only considerable differences associated with the architecture majors' gender was associated with working in the construction and education industries. Male architecture majors were more than twice as likely as female majors to have been employed in construction, and they were half as likely to have been employed in education.

Table VI-3
Architecture Majors – Industry of Employment by Gender

	All	Male	Female
Construction	8.7%	10.5%	4.2%
Education	6.5%	5.1%	10.3%
FIRE*	4.9%	4.6%	5.4%
Government	5.6%	5.4%	6.1%
Independent Artist	0.5%	0.5%	0.4%
Information	1.4%	1.4%	1.4%
Manufacturing	3.8%	3.8%	3.5%
Other Entertainment	3.4%	3.2%	3.9%
Other Industries	1.4%	1.4%	1.4%
Professional and Medical Services	54.7%	54.8%	54.4%
Transportation Services	3.0%	3.1%	2.9%
Wholesale and Retail Trade	6.1%	6.1%	6.1%

Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Fine Arts

Approximately one-quarter of fine arts majors work in professional services, the largest concentration in any industry. Another 20 percent work in education. Almost 15 percent work in wholesale and retail trade. No other industry accounts for more than 10 percent of fine arts majors. Five industries each employed between five and seven percent of fine arts majors: finance, information, manufacturing, other entertainment, and transportation services. Three industries each accounted for between two and five percent of the employment of fine arts majors: construction, government, and independent artists.

Male fine arts majors were four times more likely to have worked in construction and almost twice as likely to have worked in manufacturing. Female fine arts majors were fifty percent more likely to have worked in education. In most of the remaining industries there was very little difference in representation by gender.

Table VI-4
Fine Arts Majors – Industry of Employment
by Gender

	All	Male	Female
Construction	2.7%	5.1%	1.1%
Education	19.3%	14.3%	22.7%
FIRE*	5.2%	4.5%	5.8%
Government	2.9%	2.8%	3.0%
Independent Artist	4.7%	5.7%	4.0%
Information	5.8%	6.8%	5.0%
Manufacturing	7.0%	9.4%	5.4%
Other Entertainment	7.0%	6.6%	7.4%
Other Industries	1.5%	1.6%	1.4%
Professional and Medical Services	24.6%	23.8%	25.1%
Transportation Services	5.7%	5.7%	5.7%
Wholesale and Retail Trade	13.5%	13.8%	13.2%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Drama and Theatre Arts

Almost one-fifth of drama and theatre arts majors work in professional services, with an equal percentage works in education (Table VI-5). Next are other entertainment (12.0 percent) and independent artists (11.3 percent). Following that are information and wholesale and retail trade, each accounted for about nine percent of the majors. Between six and seven percent of drama and theatre arts majors work in finance and transportation services. Each of the remaining industries (construction, government, manufacturing, and other) account for less than three percent of the employment of these majors.

Differences by gender in industry participation were slight in five industries: finance, government, other entertainment, other, and professional services. On the other hand male drama and theatre arts majors were four times more likely to have worked in the construction industry. Male drama and theatre arts majors were 25 percent more likely to have worked in information, and 20 percent more likely to have worked in independent artists. Female majors were 25 percent more likely to have worked in education.

Table VI-5
Drama and Theatre Arts Major – Industry of Employment by Gender

	All	Male	Female
Construction	1.2%	2.1%	0.5%
Education	19.1%	16.2%	21.2%
FIRE*	6.3%	6.5%	6.2%
Government	2.4%	2.6%	2.3%
Independent Artist	11.3%	12.9%	10.1%
Information	9.3%	10.8%	8.3%
Manufacturing	2.9%	3.4%	2.5%
Other Entertainment	12.0%	12.0%	12.0%
Other Industries	0.7%	0.6%	0.7%
Professional and Medical Services	19.1%	18.1%	19.8%
Transportation Services	6.8%	5.5%	7.7%
Wholesale and Retail Trade	8.9%	9.5%	8.6%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Music

Fully one-third of those who graduated with degrees in music work in education (Table VI-6). Professional services jobs accounted for approximately sixteen percent of music majors. About eleven percent of music majors work in transportation services. The two arts industries combined accounted for about fifteen percent of the music majors' industry of employment (independent artist at 9.3 percent and other entertainment at 5.3 percent). All of the remaining industries each accounted for less than nine percent of music majors' employment.

Male music majors were more likely to have worked in four industries than female music majors: construction, independent artists, wholesale and retail trade, and other entertainment. There were two industries in which female music majors were more highly concentrated: education and professional services. The likelihood of male and female music majors having worked in four industries was very similar (finance, government, other, and transportation services). Male music majors were somewhat more likely to have also worked in the information and manufacturing industries.

Table VI-6
Music Major – Industry of Employment
by Gender

	All	Male	Female
Construction	1.1%	1.6%	0.5%
Education	33.2%	28.0%	38.9%
FIRE*	5.1%	5.1%	5.2%
Government	2.3%	2.5%	2.0%
Independent Artist	9.3%	11.2%	7.2%
Information	4.2%	5.2%	3.0%
Manufacturing	3.8%	4.6%	2.9%
Other Entertainment	5.3%	5.8%	4.8%
Other Industries	0.9%	0.9%	0.9%
Professional and Medical Services	16.0%	14.5%	17.6%
Transportation Services	10.6%	11.0%	10.1%
Wholesale and Retail Trade	8.4%	9.7%	7.0%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Visual and Performing Arts

Education employed the largest proportion of visual and performing arts majors, at just under 30 percent Table VI-7). Professional services was second, with 23 percent working in this industry. The two arts industries accounted for a little more than fifteen percent of the jobs held by graduates with this major; independent artists at 6.4 percent and other entertainment contained ten percent. The likelihood of having working in any one of the remaining industries was less than eight percent.

There were large gender-related differences in some of these industries. Male visual and performing arts graduates were five times more likely to have worked in the construction and other industries. Men were also twice as likely to work in information and manufacturing. Female visual and performing arts graduates were considerably more likely to have worked in the education industry and the other entertainment industry. Other industries in which male graduates were more likely to have worked were the finance, professional services, transportation services and wholesale and retail trade industries.

Table VI-7
Visual and Performing Arts Major – Industry of Employment
by Gender

	All	Male	Female
Construction	0.8%	1.9%	0.4%
Education	29.8%	19.5%	33.1%
FIRE*	5.9%	6.4%	5.8%
Government	1.7%	1.6%	1.8%
Independent Artist	6.4%	6.3%	6.5%
Information	5.3%	8.8%	4.2%
Manufacturing	3.0%	5.0%	2.4%
Other Entertainment	10.0%	8.1%	10.6%
Other Industries	1.0%	2.4%	0.5%
Professional and Medical Services	22.6%	24.9%	21.9%
Transportation Services	5.6%	6.3%	5.3%
Wholesale and Retail Trade	7.8%	8.6%	7.5%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Commercial Art and Graphic Design

Almost two-thirds of those who graduated with bachelors' degrees in commercial art and graphic design worked in just three industries, professional services (34.2 percent), wholesale and retail trade (18.2 percent) and manufacturing (11.1 percent), as can be seen in Table VI-8. Employment in the education industry accounted for almost nine percent. The share of graduates working in each of the other industries is less than six percent. This included the two arts related industries, independent artist (1.7 percent) and other entertainment (4.8 percent).

Male commercial art and graphic design majors were much more likely to work in construction (two times), independent artists (two times), information (50 percent) and manufacturing (two-thirds) than female majors. Female graduates were more likely to work in the education (50 percent more) and wholesale and retail trade (60 percent) industries. Other industries in which there was a smaller proportion of male than female commercial arts and graphic design graduates were finance and other entertainment. There was relatively little gender difference in the proportion of men and women work in the government, professional services, transportation services and other industries.

Table VI-8
Commercial Art and Graphic Design Major –
Industry of Employment
by Gender

	All	Male	Female
Construction	2.5%	3.4%	1.9%
Education	8.7%	6.7%	9.8%
FIRE*	5.4%	4.4%	6.0%
Government	2.1%	2.3%	2.0%
Independent Artist	1.7%	2.4%	1.2%
Information	5.3%	6.8%	4.5%
Manufacturing	11.1%	14.8%	8.9%
Other Entertainment	4.8%	4.3%	5.1%
Other Industries	1.1%	1.2%	1.1%
Professional and Medical Services	34.2%	35.8%	33.2%
Transportation Services	4.9%	4.5%	5.2%
Wholesale and Retail Trade	18.2%	13.4%	21.1%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Film, Video and Photographic Art

Almost half the film, video and photographic arts majors work in two industries: professional services (25.1 percent), and information (23.3 percent), as seen in Table VI-9. Slightly more than ten percent of these majors work in education, the smallest proportion of any of the narrow arts majors who work in this industry. Three industries - independent artist, other entertainment, and wholesale and retail trade, each contain from six to just under ten percent of these majors. The remaining industries (other, construction, government, transportation services, finance and manufacturing) each contain less than five percent.

Male film, video and photographic arts majors were more likely to work in construction, government, independent artists, information, and manufacturing. The largest differences are in construction, where men are five times as likely, and in information, where the differential is 40 percent. In five industries the proportion of female majors is larger. These are education, finance, other entertainment, professional services and transportation services. The largest differences were in education (50 percent more) and professional services (33 percent more).

Table VI-9
Film, Video and Photographic Arts Major –
Industry of Employment
by Gender

	All	Male	Female
Construction	1.5%	2.1%	0.4%
Education	10.4%	8.9%	12.8%
FIRE*	4.1%	3.8%	4.7%
Government	2.2%	2.5%	1.8%
Independent Artist	6.1%	6.7%	5.2%
Information	23.3%	26.6%	18.1%
Manufacturing	4.6%	5.3%	3.5%
Other Entertainment	8.0%	7.8%	8.4%
Other Industries	1.0%	1.1%	0.8%
Professional and Medical Services	25.1%	22.5%	29.2%
Transportation Services	4.0%	3.4%	5.0%
Wholesale and Retail Trade	9.7%	9.4%	10.2%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Art History

The largest proportion of art history majors are found in professional services (23.3 percent) with employment in education accounting for slightly less (21.3 percent). See Table VI-10. Other industries in which ten percent or more of these majors worked are wholesale and retail trade (15.3 percent) and other entertainment (10.4 percent). The proportion working in other industries ranges from one percent to almost 6.5 percent. Only 2.6 percent of those with the art history and criticism major worked in the independent artist industry.

Compared to other narrow arts majors, the impact of gender on the industry in which these majors worked is the smallest. There is essentially no difference in the proportion of male and female art history majors in other entertainment, other, transportation services and wholesale and retail trade. There are small differences in some industries where the proportion of male graduates is greater (government, independent artist, manufacturing and professional services) and where the proportion of female graduates is greater (finance and information). In only two industries are there considerable differences. In construction the proportion of male art history and criticism majors is almost three times greater; in education the proportion of female art history and criticism majors is almost 40 percent greater.

Table VI-10
Art History Major – Industry of Employment by Gender

	All	Male	Female
Construction	1.6%	3.2%	1.2%
Education	21.3%	16.7%	22.5%
FIRE*	6.4%	5.5%	6.7%
Government	3.5%	4.1%	3.3%
Independent Artist	2.6%	3.3%	2.4%
Information	5.1%	3.3%	5.5%
Manufacturing	3.6%	5.1%	3.2%
Other Entertainment	10.4%	11.1%	10.2%
Other Industries	0.9%	1.2%	0.9%
Professional and Medical Services	23.3%	25.7%	22.6%
Transportation Services	6.1%	5.9%	6.1%
Wholesale and Retail Trade	15.3%	15.0%	15.3%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Studio Arts

Both education and professional services have about 22 percent of those who majored in studio arts working in them (Table VI-11). The proportion working in wholesale and retail trade industry has the third highest concentration of studio arts graduates. Working in the two arts related industries accounts for almost fifteen percent of the employment of these majors (independent artist, 4.7 percent, and other entertainment, 9.5 percent). None of the other industries account for more than seven percent of the studio arts majors' employment.

Male studio arts majors are much more likely to work in construction (five times), manufacturing (60 percent more), and other entertainment (35 percent more). Female studio arts majors were considerably more likely to have worked in the education (30 percent more), professional services (25 percent more) and the wholesale and retail trade (15 percent more) industries. There was essentially no difference in the proportion of male and female studio arts major graduates who worked in government, other, and transportation services, and relatively little difference in finance, independent artists and information.

Table VI-11
Studio Arts Major – Industry of Employment
by Gender

	All	Male	Female
Construction	2.8%	5.8%	1.1%
Education	22.3%	18.9%	24.3%
FIRE*	5.0%	4.3%	5.4%
Government	2.4%	2.3%	2.5%
Independent Artist	4.7%	5.5%	4.2%
Information	4.3%	4.9%	3.9%
Manufacturing	6.6%	8.9%	5.3%
Other Entertainment	9.5%	11.5%	8.4%
Other Industries	0.8%	0.8%	0.8%
Professional and Medical Services	22.1%	19.1%	23.8%
Transportation Services	5.3%	5.3%	5.4%
Wholesale and Retail Trade	14.2%	12.9%	15.0%
Total	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

How Are the Other Creative Majors Distributed Across Industries?

The distribution of the five other creative majors across industries shows a greater degree of concentration for several of these majors, compared to the individual narrow arts majors (Table VI-12). Not surprisingly, the most concentrated are education majors; more than 60 percent worked in education. The science majors are most concentrated in professional services, which accounted for 45 percent of their jobs. Engineering majors are concentrated across two industries which account for almost 60 percent of their jobs: manufacturing (28.2 percent) and professional services (29.4 percent). Computer science majors are less concentrated, with 37 percent working in the professional services industry, thirteen percent in manufacturing and eleven percent in finance. The creative major in which the graduates were distributed across the industries in a fashion that was comparable to narrow arts majors is the social sciences major. While almost 30 percent worked in professional services, another almost 40 percent were distributed across three industries (education, 15.7 percent; finance, 12.7 percent; and government, 10.7 percent).

Table VI-12
Other Creative Majors - Industry of Employment

	Computer Science and Math	Education	Engineering	Sciences	Social Sciences
Construction	1.6%	1.1%	6.3%	1.6%	2.1%
Education	8.3%	63.1%	6.2%	16.7%	15.7%
FIRE*	11.3%	3.6%	5.2%	4.2%	12.7%
Government	5.6%	2.9%	5.2%	5.5%	10.7%
Independent Artist	0.3%	0.4%	0.2%	0.3%	0.7%
Information	6.8%	1.2%	2.9%	1.4%	3.2%
Manufacturing	12.6%	2.3%	28.2%	9.8%	4.9%
Other Entertainment	2.1%	2.5%	1.8%	2.7%	4.1%
Other Industries	2.0%	1.1%	4.6%	2.4%	1.6%
Professional and Medical Services	36.8%	12.5%	29.4%	45.4%	29.4%
Transportation Services	4.2%	4.3%	4.0%	3.1%	6.2%
Wholesale and Retail Trade	8.5%	5.1%	6.2%	6.8%	8.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

The proportion of other creative majors who work in particular industries is also affected by gender (Table VI-13). As with each of the narrow arts majors, the proportion of male other creative majors in construction, while small in absolute terms, much larger than the proportion of females. In construction, gender differences range from a low of two times greater for male computer science and engineering majors to seven times greater for male education majors. A lesser pattern exists for men in each of the creative majors with regard to employment in manufacturing. This relationship is similar to the gender distribution of narrow arts majors in manufacturing. Another relationship that holds for each of the narrow arts majors and other creative majors is that the proportion of women in education is larger than the proportion of men.

For the other creative majors, similar to narrow arts majors, the proportion of men who work in each of the remaining industries is not consistently smaller or larger. In many industry-major combinations the differences are slight or essentially nonexistent. For example, with the exception of the education majors, the proportion of male and female other creative majors who worked in the independent artist industry or in the other entertainment industry was essentially the same for both genders. In absolute terms, the proportion of other creative majors who worked in the independent artist industry, regardless of gender, was less than one-percent regardless of the major, and the proportion who had worked in the other entertainment industry ranged from only 1.7 percent to 4.3 percent.

Table VI-13
Other Creative Majors – Industry of Employment
by Major and Gender

	Computer Sci. & Math		Education		Engineering		Sciences		Social Sciences	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Construction	1.9%	0.7%	3.3%	0.4%	6.8%	3.0%	2.3%	0.6%	2.9%	0.9%
Education	7.1%	11.6%	50.5%	67.1%	5.5%	10.6%	14.0%	20.5%	12.0%	20.8%
FIRE*	10.8%	12.6%	4.7%	3.2%	5.1%	5.7%	4.5%	3.9%	14.6%	10.0%
Government	5.0%	7.2%	4.7%	2.3%	5.1%	5.8%	5.8%	5.1%	11.1%	10.3%
Independent Artist	0.3%	0.3%	0.7%	0.3%	0.2%	0.2%	0.3%	0.4%	0.8%	0.7%
Information	7.1%	6.0%	1.3%	1.2%	2.9%	2.8%	1.6%	1.2%	3.2%	3.3%
Manufacturing	13.5%	10.1%	4.8%	1.5%	28.9%	23.2%	11.4%	7.7%	6.1%	3.4%
Other Entertainment	2.0%	2.4%	3.3%	2.2%	1.7%	2.1%	2.5%	3.0%	4.0%	4.3%
Other Industries	1.8%	2.4%	2.0%	0.8%	4.7%	3.9%	2.8%	1.8%	1.7%	1.4%
Professional & Medical Serv.	37.6%	34.3%	10.6%	13.0%	28.9%	33.0%	44.6%	46.5%	27.5%	31.9%
Transportation Services	4.2%	4.3%	6.4%	3.7%	4.0%	3.6%	3.2%	2.9%	6.4%	5.8%
Wholesale and Retail Trade	8.6%	8.1%	7.5%	4.4%	6.3%	6.1%	7.0%	6.5%	9.7%	7.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*FIRE includes the finance, insurance and real estate industries.

Art and Other Creative Majors – Penetration into Industries

This section provides information on the share of each industry's employment accounted for by workers whose undergraduate degrees were either among the nine narrow arts majors or the five other creative major groups (Table VI-14).

The only industry in which arts majors accounted for more than ten percent of the total working in it is independent artists. Thirteen percent of those who had worked in this industry during the 2009-2011 period had undergraduate art majors. The proportion of female arts majors as a percentage of all the women who work in the industry is about 25 percent higher than the proportion of males. There were only two other industries in which arts majors accounted for more than two percent of the total number working in those industries: education, with almost three percent narrow arts majors, and information, with almost four percent narrow arts majors. The proportion of female arts majors who work in education is slightly lower than the proportion of male arts majors. The opposite is true in the information industry. Narrow arts majors account for between one and two percent of those who had worked in five of the industries: finance, other, professional services, transportation services and wholesale and retail trade. In all but the professional services industry, female art majors are a larger share of the total number of females who worked in the industry than male art majors.

The other creative majors, consisting of more college graduates, account for larger shares of those who had worked in each of the industries, except for the independent artist industry. These majors accounted for more than one-third the employment in the education industry; with female other creative majors having a slightly larger share of the female employment in the industry than the male other creative majors have relative to the male employment. In each of five industries the other creative majors accounted for between ten and sixteen percent of the industry's workers. These industries were finance, government, information, manufacturing and professional services. In each of these industries, male other creative majors accounted for a larger share of male employment than did female other creative majors. In several of the industries the gender difference was quite considerable. The proportion of men in finance is double that of women. In professional services, the proportion of men is more than double that of women. In the remaining industries - construction, independent artists, other entertainment, other, transportation services and wholesale and retail trade, the share of other creative majors was less than ten percent of total employment in the industry.

Table VI-14
Creative Majors – Share of Employment
by Industry and Gender

Industry	**Narrow Arts Majors**			**Other Creative Majors**		
	All	Male	Female	All	Male	Female
Construction	0.6%	0.5%	1.7%	4.4%	4.2%	6.5%
Education	2.8%	3.2%	2.6%	35.6%	34.8%	36.0%
FIRE*	1.2%	1.1%	1.2%	12.9%	18.6%	8.3%
Government	0.9%	0.9%	1.0%	15.5%	17.5%	13.0%
Independent Artist	13.4%	12.0%	15.5%	9.8%	9.6%	10.1%
Information	3.9%	3.7%	4.2%	14.1%	16.0%	11.6%
Manufacturing	0.8%	0.6%	1.2%	11.9%	13.4%	8.3%
Other Entertainment	0.4%	0.9%	1.1%	3.7%	4.2%	3.2%
Other Industries	1.1%	0.3%	0.6%	6.3%	6.7%	5.6%
Professional and Medical Services	1.8%	2.3%	1.4%	14.6%	23.1%	9.4%
Transportation Services	1.0%	0.7%	1.3%	6.1%	6.0%	6.1%
Wholesale and Retail Trade	1.2%	0.9%	1.5%	5.7%	6.6%	4.6%

*FIRE includes the finance, insurance and real estate industries.

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