



**NATIONAL  
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FOR THE ARTS**

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## **ARTS AND LEISURE ACTIVITIES: EVIDENCE FROM THE 2002 SURVEY OF PUBLIC PARTICIPATION IN THE ARTS**

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This note uses data from the 2002 Survey of Public Participation in the Arts (SPPA) to report on the popularity of selected arts and leisure activities. The analysis shows that arts participants, adults who read literature, listened to classical or jazz radio, or attended a performing arts event, were active people, and more likely than non-arts participants to engage in other leisure activities such as attending sporting events and doing volunteer or charity work.

### **PARTICIPATION RATES**

As shown in Table 1, 95.3 million people, or 46.7 percent of adults, read literature, (defined as poetry, plays, short stories, or novels).<sup>1</sup> Almost 34 percent of adults (69.1 million) listened to classical or jazz music on the radio, and 30.5 percent, or 62.9 million people, attended a performing arts event (classical or jazz music concert, opera, play, musical, or ballet). Many people also created art. For example, 23.5 million people produced photographs, films, or videos as artistic activities. Almost 18 million people created paintings, drawings, or sculptures, and nearly 10 million sang in choirs.

The SPPA also reports on non-arts leisure activities. In 2002, 60 percent of adults, or 123.5 million people, went to the movies; 56.6 percent read books and 55.1 percent exercised.<sup>2</sup> The survey estimates that 47.3 percent of adults gardened; a comparable

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<sup>1</sup>The 2002 literary reading rate was 10.2 points below the rate recorded in 1982. For more information about the decline in literary reading, see *Reading At Risk: A Survey of Literary Reading in America*, Research Division Report #46, June 2004.

<sup>2</sup> Books are of any subject.

rate, 47.2 percent, watched 2-3 hours of television per day. In addition, an estimated 29 percent of adults, or 59.7 million people, did volunteer or charity work, an activity discussed in more detail later in this note.

## ARTS PARTICIPANTS AND LEISURE ACTIVITIES

Combining data for arts and non-arts leisure activities reveals that more arts participants, those who read literature, listened to classical or jazz radio, or attended performing arts events, took part in other leisure activities (e.g., visited an art museum, exercised, played sports, etc.) than non-arts participants.

As shown in Table 2, 74.9 percent of people who listened to classical or jazz radio exercised (e.g., jogged, lifted weights, or walked for exercise) vs. 44.5 percent of adults who did not listen to classical or jazz music on the radio. Outdoor activities, such as camping, canoeing, and hiking, were more popular among literary readers compared to those who did not read literature—41 percent against 21.8 percent. And roughly 20 percent of each type of arts participant (literary readers, classical or jazz radio listeners, and performing arts attenders) created photographs, movies, or videotapes as artistic activities—at least 11 points above the photography rates recorded for non-arts participants.

In fact, compared to non-arts participants, those who read, listened, or attended had higher activity rates for every category shown in Table 2. This was particularly true of performing arts attenders. Almost 54 percent of adults who attended a performing arts event also went to a sporting event, a rate more than 27 points higher than the 26.4 percent who went to a sporting event but did not attend a performing art show. Similarly, 82 percent of performing arts attenders went to the movies—the highest moving-going rate shown in Table 2, and well above the 49.7 percent reported for adults who did not attend a performing arts event.

Compared to people who watched 3 or more hours of daily television (high TV watchers), adults who watched 2 or fewer hours (low TV watchers) were more likely to participate in most of the leisure activities reported in Table 2.<sup>3</sup> Notably, the biggest gap in participation rates between low and high TV watchers was recorded for outdoor activities and exercise—37.1 percent of low TV watchers also went camping, canoeing, or hiking, 14.3 points above the outdoor activity rate for high TV watchers. And 59.8 percent exercised—11.4 points higher than the exercise rate for high TV watchers. Low and high TV watchers had comparable rates of producing art such as paintings and creative writing.

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<sup>3</sup> Average daily television watching was 2 hours.

## Odds Ratios of Participating in Leisure Activities

Table 3 shows odds ratios, or the likelihood that arts participants and non-participants will engage in other leisure activities. These figures largely mirror the participation rates shown in Table 2 in that odds were much greater that arts participants engaged in other leisure activities.<sup>4</sup>

For example, literary readers were 2.51 times more likely to go to the movies, compared to odds of only 0.81 for those who did not read literature. Classical music or jazz radio listeners were 1.04 times more likely to visit an art museum—the corresponding odds for people who did not listen to classical or jazz music on the radio were only 0.17.

Of all the arts participants, performing arts attenders had the best odds of engaging in the other leisure activities shown in Table 3, including attending sports events—performing arts attenders were 1.1 times more likely to go to a sporting event, three times more likely than the 0.33 odds for non-attenders.

The odds of visiting an art museum, going to a movie or sporting event, or volunteering were also better for those who watched 2 or fewer hours of television daily. For example, the odds of visiting an art museum were 0.46 for low TV watchers, but only 0.27 for people who watched 3 or more hours of television per day.

## ARTS PARTICIPATION AND VOLUNTEERING

The volunteer/charity work question of the SPPA is of particular interest since it can be used to gauge the civic engagement of the general adult population, and more specifically, of arts participants.

The SPPA reports that 59.7 million people, or 29 percent of the adult population, did volunteer or charity work in 2002. Though this figure may be substantial, tables 2 and 3 show that considerably more arts participants than non-participants volunteered. For example, 43.3 percent of literary readers did volunteer or charity work—almost 27 points higher than the volunteer rate for those who did not read literature. A similar gap was recorded between classical and jazz radio listeners and non-listeners. By far, however, performing arts attenders had the highest volunteer rate—50.0 percent vs. only 19 percent for non-attenders.

The odds ratios shown in Table 3 reflect this same pattern. The odds that literary readers will volunteer were 0.79, or 3.8 times greater than the odds for people who did not read literature (0.79/0.21). And the odds that performing arts attenders will volunteer were 1.14, or 4.5 times larger than the odds for non-attenders (1.14/0.25).

In addition, low TV watchers were more likely to volunteer than high TV watchers—0.54 odds vs. 0.33 odds.

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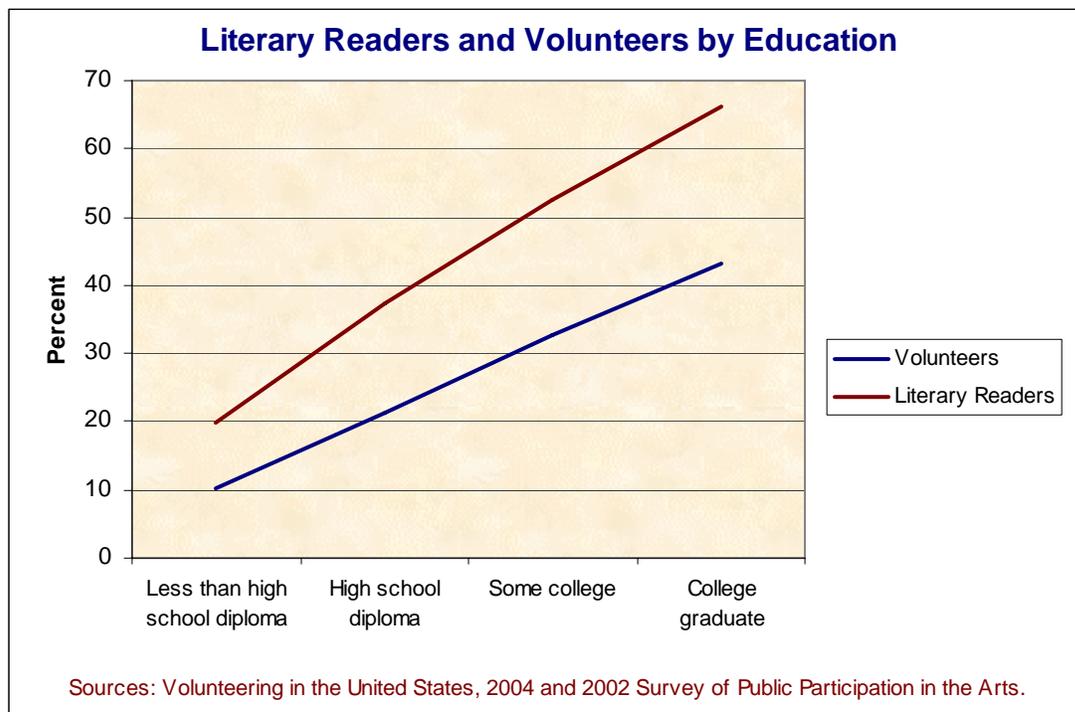
<sup>4</sup> See technical notes section.

## Volunteer Characteristics

It is beyond the scope of this note to investigate vigorously the factors that explain why people volunteer. However, combining results from the SPPA and the survey titled *Volunteering in the United States, 2004* (conducted by the Bureau of Labor Statistics) reveals that arts participants and volunteers share common characteristics.

First, the BLS volunteer survey reports that more women volunteered than men—32.4 percent vs. 25 percent of men. Similarly, the SPPA shows that more women participated in the arts—55.1 percent of women read literature vs. 37.6 percent of men; 33.8 percent of women attended a performing art event vs. 27 percent of men.<sup>5</sup>

Second, the highest percentages of both volunteers and arts participants were college graduates—45.7 percent of volunteers, 66.1 percent of literary readers, 54.3 percent of classical or jazz radio listeners, and 56.1 percent of performing arts attenders. The following chart shows this pattern for volunteers and literary readers.



<sup>5</sup> Jazz concerts appealed equally to men and women. In 2002, almost 11 percent of each sex attended a jazz concert. Attendance at other performing arts events, however, were more popular among women, particularly ballet—in 2002, women were 68.4 percent of ballet attenders.

As an interesting parallel, women tend to be better educated than men. Data reported by the National Center for Education Statistics show that 57.4 percent of bachelor's degrees were awarded to women in 2002, a share projected to rise to 59 percent by 2012. Women earned 58.7 percent of the master's degrees conferred in 2002, and are expected to earn almost 60 percent by 2012.

And third, the highest percentages of volunteering were reported for two age groups: 35 to 44 years (34.2 percent) and 45 to 54 years (32.8). Arts participation was also high in these age groups. At 51.6 percent, for example, the highest literary reading rate by age was recorded for people 45 to 54. This age group also had the highest rate of listening to classical or jazz radio (40.7 percent).

These common characteristics, female concentration, high levels of education, and similar ages, may explain, in part, why so many arts participants do volunteer and charity work.

## REFERENCES

*2002 Survey of Public Participation in the Arts*, Research Division Report #45, National Endowment for the Arts, March 2004.

[www.nea.gov](http://www.nea.gov)

*Reading at Risk: A Survey of Literary Reading in America*, Research Division Report #46, National Endowment for the Arts, July 2004.

[www.nea.gov](http://www.nea.gov)

*Volunteering in the United States, 2004*, U.S. Department of Labor, U.S. Bureau of Labor Statistics, December 2004.

[www.bls.gov](http://www.bls.gov)

*Digest of Education Statistics, 2003*, U.S. Department of Education, National Center for Education Statistics, September, 2003.

[www.nced.ed.gov](http://www.nced.ed.gov)

## TECHNICAL NOTES

The odds ratios reported in this note were generated using binary logit regression models.<sup>6</sup> Though each relationship shown in Table 3 was modeled, this section illustrates the calculation of the odds of volunteering for literary readers.

### Logit Estimates

The natural log of the odds of volunteering is represented by the following equation:

$$\ln(\text{odds of volunteering}) = \text{Constant} + B \text{ coefficient (reading literature)}$$

“Volunteering” and “reading literature” are binary variables that are “1” if respondents volunteered or read literature, and “0” if they did not volunteer or read.

The next equation shows the binary logit estimates inserted into the equation:

$$\ln(\text{odds of volunteering}) = -1.55 + 1.31(\text{reading literature})$$

The coefficient tests are the following:

	B	SE (B)	Adjusted SE (B)	T-Statistic
Reading literature	1.310766346	0.03559995	0.05957011	22.00375903
Constant	-1.54503543	0.027817099	0.04654691	-33.1930826

“SE (B)” represents the standard errors of the estimated coefficient and constant term. The “Adjusted SE (B)” shows the standard errors increased by the square root of 2.8 (the estimated design effect of the SPPA). This adjustment was used to correct the underestimated standard errors resulting from the complex design of the arts participation survey.

The T-statistics, calculated using the adjusted standard errors, are highly significant, suggesting that the coefficient for literature and constant term are not 0 and can, therefore, be used to calculate the odds of volunteering for literary readers.

### Calculation of Odds

Odds are calculated by exponentiating the regression model:

$$\text{Odds of volunteering} = e^{-1.55 + 1.31(\text{reading literature})}$$

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<sup>6</sup> The regression analyses used un-weighted data.

So, for literary readers, the “reading literature” variable is 1, resulting in odds of volunteering of 0.79. In other words, literary readers are 0.79 times more likely to volunteer than not to volunteer. For those who didn’t read literature, the reading literature variable is 0, and the resulting odds are 0.21.

### R Square Statistic

The Nagelkerke R Square statistic measures the percentage of cases that were correctly predicted by the model. For the volunteering/literary reading model, this statistic was 0.115. In other words, the model correctly predicted volunteering for about 12 percent of the SPPA respondents.

The Nagelkerke R Square statistics were generally in this range for many of the models used to calculate the odds ratios shown in Table 3. One of the best fitting was the model for predicting art museum attendance as a function of performing arts attendance [*ln (odds of visiting an art museum) = Constant + B coefficient (attending performing arts events)*—Nagelkerke R Square= 0.271. The worst fitting models were those that used television watching to predict participation in other activities, such as volunteering (Nagelkerke R Square = 0.018).

**Table 1.**

	Percent of adults	Millions of adults
<b>Arts participation: reading, listening, attending</b>		
Read literature	46.7%	95.3
Listened to classical or jazz radio	33.6%	69.1
Attended performing arts event	30.5%	62.9
Visited art museum or gallery	26.5%	54.3
<b>Created art:</b>		
Sewing/crocheting/quilting	16.0%	32.7
Photography	11.5%	23.5
Painting/drawing	8.6%	17.6
Writing	7.0%	14.4
Pottery	6.9%	14.1
Choir	4.8%	9.8
<b>Other leisure activities:</b>		
Went to the movies	60.0%	123.5
Read books	56.6%	116.5
Exercised	55.1%	113.5
Gardened	47.3%	97.4
Watched 2-3 hours of TV per day	47.2%	97.2
Made home improvements	42.4%	87.3
Went to amusement park	41.7%	85.9
Attended sporting event	35.0%	72.1
Outdoor activities	30.9%	63.6
Played sports	30.4%	62.6
Volunteered/did charity work	29.0%	59.7

Source: 2002 Survey of Public Participation in the Arts.

**Table 2.**

Arts participation and TV watching	Art museum	Photography	Painting	Creative writing	Movies	Exercise	Sporting event	Played sports	Outdoor activities	Volunteer/charity work
<b>Literature</b>										
Read	43.4%	17.5%	13.8%	12.7%	73.9%	72.3%	44.4%	37.7%	41.0%	43.1%
Did not read	11.7%	6.2%	4.0%	2.1%	47.2%	39.5%	26.5%	23.6%	21.8%	16.4%
<b>Classical or jazz radio</b>										
Listened	50.0%	19.8%	14.9%	13.2%	75.1%	74.9%	46.4%	40.7%	43.6%	45.2%
Did not listen	14.4%	7.2%	5.4%	3.9%	51.8%	44.5%	28.9%	24.8%	24.2%	20.5%
<b>Performing arts</b>										
Attended	57.2%	20.2%	14.4%	13.8%	82.0%	77.4%	53.8%	44.1%	47.0%	50.9%
Did not attend	12.8%	7.8%	6.0%	4.0%	49.7%	44.7%	26.4%	24.0%	23.5%	19.0%
<b>Watch TV per day</b>										
2 or fewer hours	30.9%	13.1%	9.8%	8.1%	63.1%	59.8%	38.3%	34.9%	37.1%	33.6%
3 or more hours	20.8%	9.4%	7.0%	5.7%	55.3%	48.4%	30.5%	24.4%	22.8%	22.9%

Source: 2002 Survey of Public Participation in the Arts.

**Table 3.**

Arts participation and TV watching	<i>Odds Ratios:</i>			
	Art museum	Movies	Sporting event	Volunteer/ charity work
<b>Literature</b>				
Read	0.76	2.51	0.74	0.79
Did not read	0.13	0.81	0.34	0.21
<b>Classical or jazz radio</b>				
Listened	1.04	2.82	0.84	0.89
Did not listen	0.17	0.98	0.38	0.28
<b>Performing arts</b>				
Attended	1.38	4.16	1.11	1.14
Did not attend	0.15	0.90	0.33	0.25
<b>Watch TV per day</b>				
2 or fewer hours	0.46	1.61	0.59	0.54
3 or more hours	0.27	1.11	0.41	0.33

Source: 2002 Survey of Public Participation in the Arts.