



Arts Data Profile #11: State-Level Estimates of Arts Participation Patterns (2012-2015)

Research Brief #2: Why Some States Exhibit Higher (or Lower) Rates of Arts Participation

The variations in arts participation patterns by state—with Utah and Colorado residents having reported high attendance rates, for example, while Mississippians and West Virginians reported low attendance—naturally raise questions about reasons for these differences.

Analysis of the NEA’s 2012 Survey of Public Participation in the Arts (SPPA) data shows a strong association between childhood arts experiences and adult attendance at arts events.¹ Adults who visited an art museum as a child were 4.8 times more likely to visit an art museum or gallery as an adult. This finding controlled for educational attainment, gender, age, and other factors correlated with arts participation.

Although the short-form version of the SPPA—the NEA’s Annual Arts Basic Survey (AABS)—does not capture childhood arts experiences, it nevertheless reveals associations between arts participation and education, poverty, and access to arts organizations.

The Pearson correlation coefficient (symbolized by “ r ”) quantifies how strongly variables are related to each other. The coefficient ranges between 0 and 1, and can be either positive or negative.²

For example, the correlation coefficient between state-level performing arts attendance rates and the share of each state’s residents who hold a bachelor’s degree or higher level of education is 0.67; between performing arts attendance and poverty, the coefficient is -0.62. In other words, there is a negative relationship between performing arts attendance and the incidence of poverty.

At 0.39, the correlation between attendance at live music, theater, and dance performances and the number of performing arts organizations, per capita, is also significant.

To illustrate, 24.8 percent of the U.S. population (aged 25 years and older) hold bachelor's degrees or higher levels of education; the U.S. poverty rate is 15.5 percent. However, among Vermont's adults, who rank highly in attendance at live music, theater, and dance performances, 44.8 percent hold college degrees, and Vermont's poverty rate is below average—12.2 percent.

In Vermont, there are 4.1 performing arts organizations per 100,000 population. That number is well above the 2.7 organizations, per capita, at the U.S. level.

Below-average attendance at performing arts events is reported by adults residing in West Virginia. Also below average is the share of West Virginia's adults who are college-educated (19.2 percent), as is the number of performing arts organizations, per capita, in the state (1.4). Additionally, the poverty rate in West Virginia is above average—18.3 percent.

Educational attainment is even more strongly associated with attending art exhibits—0.72. (For that matter, the presence of tax-exempt art museums is also significantly correlated with art-exhibit attendance at the state level.)

Also strong (0.65) is the link between educational attainment and visiting or touring buildings, neighborhoods, and other sites primarily for their historical or design value.³

Consider Minnesota. In 2015, the share of the state's adults visiting sites for their historical or design value was 37 percent —nearly 10 points greater than the U.S. rate. Minnesota is also well-above average in educational attainment. More than 34 percent of its residents (aged 25 and

older) hold bachelor's degrees or higher levels of education. (As discussed above, the U.S. average is 24.8 percent.)

Although statistically significant, the association between educational attainment and reading literature is not quite as strong—0.51 percent; and the coefficient between education and personally performing or creating art is only 0.42.

Conversely, movie-going does not appear to be significantly linked with education. Still, movie-going—along with attending art exhibits, touring sites, reading literature, and personally performing or creating art—is inversely correlated with poverty.

In sum, state-level educational attainment, poverty, and—at least in the case of attendance at performing arts events and art exhibits—the presence of arts organizations are likely contributing to some of the geographic patterns evident in the AABS estimates.

State-Level Relationships Between Live Performing Arts Attendance and Educational Attainment, Poverty, and Number of Performing Arts Companies, Per Capita

	Relationship with performing arts attendance, correlation coefficient, r				
Percent of population with a bachelor's degree or higher ¹	0.67				
Percent of population below poverty	-0.62				
Number of performing arts companies per 100,000 population	0.39				

¹ Aged 25 and older

Note: All correlation coefficients are statistically significant at 95 percent confidence.

Data sources: 2015 Annual Arts Basic Survey (AABS), National Endowment for the Arts; 2014 County Business Patterns, 2014 American Community Survey, and Annual Estimates of Residential Population, U.S. Census Bureau.

Attributes of Performing Arts Attendance				
	Performing arts attendance rate, 2015¹	Percent of population with a bachelor's degree or higher, 2014²	Percent of population below poverty, 2014	Number of performing arts companies per 100,000 population, 2014
U.S.	31.6%	24.8%	15.5%	2.7
States with performing arts attendance rates statistically greater than the U.S. average:				
Utah	51.0%	31.1%	11.7%	2.3
Vermont	44.8%	34.9%	12.2%	4.1
Colorado	44.4%	38.3%	12.0%	2.8
Wyoming	42.7%	26.6%	11.2%	1.7
Connecticut	42.0%	38.0%	10.8%	3.3
Montana	40.8%	29.3%	15.4%	3.2
Alaska	40.6%	28.0%	11.2%	3.8
Minnesota	40.5%	34.3%	11.5%	4.2
Washington	38.7%	33.1%	13.2%	2.7
District of Columbia	49.2%	55.0%	17.7%	7.0
States with performing arts attendance rates statistically less than the U.S. average:				
Florida	24.4%	27.3%	16.5%	2.7
Oklahoma	22.7%	24.2%	16.6%	1.6
West Virginia	21.5%	19.2%	18.3%	1.4
Georgia	20.8%	29.1%	18.3%	2.2
Arkansas	20.5%	21.4%	18.9%	1.2
Mississippi	17.8%	21.1%	21.5%	0.9
Alabama	16.2%	23.5%	19.3%	1.2
¹ Refers to attendance at live music, theater, or dance performances				
² Ages 25 and older				
Data sources : 2015 Annual Arts Basic Survey (AABS), National Endowment for the Arts ; 2014 County Business Patterns, 2014 American Community Survey, and Annual Estimates of Residential Population, U.S. Census Bureau.				

State-Level Relationships Between Selected Forms of Arts Participation and Educational Attainment, Poverty, and Number of Art Museums, Per Capita

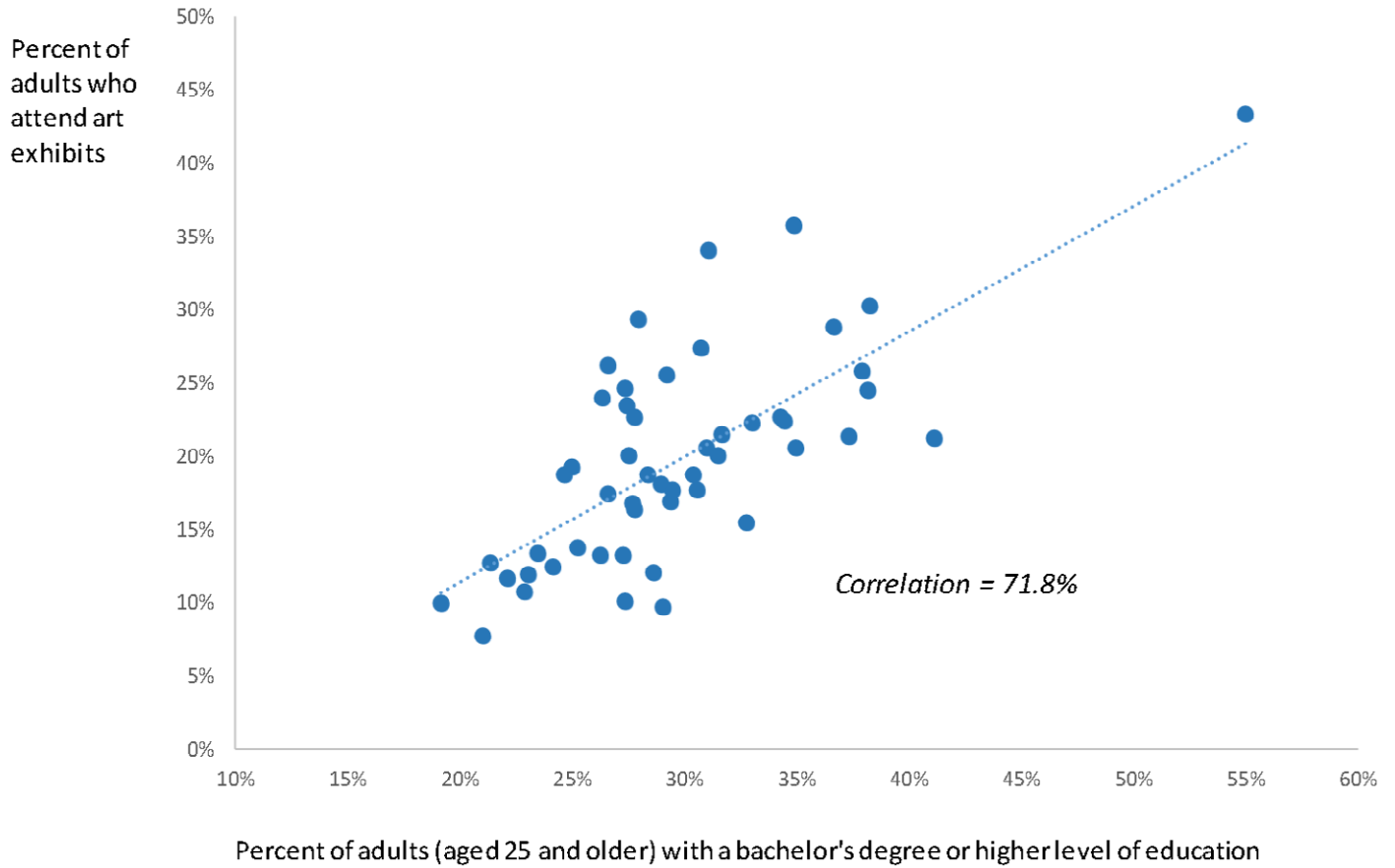
Correlation Coefficient, r					
	Attend an art exhibit	Read literature	Visit sites for their historical or design value	Personally perform or create artworks	Go to the movies
Percent of population with a bachelor's degree or higher ¹	0.72	0.51	0.65	0.42	*
Percent of population below poverty	-0.43	-0.57	-0.40	-0.50	-0.45
Number of tax-exempt art museums, per 100,000 population	0.40	n/a	n/a	n/a	n/a

*All correlation coefficients are statistically significant at 95 percent confidence, except there is no statistically significant correlation between educational attainment and movie-going.

¹ Aged 25 and older

Data sources: 2015 Annual Arts Basic Survey (AABS), National Endowment for the Arts; 2014 American Community Survey, and Annual Estimates of Residential Population, U.S. Census Bureau; and National Center for Charitable Statistics, Urban Institute.

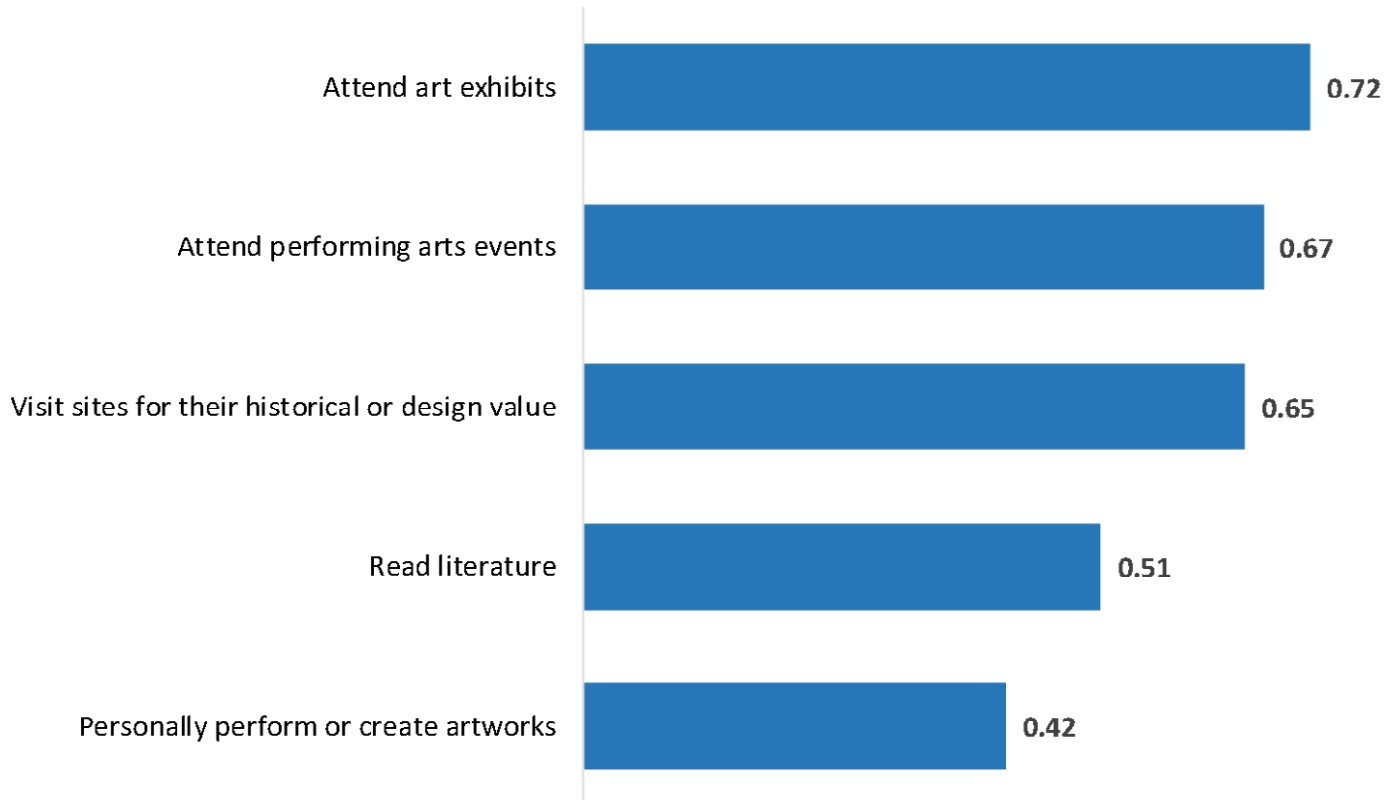
State-Level Relationship Between Attending Art Exhibits and Educational Attainment: 2015



Data sources: 2015 Annual Arts Basic Survey (AABS), National Endowment for the Arts; 2014 American Community Survey (ACS), U.S. Census Bureau.

State-Level Relationship Between Educational Attainment and Selected Forms of Arts Participation: 2014-2015

(Correlation Coefficient Between State-Level Rates of Arts Participation and the Percent of a State's Population Who Hold at Least a Bachelor's Degree)



Note: Educational attainment is reported for adults aged 25 and older.

Data sources: 2014-2015 Annual Arts Basic Survey (AABS), National Endowment for the Arts; 2014 American Community Survey (ACS), U.S. Census Bureau.

Endnotes

¹[See NEA Arts Data Profile #5, *States of Engagement: Arts Participation by U.S. Geography*.](#)

²The Pearson correlation coefficient is a measure of the strength of a linear association between two continuous variables. The Pearson correlation coefficient does not indicate how or why they are related.

³Indeed, the goal of “learning new things” was reported at a high rate (88 percent) by adults who attended art exhibits, according to a separate survey. For more information, see [NEA Research Report #59, *When the Going Gets Tough: Barriers and Motivations Affecting Arts Attendance*](#).