

The Demographics of Arts Participation in a Pre-Pandemic Year

Background

This summary report is based on data from the 2020 Arts Basic Survey (ABS), which was designed by the National Endowment for the Arts and fielded by the U.S. Census Bureau as a supplement to the Current Population Survey. Because the survey's question-items cover the 12-month period ending in February 2020, they afford a unique picture of U.S. demographic characteristics related to arts participation immediately prior to the pandemic. Also based on the 2020 ABS, [a companion report covers arts participation rates at the state level](#).

The present report considers factors such as gender, educational attainment, and metropolitan status as they pertain to adults who participated in the arts by attending events, reading literature, using devices to listen to, watch, or download arts content, and/or creating or performing artworks.

Also included in this report is an examination of arts participation rates by race and ethnicity. Previous NEA research reports have reported data on this demographic variable, as regards arts participation, but those reports had not examined the degree to which race/ethnicity might alter participation patterns, after controlling for other factors.

The new analysis finds that although fewer non-whites than whites report engaging with the arts activities listed in the survey, once factors such as educational attainment are considered, race and ethnicity hold little to no predictive value for arts participation.

Data tables supporting this report are available at the [National Archive of Data on Arts and Culture \(NADAC\)](#).

Executive Summary

All U.S. Adults

- During the 12-month period ending in February 2020, 32.2 percent of U.S. adults (or 80.2 million people) attended a live music, theater, or dance performance of any kind.
- A similar proportion of adults (30.8 percent, or 75.5 million people) toured a building, neighborhood, park, or monument for their historical or architectural and design value.
- Approximately 20 percent of U.S. adults (or 49.8 million) attended a visual art exhibit of works such as paintings, sculptures, photographs, or pottery objects.
- Forty percent (or 97 million adults) read literature, referring to novels and short stories, poetry, or plays.
- 55.3 percent of adults (134.4 million) used devices to listen to, watch, or download arts content such as music, theater and dance performances, and creative writing.
- During the period considered, nearly 10 percent of adults (23.7 million) reported playing a musical instrument.
- Nearly 8 percent (19.5 million) performed or practiced singing.
- Taking photographs for artistic purposes is among the most popular forms of personal art creation tracked by the ABS: one in ten U.S. adults (10.4 percent, or 25.6 million) engaged in this activity.

Gender

- Women are more likely than men to do the following activities: attend a live performing arts event; go to experience a visual art exhibit; read works of literature (i.e., novels/short stories, poetry, or plays); perform or practice singing; or take photographs for artistic purposes.
 - During the 12 months ending in February 2020, 34.4 percent of women attended at least one live music, theater, or dance performance of any kind. For men, the rate was 29.9 percent.
 - Nearly 46 percent of women—versus 33 percent of men—read literature.
- In contrast, men are more likely than women to play a musical instrument.
 - In 2020 (pre-pandemic), nearly 12 percent of men reported playing a musical instrument. The share of women doing this activity was just below 8 percent.

Age

- Among adults, all age groups attend live performing arts events and visual art exhibits at roughly the same rate—with the exception of the nation's oldest adults (75 years or older).
 - Adults aged 75 years and older attended live performing arts events and visual art exhibits at a rate of 24.2 percent and 13.3 percent, respectively. For adults of all other age groups, the corresponding rates were approximately 32.2 percent and 20.2 percent.
 - Yet the 75-years-and-older group was just as likely as younger adults to practice or perform singing (at a roughly 7 percent rate).

- 18-to-24-year-olds make visual art and do creative writing at the highest rates.
 - Over the period considered, 4.9 percent of all adults did creative writing that included fiction, nonfiction, poetry, or plays, and 8.1 percent made visual art. For 18-to-34-year-olds, those respective rates were 8.3 percent and 13.0 percent.

Education

- For many of the art forms tracked by the 2020 ABS, participation is greatest among college-educated adults.
 - In pre-pandemic 2020, 32.2 percent of adults aged 25 and older reporting having attended a live music, theater, or dance performance over the past year. For those who had a bachelor's degree or higher level of education, the share attending was 48.2 percent—a 16-point difference.
 - 13.9 percent of adults with a bachelor's degree or graduate training reported playing a musical instrument. This rate was 4.6 percentage points greater than the overall share of adults playing an instrument (9.6 percent).

Living in Urban Versus Rural Areas

- Urban adult residents engage in many forms of arts participation at higher rates than do rural residents. Exceptions are: doing leatherwork, metalwork, or woodwork; engaging in textile arts; singing; and musical-instrument playing.
 - 21.4 percent of adults living in urban (i.e., metro) areas attended a visual art exhibit in the pre-pandemic period of February 2019 to February 2020. For adults in rural or non-metro areas, the attendance rate was just 12.1 percent.
 - 56.9 percent of adult urban dwellers used devices to watch, listen to, or download music and other arts content. In rural areas, 44.8 percent used devices to do this.
 - Leatherwork, metalwork, or woodwork—as well as engaging in textile arts such as weaving, crocheting, and quilting—are activities somewhat more popular in rural than in urban settings.
 - In rural areas, 8.5 percent of adults did leatherwork/metalwork/woodwork; in urban areas, the percentage was 6.2 percent.
 - 11.3 percent of rural adults engaged in textile arts, compared with 8.9 percent of urban adults
 - There is no significant difference between the share of urban and rural dwellers who play a musical instrument (roughly 9 percent of both groups), or who perform or practice singing (roughly 8 percent).

Race and Ethnicity

- In the year ended February 2020, non-Hispanic whites participated in many of the forms of arts participation captured by the ABS at higher rates than did people of other races and Hispanics. There are, however, exceptions to this pattern.
- Roughly 20 percent of both Asians and whites attended a visual art exhibit.
- Virtually the same percentage (7-8 percent) of Blacks/African Americans, Asians, and whites performed or practiced singing.

- The proportion of non-Hispanic, non-white adults using devices to consume arts content was comparable to that of non-Hispanic whites—53 to 58 percent.
 - Among racial/ethnic groups, only Hispanics used devices to do these activities at a significantly lower rate than did whites—48.9 percent.
- The comparatively low rates of arts participation for Blacks/African Americans and Hispanics are partially offset after one accounts for differences in education level between these groups.
 - A regression model controlling for factors such as gender, education, and age found little to no significant difference—among between Black/African Americans, Hispanics, and whites— in rates for attending a live music, theater, or dance performance.

The following narrative is based on findings from the 2020 Arts Basic Survey (ABS), a short-form edition to the Survey of Public Participation in the Arts (SPPA), which typically has been conducted on a five-year basis.¹

The 2020 ABS captured arts participation involving activities such as attendance at live performing arts events and at visual art exhibits, touring sites for their historical or architectural and design value, reading literature, and using devices to consume arts content.

Like the SPPA, the ABS also captures participation in arts activities such as the personal creation and performance of artworks. These activities include: playing a musical instrument; performing or practicing singing; doing creative writing; making films or photographs for artistic purposes; working with pottery or ceramics, or creating jewelry; creating visual art such as paintings or sculptures; doing weaving, crocheting, sewing, or other textile arts; and doing leatherwork, metalwork, or woodwork.

For this analysis, selected forms of arts participation are examined by the following demographic and socioeconomic characteristics: (1) gender; (2) educational attainment; (3) urban/rural status, defined as metropolitan statistical areas and non-metropolitan statistical areas; and (4) race and ethnicity.

The race and ethnicity categories reported are: (1) non-Hispanic, Asian, alone (referred to in this report as “Asian”); (2) non-Hispanic, Black, alone (referred to as “Black/African American”); (3) Hispanic, of any race; (4) non-Hispanic, “other races”; and (5) non-Hispanic white, alone (referred to here as “white”).

“Non-Hispanic, “other races,” in turn, include: American Indian and Alaskan native, alone; Hawaiian and Pacific Islander, alone; and people of two or more races.

In this report, differences in arts participation by demographic and socioeconomic factors were tested at 90 percent confidence.

¹ The Arts Basic Survey and the Survey of Public Participation in the Arts are supplements to the monthly Current Population Survey, conducted by the U.S. Census Bureau, and sponsored by the U.S. Bureau of Labor Statistics. The most recent [SPPA was conducted in 2017](#).

Arts Participation by Selected Demographic and Socioeconomic Characteristics

Gender

While women tend to participate in the arts at higher rates than men do, there are exceptions to this pattern.

For example, men and women are equally likely to tour sites for their historic, architectural, or design value. Men and women also use devices to watch, listen to, or download music, theater, dance, or other art forms at similar rates.

In the 12 months ending in February 2020, approximately 30 percent of men and women did this kind of touring; 55 percent of both sexes used devices to watch, listen to, or download arts content.

Men are more likely than women to play a musical instrument. The 2020 ABS shows that 11.7 percent of men played an instrument, compared with 7.6 percent of women.

And while the difference between the shares of men and women doing creative writing (e.g., fiction, non-fiction, poetry) is “statistically significant,” it is, nonetheless, small. In 2020, 4.3 percent of men did creative writing. For women, the share was somewhat greater—5.5 percent.

Apart from these few examples, however, higher percentages of women than men engage in many of the arts activities tracked by the 2020 ABS. These activities include attending live performing arts events, seeing visual art exhibits, and reading literature—e.g., novels and short stories, poetry, and plays.

In 2020, 34.4 percent of women went to a live music, theater, or dance event, versus just under 30 percent of men; the rate at which women saw visual art exhibits exceeded the rate for men by 4 percentage points. Additionally, 45.9 percent of women reported reading literature. The comparable share for men was 33.4 percent.

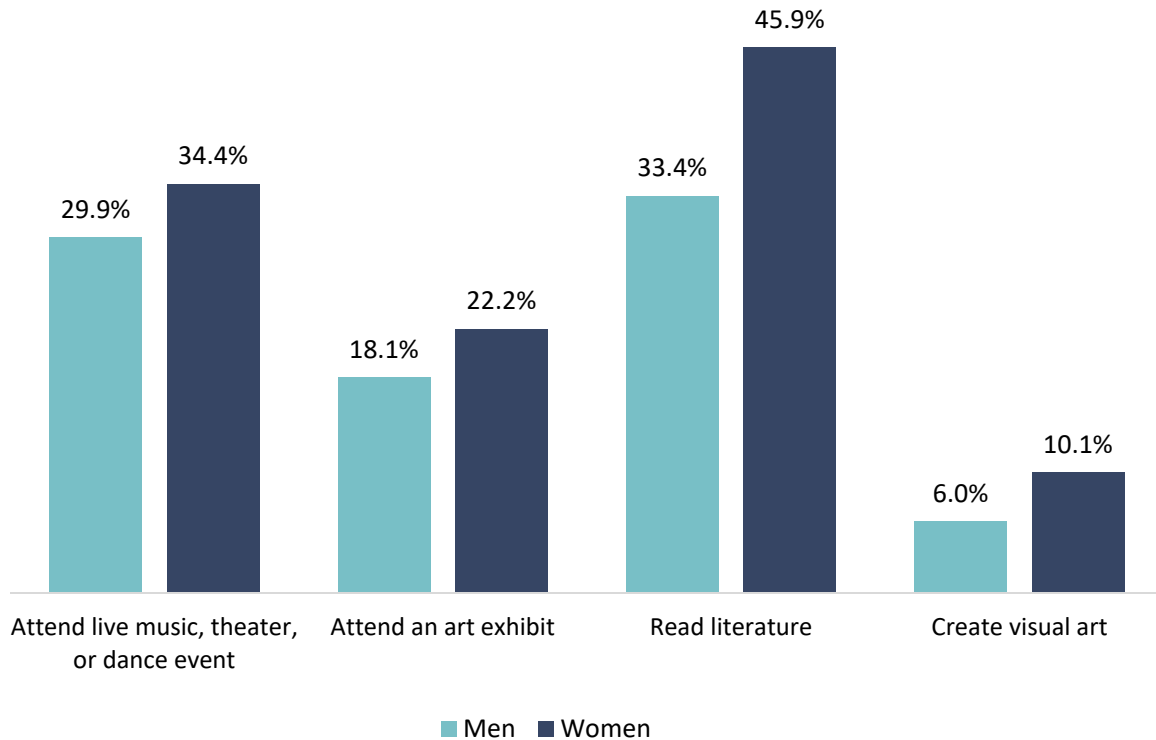
Compared with men, women are also more likely to perform or practice singing, take photographs (for artistic purposes), or create visual art such as paintings.

In 2020, 11.2 percent of women took artistic photographs (vs. 9.5 percent of men); by gender, the share of adults who performed or practiced singing was 8.7 percent of women and 7.0 percent of men.

The rate at which women create visual art is more than 4 percentage points greater than that for men.

Two activities tracked by the 2020 ABS that exhibit gender splits in participation are: doing leatherwork/metalwork/woodwork; and engaging in weaving, crocheting, sewing, and other textile arts. For the former type of activity, 10.4 percent of men participated, versus 2.9 percent of women; for the latter, 16.1 percent of women did these activities, compared with just 1.9 percent of men.

Figure 1. Percent of U.S. adults who participate in selected arts activities, by gender: 2020



Note: Differences between men and women's participation rates are significant at 90 percent confidence.

Source: 2020 Arts Basic Survey, National Endowment for the Arts

Age

In addition to gender, age is a demographic factor exhibiting distinct patterns of arts participation.

For example, although the percentage of adults attending live performing arts events and visual art exhibits is nearly the same for all age groups, that rate diminishes for ages 75 and older. This group of adults, however, is just as likely as younger adults to perform or practice singing.

Adults 65 to 74 are more likely than younger—or older—adults to read literature.

Moreover, the share of adults who do textile arts such as weaving and crocheting is comparatively low for young adults, but rises with people aged 55 and older.

Other forms of arts participation, including playing a musical instrument, taking photographs or creating visual art such as painting, and doing creative writing, are more commonly done by younger adults.

In 2020, approximately 32 percent of adults went to a live music, theater, or dance performance. After considering the ABS's survey design, this rate generally applies to all age groups, except for those 75 and older. In pre-pandemic 2020, 24.2 percent of adults in this age group went to a live performing arts event.

A similar pattern is seen in attendance at art exhibits. For most age groups, the share attending is roughly 20 to 22 percent—though the rate for 18-to-24-year-olds reached 24 percent. For adults 75 and older, the share attending exhibits was significantly lower—13.3 percent.

Overall, 30.8 percent of adults went to see buildings, neighborhoods, parks, or monuments for their historical, architectural, or design value.

For adults aged 25 to 44, however, the share doing this type of activity reached roughly 35 percent.

Nearly 66.7 percent of adults aged 18 to 24 used devices to consume art. That rate was significantly greater than the share of adults 45 and older who consumed art via devices.

The survey also shows that 8.3 percent of adults aged 18 to 24—and 6.1 percent of people 25 to 34—did creative writing such as fiction, non-fiction, and poetry. Those rates were significantly greater than reported by people 35 and older. Similarly, roughly 13 percent of adults 18-34 took photographs for artistic purposes. The percentage of all adults who did so was 10.4 percent.

Another way of understanding the younger-age profile of adults who engaged in creative writing and photography is to consider the median age of these participants—which is 38 and 41, respectively. In comparison, the typical age of adults who attended live performing arts events was 46; it was 45 for adults who went to a visual art exhibit. (*See table below.*)

One activity tracked by the ABS showed no significant variation by age—the activity of performing or practicing singing. In the pre-pandemic months of February 2019 to February 2020, 7.9 percent of adults engaged in singing. That rate was largely the same for all age groups, once the survey's design was considered.

Two activities captured by the ABS are more popular among adults 65 and older—reading literature and doing weaving, crocheting, sewing, and other textile arts activities.

The literary-reading rate for adults aged 65 to 74 was significantly greater than for all other age groups (including people 75 and older).

According to the ABS, 45.8 percent of adults in this age group read novels, short stories, poetry, or plays. The corresponding reading rate for all other age groups was lower.

The proportion of adults under age 55 who did weaving and other textile arts was roughly 5 to 8 percent. For people 55 and older, the share doing those activities ranged from 11 to 14 percent.

For the year ending in February 2020, the median age of literature readers was 48, and for adults creating textile arts, it was 56.

Table 1. Median age of arts participants: 2020

	Participation rate, all ages	Median age of participants	Summary
Selected arts participation activity:			
Attend a live music, theater, or dance performance	32.2%	46	Attendance rates similar for all adult age groups, except for those 75 and older, whose attendance rate was 24.2%.
Attend a visual art exhibit	20.2%	45	Attendance rates similar for all adult age groups, except for those 75 and older, whose attendance rate was 13.3%.
Visit buildings, neighborhoods, parks, or monuments for their historic or architectural/design value	30.8%	44	Highest attendance rates for adults ages 25-44 (approximately 35 percent), and significantly greater than rates for all other age groups.
Read novels, short stories, poetry, or plays	39.9%	48	The literature- reading rate for adults ages 65-74 (45.8%) significantly greater than for adults in all other age groups.
Use a device to watch, listen to, or download art content	55.3%	43	For adults 18 to 24, the rate using devices to consume arts programming/information was 66.7%, significantly greater than rates for people 45 and older.
Do leatherwork, metalwork, or woodwork	6.5%	49	Most popular with adults ages 35-44, and also with people ages 55-74 (7% to 8% participation rate for these age groups.)
Do weaving/crocheting ³	9.2%	56	Participation rates of 11% or greater for adults ages 55 and older.
Play a musical instrument	9.6%	43	Participation rate of nearly 12 percent for adults ages 25-34, significantly greater than all adults 45 and older.
Perform or practice singing	7.9%	47	Similar participation rates for all age groups.
Take photographs for artistic purposes	10.4%	41	Percent of adults ages 25-34 taking photographs (13.3%), significantly greater than rates for adults 35 and older.
Create visual art	8.1%	37	Percent of adults 18-34 creating visual art (11% to 13%) significantly greater than for adults 35 and older.
Creative writing	4.9%	38	Percent of adults 18-34 creating visual art (6% to 8%) significantly greater than for adults 35 and older.

Note: Summary items refer to statistically significant differences at 90 percent confidence.

³ Includes: Weaving; crocheting; quilting; needlepoint; knitting; and sewing.

Source: 2020 Arts Basic Survey, National Endowment for the Arts

Educational Attainment

As with previous analyses on this subject, the 2020 Arts Basic Survey shows a positive relationship between educational attainment and arts participation.

The share of adults attending live music, theater, and dance performances, for example, was 32.0 percent in pre-pandemic 2021-2020 (ages 25 and older). For adults with a bachelor's degree or higher level of education, the share attending was more than 16 percentage points greater—48.2 percent.

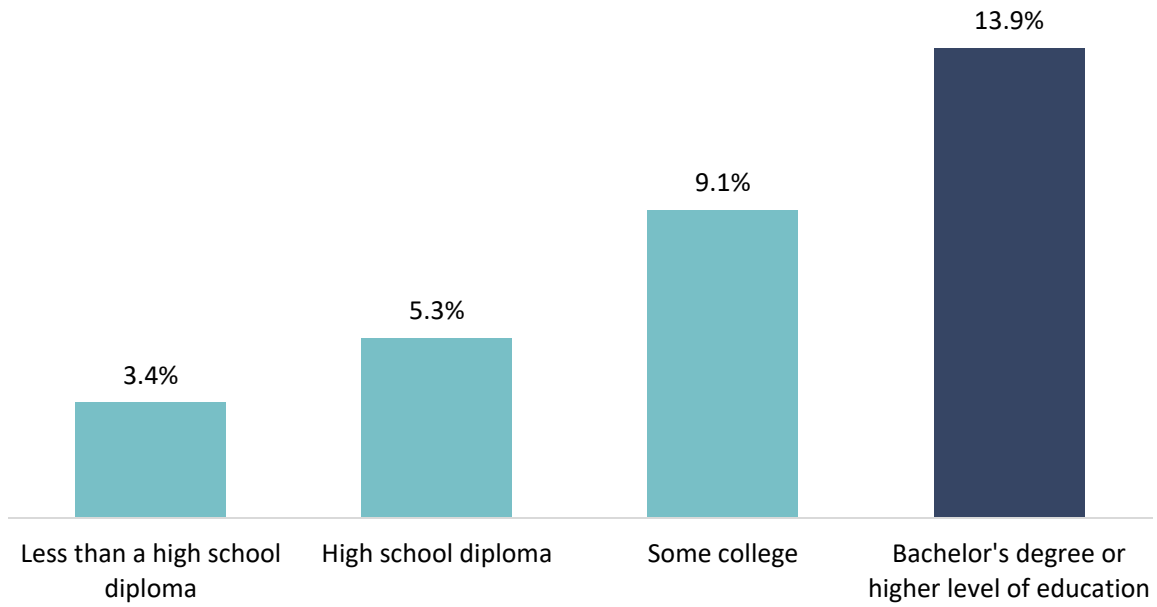
A strong association between education and participation is also evident in: attendance at visual art exhibits; touring sites for their historical or architectural/design value; reading literature; playing a musical instrument; and taking photographs for artistic purposes.²

The share of adults who performed or practiced singing was also greater for those with college training, as were the percentages of adults creating leatherwork/metalwork/leatherwork or weaving, crocheting, and doing other textile arts activities.

For example, 7.7 percent of adults (ages 25 and older) performed or practiced singing. For those whose highest level of educational attainment was less than a high school diploma, the share singing was significantly lower—4.3 percent.

² The share of adults who do creative writing also rises sharply with educational attainment. However, the coefficient of variation for the share of adults with less than a high school diploma who do creative writing (ages 25 and older) exceeds 30 percent, the cutoff level indicating that an estimate is unreliable.

Figure 2. Percent of U.S. adults who play a musical instrument, by educational attainment: 2020
(Ages 25 and older)



Note: Differences are statistically significant at 90 percent confidence.
Source: Arts Basic Survey, National Endowment for the Arts

When Were They Active? Findings from the American Time Use Survey

The U.S. Bureau of Labor Statistics' American Time Use Survey (ATUS) can also be used to profile arts participants. Unlike the ABS, which references a 12-month period, the ATUS reports arts participation (and other activities people ages 15 and older engage in) on an average day.

For example, on the average day in 2015-2019, 1.4 million people attended a performing arts event and more than 600,000 visited a museum. Just over 49 million read for personal interest, while 812,000 did writing for personal interest. The ATUS reports that nearly 3.7 million people engaged in arts-and-crafts hobbies on a typical day in 2015-2019.

The ATUS can also be used to track the time of day participants engage in arts activities. Among people attending performing arts events, the share peaks between 8:00 and 9:00 in the evening, while museum attendance hits its highest rate between 1:00 and 2:00 in the afternoon.

For people who do arts and crafts, participation rises throughout the morning and peaks at nearly 25 percent between 3:00 and 4:00 in the afternoon.

The share of those writing for personal interest hits a high at 9:00 a.m., then falls throughout the day. It again peaks between 8:00 and 9:00 p.m. when approximately 20 percent of people 15 and older are writing for personal interest engage in this activity.

For those reading for personal interest, participation is generally below 14 percent until 7:00 in the evening. The share peaks at 9:00, when roughly 25 percent of readers are engaging in this activity.

Notes

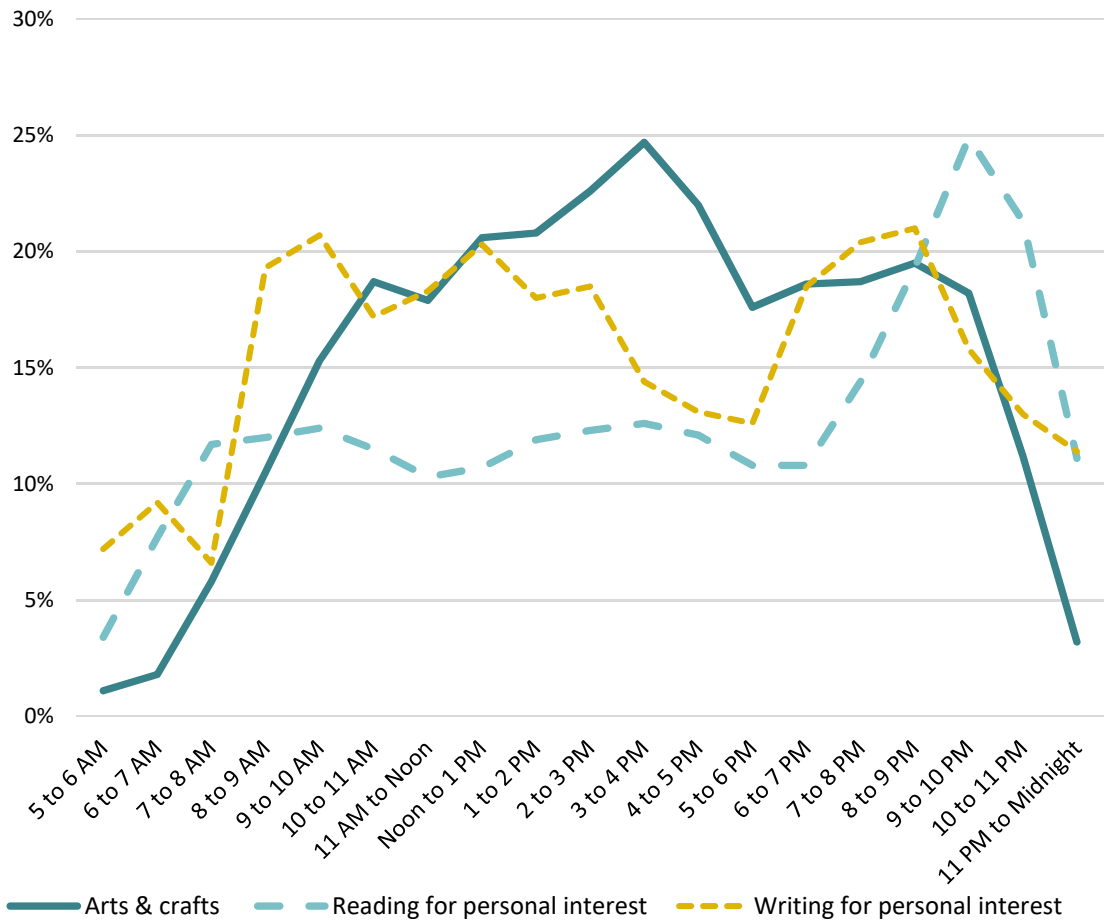
Arts and crafts include: Scrapbooking; making holiday decorations; film/video making; taking photographs; jewelry making; doing pottery and woodworking; doing artistic painting, sculpting, sketching, and drawing.

Writing for personal interest includes: Writing lyrics; writing stories; writing in a diary.

Reading for personal interest includes: Reading magazines, books, and newspapers; listening to books on tape; reading on a Kindle or other e-reader; borrowing and returning books from a library.

The detailed BLS-published estimates used for this analysis do not distinguish between weekdays and weekends. However, the Bureau's basic set of ATUS tables show that people ages 15 and older spend more time engaged in non-sports entertainment attendance—e.g., attendance at a performing arts event, museum, flower show, or amusement park—on weekends than on weekdays. In 2019, for example, ATUS shows that on an *average weekday*, 2.1 percent of people ages 15 and older attended a non-sports entertainment event; on an *average weekend*, 5.2 percent attended. For more information, see the BLS' [Table A-2A. Time spent in detailed primary activities and percent of the civilian population engaging in each activity, averages per day on weekdays and weekends, 2019 annual averages, total](#).

Figure 3. Percent of people doing arts & crafts and reading and writing for personal interest, by time of day: 2015-2019



Data source: American Time Use Survey, U.S. Bureau of Labor Statistics

Metropolitan Status

The basic concept of a metropolitan statistical area is one of a core urban area (a county or county equivalent) of 50,000 or more in population, plus adjacent counties having a high degree of social and economic integration with the core.³

Metropolitan statistical areas vary in population size from small areas such as Carson City, Nevada (pop. 55,916) and Enid, Oklahoma (pop. 61,056), to the largest metros such as Greater Atlanta (pop. 6.0 million) and the New York City metro (pop. 19.2 million).⁴

In 2019, 86.2 percent of the U.S. population lived in metropolitan statistical areas.

In this analysis of the 2020 ABS, metropolitan statistical areas are referred to as “urban” areas, while areas outside metropolitan statistical areas are considered “rural.”

The ABS shows that adults residing in urban/metro areas are more likely than rural dwellers to engage in a number of activities captured by the survey, including: attending live performing arts events; visiting visual art exhibits, reading literature, and taking photographs for artistic purposes.

In pre-pandemic 2021-2020, for example, 33.6 percent of adults residing in metro areas attended a live music, theater, or dance event. The corresponding share of those living in non-metro/rural areas was nearly 10 percentage points lower.

The urban-over-rural differential in seeing visual art exhibits was more than 9 percentage points.

Still, some forms of arts participation are more popular in rural rather than in urban areas. Doing leatherwork, metalwork, and woodwork, as well as engaging in textile arts such as weaving, crocheting, and knitting, are activities with greater participation in rural, non-metro areas than in urban areas.

For example, 8.5 percent of rural residents did leatherwork/metalwork/woodwork, and 11.3 percent did textile activities such as weaving, crocheting, etc. The respective urban participation rates for those activities were 6.2 percent and 8.9 percent, respectively.

Additionally, in urban versus rural areas, there was no statistically significant difference between the shares of adults who played a musical instrument—roughly 9 percent.

Similarly, approximately 8 percent of adults living in both urban and rural areas reported performing or practicing singing in 2020 (pre-pandemic).

³ For more information, see the [U.S. Census Bureau’s glossary on this subject](#).

⁴ Population estimates are for 2019. [Annual Estimates of the Resident Population for Metropolitan Statistical Areas in the United States and Puerto Rico: April 1, 2010 to July 1, 2019 \(CBSA-MET-EST2019-ANNRES\)](#), U.S. Census Bureau.

Race and Ethnicity

As with previous waves of the long-form Survey of Public Participation in the Arts, the 2020 ABS reports that non-Hispanic whites are generally more likely than non-white or Hispanic adults to engage in many of the arts activities referenced.

For example, 37.3 percent of non-Hispanic whites attended a live music, theater, or dance event. That rate was more than 16 points greater than the percentage of Hispanics attending, and 12 points above the Black attendance rate.

Compared with Hispanics and Blacks/African Americans, whites were also more likely to attend visual art exhibits, read literature, and take photographs.

Asians were less likely to attend live performing arts events or to read literature than were whites. Over the period considered, 25.2 percent of Asian adults went to performances. That rate was 12.5 percentage points lower than the percentage of whites attending. While 46.2 percent of whites read literature—novels/short stories, poetry, or plays—the share of Asians reading works of literature was 34.1 percent.

There are, however, exceptions to the pattern of whites participating in the arts at higher rates than did non-whites.

Asians and whites, for example, are equally likely to attend visual art exhibits. After considering the ABS sample design, the survey shows that roughly 20 percent of adults in both race groups attended in the pre-pandemic months of February 2021 to February 2020.

Asian adults, as well as adults of “other” races (e.g., American Indian/Alaskan Native, Hawaiian/Pacific Islander, and people of two or more races), are generally as likely as whites to play a musical instrument (once the ABS survey design is considered). Blacks and Hispanics however, are less likely to play musical instruments than are whites.

During the year that ended in February 2020, approximately 10 to 11 percent of whites, Asians, and adults of “other races” played a musical instrument. For Blacks/African Americans and Hispanics, the share was approximately 6 percent.

Performing or practicing singing is equally popular among Black, Asian, and white adults. Over the period considered, 7 to 8 percent of adults in each race group did singing.

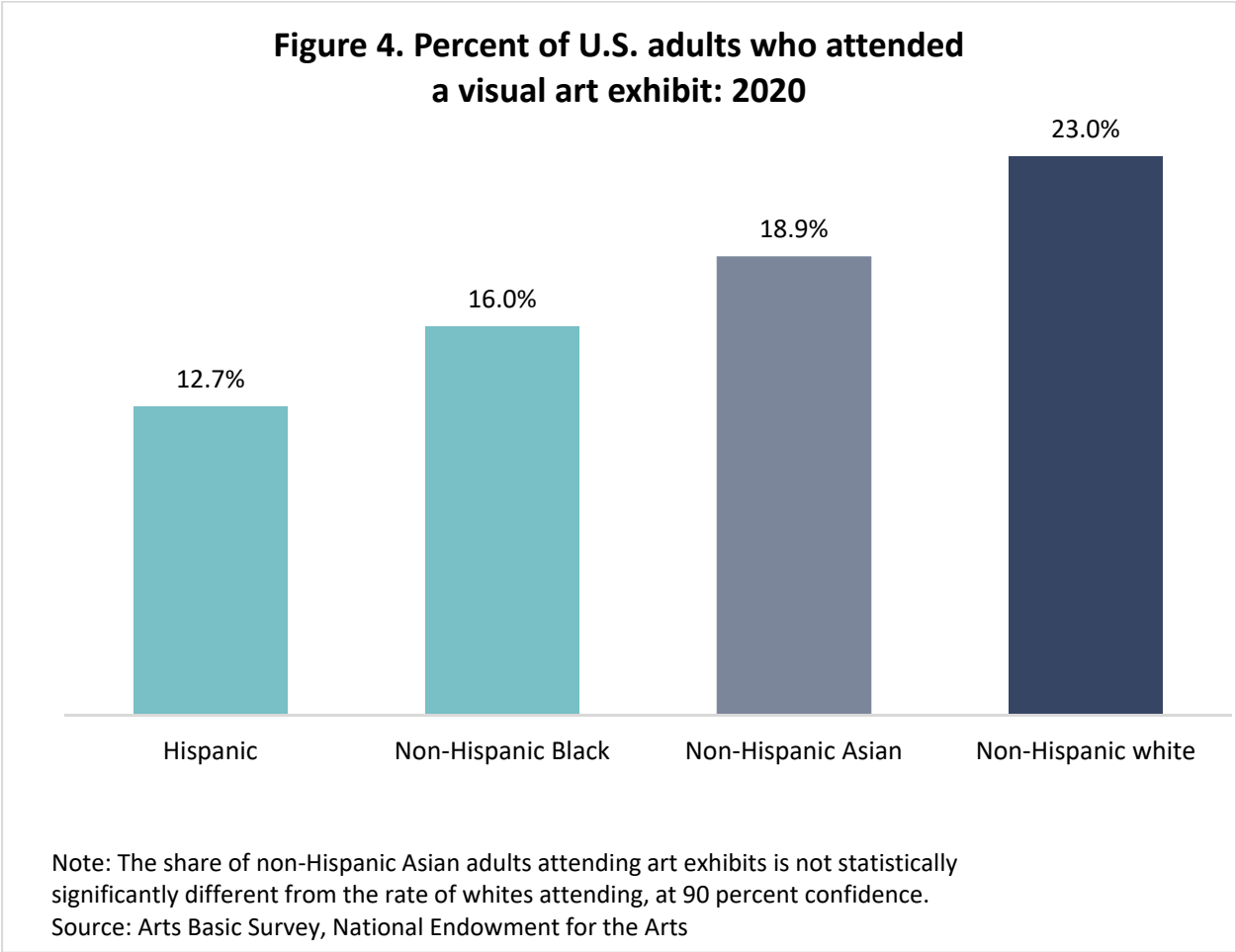
Two additional activities tracked by the 2020 ABS are equally popular among white adults and adults of “other” races, but are less popular among Blacks/African Americans, Asians, and Hispanics—doing leatherwork/metalwork/woodwork, and engaging in weaving, crocheting, and other textile arts.

While 7 to 8 percent of whites and people of “other” races reported doing leatherwork, etc., the share of Blacks, Asians, and Hispanics doing these activities was 2 to 3 percent.

Moreover, approximately 11 percent of whites and people of “other” races reported creating textile arts. For Blacks, Asians, and Hispanics, 5-6 percent engaged in this activity.

In terms of using devices to watch, listen to, or download music or other arts content, only Hispanics used devices at rates lower than did whites—48.9 percent (Hispanic) versus 57.0 percent (white).

The percentage of non-Hispanic, non-white adults using devices to consume arts content was comparable to that of non-Hispanic whites.



Relationships between Race and Other Characteristics Predictive of Live Arts Attendance

The estimates presented so far in this summary report have been based on descriptive and univariate (i.e., one variable) analyses.

Regression analyses, alternatively, describe how a response variable depends on one or more predictors.

The models described below illustrate how a logistic regression analysis based on selected demographic variables can predict arts participation. For this illustration, attendance at live performing arts events—music, theater, and dance performances—is used as a proxy for arts participation.

The predictor variables considered are: gender; educational attainment; urban status (i.e., living in a metropolitan statistical area); the holding of professional occupations; age; and race and ethnicity.

Two models are presented: Model 1 is a logistic regression showing odds ratios; Model 2 is the same logistic model, but with added interactions between educational attainment and race/ethnicity.

For each model, gender, educational attainment, urban status, and race/ethnicity are included as categorical or ordinal variables. Age, a numerical value, is held constant. Table 3 and Table 4 (below) show the outcomes of these analyses.

Model 1: Logit Regression with Odds Ratios

Gender: Holding constant other factors used in this model (e.g., education, age, etc.), the analysis indicates that the odds of women attending a live performing arts event are 23 percent better than for men.

Educational Attainment: The odds of attending a live music/theater/dance event rise precipitously with education. For example, compared with people whose highest level of education is less than a high school diploma, adults (ages 25 and older) with a bachelor's degree or higher levels of education are 8.3 times more likely to attend a live performing arts event.

Urban Areas: The chances that people living in urban areas will attend are 47 percent better than for those living in rural areas.

Professional Occupation: Holding a professional job, alternatively, does little to predict attendance at live performing arts events—the odds ratio resulting from the model is 1.01 (i.e., even odds) and the variable is not statistically significant.⁵

Race and ethnicity: The analysis suggests that the odds of attending live performing arts events are 44 percent lower for Blacks/African Americans and for Hispanics than for whites. The odds that Asians will attend events are 64 percent lower, compared with whites.

Model 2. Interactions Between Educational Attainment and Race/Ethnicity

Model 1 suggests that even after controlling for factors such as educational attainment, Blacks/African Americans and Hispanics are less likely than whites to attend live performing arts events.

Model 1, however, may benefit by considering interactions between two or more of its variables. These interactions may add predictive capacity to the model, beyond that offered by the original variables alone.

The interactives considered here are: (1) educational attainment, which, of the variables considered for this analysis, has been shown to be the strongest indicator of performing arts attendance; and (2) race and ethnicity, which, even after controlling for the other demographic variables, suggests that Blacks/African Americans and Hispanics are less likely to attend live performances.

Consider that, in 2020, the Current Population Survey shows that 41.3 percent of non-Hispanic whites (ages 25 and older) held a bachelor's degree or higher level of education. For Blacks and African Americans, the rate was more than 13 percentage points lower—27.9 percent. The share of Hispanics who were college educated was 20.9 percent.⁶

Put simply, the notion that educational attainment is a strong predictor of performing arts attendance, and that Blacks/African Americans and Hispanics are considerably less likely than whites to hold college degrees, is the basis for considering the impact of interactions between these two variables.

As shown in Tables 3 and 4 below, adding interactions between education and race reduces the predictive power of race/ethnicity for attending live performing arts events.

Before applying the interactions, the coefficient related to attendance and being Black is negative and highly significant (the t value is -6.15). After applying interactions between education and race/ethnicity, that coefficient was rendered not statistically significant— i.e., it can be treated as zero.

In other words, after considering and modeling an apparent relationship between education and race, being Black or African American is no longer linked with a reduced likelihood of attending live performing arts events.⁷

⁵ Professional occupations generally require college training and include occupations such as engineers, teachers, clergy, social workers, lawyers, and artists.

⁶ See [Table 3. Detailed Years of School Completed by People 25 Years and Over by Sex, Age Groups, Race and Hispanic Origin: 2020](#). U.S. Census Bureau, Current Population Survey, 2020 Annual Social and Economic Supplement.

⁷ Pearson chi-square tests of basic Current Population Survey data within the 2020 ABS indicate a strong relationship between race/ethnicity (white, non-Hispanic versus non-white or Hispanic) and whether a respondent

Adding interactions did not, however, render the race/ethnicity value of Hispanic (as a predictor of attendance) not statistically significant. Rather, the interaction does considerably reduce statistical significance of that variable: the corresponding t-values change from -6.96 (with no interactions) to -2.80 (with interactions).

Model 1 shows that, holding constant factors such as gender, educational attainment, metro status, and age, the odds that Asians will attend a live event were 64 percent lower than for whites. The coefficient generating that odds ratio was highly significant ($t=-8.1$).

In Model 2, adding interactions between education and race rendered that coefficient not statistically significant. In other words, as is the case with Blacks (and to a lesser extent Hispanics), there is no statistically significant difference between attendance rates for Asians and for whites, once interactions between education and race are considered along with gender, age, urbanicity, and occupational status.

But there is an important difference between Blacks/Hispanics, and Asians. While Blacks and Hispanics are less likely to hold college degrees than are whites, the percentage of Asians (ages 25 and older) holding a bachelor's degree or higher levels of education exceeds that for whites by nearly 20 percentage points—61.1 percent versus 41.3 percent.

According to the regression models, high levels of educational attainment acquired by Asians would suggest correspondingly high levels of attendance at live performing arts events. But the ABS shows this not to be the case.

It is possible that factors not represented in the regression model are influencing Asian attendance rates, beyond what the demographic covariates are capturing.

One factor may be language. While this variable is not captured by the 2020 ABS (a supplement to the Current Population Survey), NEA analysis of data from the 2019 American Community Survey shows that 77.0 percent of Asians spoke a language other than English at home. This percentage was, by far, greater for Asians than for adults of any other race group.⁸

Another factor may relate to how specific the arts participation survey questions are. As discussed above, the ABS is a short-form version of the Survey of Public Participation in the Arts (SPPA). While the SPPA includes questions about specific forms of live attendance, the 2020 ABS asked respondents just one question about attending any live music, theater, or dance performance, combined.

Using questions about attendance at more specific events, the SPPA shows, for example, that 4 to 5 percent of Blacks/African Americans and Hispanics went to a live classical music performance in 2017.⁹ For Asians, the percentage attending classical concerts was 8.5 percent, a rate not statistically different from the rate for whites (10.4 percent).

held a bachelor's degree or higher level of education. The resulting probability values are 0.000, indicating that it is unlikely these variables (race/ethnicity and college training) are unrelated.

⁸ The percentage of Hispanics (of any race) speaking a language other than English at home was nearly 75 percent.

⁹ The coefficient of variation (CV) associated with the estimated number and percentage of people of "other" races attending live classical music concerts was 34.7 percent (at 90 percent confidence). This CV exceeds the NEA's standard for reporting.

Potential language barriers and survey question items are only two potential factors that may be associated with lower-than-expected attendance rates by Asian adults. Additionally, this model looked at attendance at live performing arts events. Models testing other forms of arts participation, including personal performance and creation, may yield different results from the models presented in this analysis.

Further analysis is needed to fully investigate patterns of arts participation by race/ethnicity.

Table 2. Number and percentage of adults, ages 18 and older, who speak a language other than English at home: 2019

	Total by race		Speaks a language other than English at home		Speaks only English at home	
	Number of people by race	Percent of people by race	Number	Percent	Number	Percent
	Non-Hispanic race category					
All races	213,460,500	100.0%	24,349,032	11.4%	189,111,468	88.6%
Asian alone	14,951,827	7.0%	11,517,793	77.0%	3,434,034	23.0%
Native Hawaiian and Other Pacific Islander alone	419,714	0.2%	184,045	43.9%	235,669	56.1%
Some other race alone	547,727	0.3%	207,594	37.9%	340,133	62.1%
Alaska Native alone	76,282	0.0%	20,405	26.7%	55,877	73.3%
American Indian alone	1,366,168	0.6%	279,988	20.5%	1,086,180	79.5%
American Indian and Alaska Native tribes specified; or American Indian or Alaska Native	213,656	0.1%	31,467	14.7%	182,189	85.3%
Two or More Races	4,675,648	2.2%	651,435	13.9%	4,024,213	86.1%
Black or African American alone	30,922,688	14.5%	2,756,646	8.9%	28,166,042	91.1%
White alone	160,286,790	75.1%	8,699,659	5.4%	151,587,131	94.6%
Hispanics, of any race	41,867,093	100.0%	31,223,720	74.6%	10,643,373	25.4%

Data source: 2019 American Community Survey

Table 3. Odds ratios of attending a live music, theater, or dance performance, by selected characteristics: 2020

	Odds ratio	t	P>t
Gender (comparison = male)	1.23*	7.03	0.000
Educational attainment (comparison = less than a high school diploma)			
High school diploma	2.25*	6.21	0.000
Some college	3.97*	10.40	0.000
Bachelor's degree or higher level of training	8.31*	15.16	0.000
Race and ethnicity (comparison = non-Hispanic white)			
Non-Hispanic Black/African American	0.56*	-6.15	0.000
Non-Hispanic Asian	0.36*	-8.10	0.000
Non-Hispanic Other	0.73*	-2.02	0.450
Hispanic	0.56*	-6.96	0.000
Metropolitan status (comparison = non-metro)	1.47*	5.50	0.000
Hold a professional occupation (comparison = not holding professional)	1.01	0.26	0.792
Age (held constant)	0.99*	-3.97	0.000
Constant	0.12*	-12.21	0.000

* Statistically significant at 90 percent confidence.

Analysis is restricted to adults aged 25 and older

Arts Basic Survey, National Endowment for the Arts

Table 4. Logistic regression analysis of attending a live music, theater, or dance event: 2020

	<i>Model without interactions</i>			<i>Model with interactions</i>		
	Coefficient	t-value	P of t-value	Coefficient	t-value	P of t-value
Gender	0.204	7.13	0.000	0.2034	6.97	0.000
Education group (comparison is less than high school diploma)						
High school diploma	0.810	6.21	0.000	0.683	3.46	0.001
Some college	1.378	10.40	0.000	1.238	6.21	0.000
Bachelor's degree or higher level of education	2.118	15.16	0.000	1.980	9.62	0.000
Race and ethnicity (comparison is white, non-Hispanic)						
Black/African American, non-Hispanic	-0.5728	-6.15	0.000	-0.597	-1.26	0.211
Asian, non-Hispanic	-1.0234	-8.10	0.000	-1.064	-1.42	0.159
"Other," non-Hispanic	-0.3142	-2.02	0.045	-0.178	-0.24	0.808
Hispanic	-0.5795	-6.96	0.000	-0.905	-2.80	0.006
Interactions						
High school diploma * Black/African American, non-Hispanic	-	-	-	-0.211	-0.410	0.6790
High school diploma * Asian, non-Hispanic	-	-	-	0.194	0.240	0.8080
High school diploma * "Other," non-Hispanic	-	-	-	0.086	0.110	0.9120
High school diploma * Hispanic	-	-	-	0.380	1.110	0.2680
Some college * Black/African American, non-Hispanic	-	-	-	0.197	0.39	0.700
Some college * Asian, non-Hispanic	-	-	-	-0.207	-0.25	0.802
Some college * "Other," non-Hispanic	-	-	-	-0.340	-0.44	0.662
Some college * Hispanic	-	-	-	0.326	0.95	0.344
Bachelor's degree or higher * Black/African American, non-Hispanic	-	-	-	0.023	0.05	0.963
Bachelor's degree or higher * Asian, non-Hispanic	-	-	-	0.051	0.07	0.948
Bachelor's degree or higher * "Other," non-Hispanic	-	-	-	-0.101	-0.13	0.894
Bachelor's degree or higher * Hispanic	-	-	-	0.356	1.05	0.297
In a metropolitan area	0.3827	5.50	0.000	0.383	5.52	0.000
Holds a professional occupation	0.0126	0.26	0.7920	0.014	0.29	0.7720
Age	-0.0069	-3.97	0.000	-0.007	-3.95	0.000
Constant	-2.1110	-12.21	0.000	-1.976	-8.81	0.000
Analysis is restricted to adults aged 25 and older						
Arts Basic Survey, National Endowment for the Arts						