

Appendix A: Detailed Methodology and Statistical Methods

I. Detailed Methodology

Research Design

AARP's 2003 multicultural project focuses on volunteerism and charitable giving. One broad goal of the project is to capture the several ways in which different race and ethnic groups give their time and money to the communities around them. In conjunction with AARP, Belden Russonello & Stewart (BRS) designed a survey research project to broaden the definitions of volunteering and giving, and to compare activities across race and ethnic groups. The project design included drafting and pretesting a questionnaire for a nationwide survey, and devising a series of sample frames to include a nationally representative sample of Americans 45 and older, as well as oversamples for three racial/ethnic groups using the same age frame (African-Americans, Hispanic-Americans, and Asian-Americans).

Questionnaire Design

We designed a questionnaire, using input from AARP research staff and advisory group members. The group discussed several facets of volunteering and giving among different cultural communities, and much of their feedback contributed to the drafting of the questionnaire.

After undergoing several iterative revisions, a final draft was programmed into a CATI system and pretested. BRS participated in training the interviewers, who were then monitored by members of the interviewing team located in Fredericksburg, Virginia.

Based on the results of the pretest and a debriefing of the interviewers, changes were made in question wording and length. The questionnaire was then translated into Spanish for those respondents who preferred to be interviewed in Spanish. BRS back-coded the Spanish questionnaire, and input from AARP helped polish the final version. In all, 97 Spanish interviews were conducted.

Field Methodology

This study contains the results of n=2,069 telephone interviews with Americans who are 45 years of age or older. Of these, n=1,027 interviews were conducted among a representative probability sample of the U.S. population. In addition, we oversampled 324 African-Americans (for a total of n=420), 347 Hispanic-Americans (for a total of n=415), and 371 Asian-Americans (for a total of n=402).

The margin of sampling error for a probability sample of n=1,027 is ± 3.1 percentage points at the 95% level of confidence. Of the n=1,027 interviews, n=793 were conducted among non-Hispanic whites, which in many cases throughout the report are reported separately to compare to other races. The margin of error for a sample of n=793 is ± 3.5 . Although the oversamples are not strict probability samples, one might consider that the margin of sampling error for sample sizes of n=420 and n=415 is ± 4.8 percentage points, and ± 4.9 for a sample size of n=402. The sampling error is larger for smaller groups within the sample (see Table A-1). Other non-sampling error may also contribute to total survey error.

TABLE A-1: SAMPLING ERROR BY PERCENTAGE (AT 95% CONFIDENCE LEVEL)

If percentages answering are:

	10	20	30	40	50	60	70	80	90
If sample size is:									
1000	1.9	2.5	2.8	3.0	3.1	3.0	2.8	2.5	1.9
800	2.1	2.8	3.2	3.4	3.5	3.4	3.2	2.8	2.1
700	2.2	3.0	3.4	3.6	3.7	3.6	3.4	3.0	2.2
600	2.4	3.2	3.7	3.9	4.0	3.9	3.7	3.2	2.4
500	2.6	3.5	4.0	4.3	4.4	4.3	4.0	3.5	2.6
400	2.9	3.9	4.5	4.8	4.9	4.8	4.5	3.9	2.9
300	3.4	4.5	5.2	5.5	5.7	5.5	5.2	4.5	3.4
200	4.2	5.5	6.4	6.8	6.9	6.8	6.4	5.5	4.2
100	5.9	7.8	9.0	9.6	9.8	9.6	9.0	7.8	5.9

The survey was conducted from July 2 through July 30, 2003. The interviews averaged 20 minutes in length.

The national probability sample was stratified by geography to generate a set of telephone numbers proportionate to the population. The telephone numbers were then organized into replicates of 200 numbers each.

When contact was established, the interviewer screened for an appropriate respondent based on age, and for each oversample, race was screened. If more than one person in the household was 45 or older, the interviewer asked for the person 45+ who had the most recent birthday.

Sample Designs

Three sampling techniques were used for the four samples: random-digit-dial (RDD), targeted RDD, and listed surname sample.

The national sample was conducted using a straightforward RDD telephone number sample frame, which produced a representative probability sample of the

American population 45 years old and older.

To conduct the oversamples, both targeted RDD sample and listed sample were used, a strategy used to achieve a representative sample while minimizing the prohibitive costs of reaching these small sub-populations through pure RDD sampling.

For the entire African-American oversample and half of the Hispanic-American oversample, targeted RDD samples were drawn from telephone exchanges with higher than average concentrations of these two groups. In these cases, telephone exchange areas were overlaid with Census data on race and ethnicity. Those exchanges from areas in which the density of the African-American or Hispanic-American population was at least 30 percent were selected. This significantly increased the likelihood of reaching an African-American or Hispanic-American household, from which we screened for race and those 45 and older.

In addition to the targeted RDD Hispanic-American sample, a sample was drawn from a list of telephone numbers across the country with Hispanic-American surnames estimated to have a household member age 45 or older. While this sample renders the universe as households with a listed telephone, the surname sample helped boost the low incidence of the targeted Hispanic-American RDD sample.

Because of the extremely low incidence of Asian-Americans in the adult population who are 45 or older, a surname sample frame was developed to reach these respondents in a cost-effective and timely manner. Targeted RDD was not recommended, as Asian-Americans do not tend to be highly clustered geographically. Thus, a national list of telephone numbers with Asian-American names (Japanese, Korean, Chinese, Filipino, Vietnamese, and Indian) estimated to have a household member age 45 or older was generated, excluding the names that were also likely to come from other ethnic groups (*e.g.*, Lee, Park). RDD telephone procedures were employed with the numbers on the list, and respondent race and age was screened at the beginning of the interview.

Weighting

Each sample was weighted using 2000 US Census data. The national RDD sample was weighted by gender and age. The African-American sample was weighted by gender and age; the Hispanic-American sample was weighted by region; and the Asian-American sample was weighted by gender and region.

The following tables reflect the unweighted and weighted composition of each sample.

TABLE A-2:
NATIONAL RDD COMPOSITION TABLE

	Unweighted N =	Unweighted %	Weighted %
Male	449	44%	46%
Female	578	56	54
Non-Hispanic white	793	77	77
African-American	96	9	9
Hispanic-American	68	7	7
Asian-American	31	3	3
Something else	13	1	1
DK/REFUSE	26	3	3
45–57	483	47	47
58–69	308	30	27
70+	236	23	26
East	198	19	19
Midwest	243	24	24
South	381	37	37
West	205	20	20

TABLE A-3:
AFRICAN-AMERICAN COMPOSITION TABLE

	Unweighted N =	Unweighted %	Weighted %
Total	420	100%	100%
Male	168	40	43
Female	252	60	57
45–59	251	60	60
60+	160	38	38
East	79	19	19
Midwest	77	18	18
South	225	54	54
West	39	9	9

TABLE A-4:
HISPANIC-AMERICAN COMPOSITION TABLE

	Unweighted N =	Unweighted %	Weighted %
Total	415	100	100
Male	191	46	47
Female	224	54	53
45–59	274	66	67
60+	131	32	31
East	54	13	17
Midwest	39	9	7
South	174	42	36
West	148	36	40

TABLE A-5:
ASIAN-AMERICAN COMPOSITION TABLE

	Unweighted N =	Unweighted %	Weighted %
Total	402	100	100
Male	222	55	45
Female	180	45	55
45–59	266	66	64
60+	117	29	31
East	80	20	19
Midwest	66	16	9
South	93	23	17
West	163	41	55

Response Rate

The response rate reported below is based on the Standard Definitions of the American Association for Public Opinion Research (AAPOR) for the final dispositions of cases codes and outcome rates for RDD telephone surveys.⁴ Information regarding these calculations can be found on AAPOR’s website (www.aapor.org). The response

rate for the national study is 33%, based on AAPOR’s Response Rate 3 formula:
 $I / (I+P) + (R+NC+O) + e(UH+UO)$.

II. Statistical Methods

Cross Tabulations

For this study, cross tabulations were run on all four samples: the national RDD, and each racial/ethnic oversample. The following key demographic and behavioral variables were run against all questions in the study, for each sample.

Gender.

Age. “45–57” includes those respondents age 45 to 57, likewise for “58–69” and “70+.” (Q90)

Race. “White” includes all non-Hispanic-white respondents from the national RDD sample (Q91 and Q92). “African-Americans,” “Hispanic-Americans,” and “Asian-Americans” reflect the totals obtained from each race, both in the RDD sample and each racial/ethnic oversample.

Education. Those respondents who say the highest level of school they completed was in high school or before are included in “high school,” and “college” includes those who say they have completed at least some college, obtained a college degree, or did graduate work. (Q82)

Income. “<\$20K” includes those respondents saying their total household income was less than \$20,000 before taxes in 2002. “\$20–\$49K” indicates those who say their total household income was between \$20,000 and \$49,000, and “\$50+” are those who say their income was \$50,000 or more. (Q93)

⁴ The American Association for Public Opinion Research. 2000. “Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys.” Ann Arbor, Michigan: AAPOR.

Employed. “Employed” includes those individuals saying they are working full time, part time, or that they are self employed, while the “not employed” category includes those who say they are retired and not working, taking care of children at home, disabled, unemployed, students, or something else. (Q76)

Formal Volunteers: Formal volunteers are those respondents who say they volunteer for an organization in any of the following questions: Q1, Q3 through Q14.

Informal Volunteers: Informal volunteers includes respondents who report volunteering to help their community or someone in need in Q2, or volunteered on their own for others in Q3 through Q14. Respondents who only report volunteering for family members are not included.

All Volunteers: This is the aggregate volunteer variable, which includes all respondents who said they volunteered in some manner in any of Q1 through Q22.

Donors: Respondents who say they have given money or financial contributions to an institution or individual in the last twelve months are “donors.” (Q48–Q54)

Attendance at Religious Services: “Wkly” indicates those respondents who attend a religious services at least weekly. “Less frq” are those who say they attend a service either a few times a month or a few times a year and “infrq” are respondents who say they attend less often than a few times a year. (Q86)

Health: “Exc/gd” includes those respondents who describe their health as excellent or good. Alternately, “ok/poor” are those

describing their health as just okay, poor, or very poor. (Q75)

Indices

Another step of analysis was creating three indices that would enhance the analysis of different volunteer efforts. Each index sums responses for the following questions:

Organization Index: Responses in Q3 through Q22 that indicated one’s volunteer work for “organizations” (e.g., in Q3, homeless or hungry people, those who said yes, through an organization were counted).

Independent Index: Responses in Q3 through Q14 that indicated volunteer activities performed on one’s own.

Family Index: Responses in Q3 through Q9 that refer to helping one’s own family members.

Multivariate Analysis

In both volunteering and donating sections of the report, we conducted two-step analyses to uncover patterns of behavior and profiles of particular groups of respondents: factor analysis and multiple linear regression analysis.

Factor analysis. The first step was *factor analysis*, a statistical procedure designed to identify and group together variables that are correlated or interrelated into a relatively small number of sets. Each set of variables is called a “factor” and represents a unifying construct or concept that is derived from the nature of the individual variables that are interrelated. Factor analysis reduces the number of items under analysis and simplifies the description and understanding of otherwise complex and numerous phenomena. For example, instead of examining each

individual tree in the forest (e.g. all 20 volunteer efforts in data set), the trees are grouped according to shared characteristics (type of leaf or needle, bark, hardness or softness of wood, soil conditions for growth, etc.) into types of trees—oak, maple, pine, cedar, etc. (the seven factors that emerged from the 20 variables).

The first step in the factor analysis was to take all of the variables (Q3 through Q22 for volunteering, and Q48 through Q53 for giving) in the study and run a statistical procedure to group them according to their correlations or interrelatedness, resulting in a series of factors (grouped sets of variables). The variables within each factor are more highly correlated with each other than with the variables in other factors. Variables that did not group with any other variables were removed from the statistical model, and analyzed separately. For the volunteering factors, these were Q7 (helping public servants) and Q21 (volunteering for the arts). For the giving series, Q49 (religious institutions) stood alone.

For the volunteering series, factor analysis was run twice. First, factors were created based on Q3 through Q22 including only answers that referred to volunteering for an organization. This analysis produced the five factors relating to organizations. The second analysis produced two factors relating to independent volunteer efforts based on the independent responses in Q3 through 14.

The seven Factors for volunteering are:

Factor 1. Organizations That Help the Needy, consists of Q4 (helping elderly people), Q6 (helping disabled people), Q18 (volunteering for a religious institution), and Q3 (helping homeless or hungry people).

Factor 2. Organizations That Help Youth, consists of Q16 (volunteering for a sports team or league for children or teens), Q15 (for a local school), and Q5 (helping children or teens).

Factor 3. Nature Organizations, includes Q13 (helping animals), and Q10 (helping protect the environment).

Factor 4. Organizations That Work on Minorities Issues, consists of Q14 (advancing the rights of minorities), Q12 (bringing people of the same ethnic background together), and Q9 (helping immigrants).

Factor 5. Political and Health Organizations, combines Q20 (helping a political party or campaign) Q22 (volunteering for a public interest organization), Q17 (helping an organization researching diseases or health), and Q19 (volunteering for a clinic or hospital).

Factor 6. Independent Efforts to Help People, Animals and Community, consists of Q4 (helping the elderly on one's own), Q6 (helping disabled people), Q13 (helping animals), Q11 (helping one's neighborhood or community), and Q3 (helping homeless or hungry people).

Factor 7. Independent Efforts to Help Minorities, includes Q14 (advancing the rights of minorities), Q12 (bringing people of the same ethnic background together), Q9 (helping immigrants), Q8 (mentoring or tutoring someone), and Q5 (helping children or teens).

The two Factors for giving are:

Factor 1. Giving to Organizations, consists of Q48 (the arts), Q50 (public interest organizations), and Q51 (other non-profit organizations).

Factor 2. Giving to People, consists of Q52 (family members living in or outside the U.S.), and Q53 (non-family members in or outside of the U.S.).

The factor analysis procedure assigns a score for each respondent for each factor created. The process creates a series of scales from high to low for each factor, which permits further sophisticated statistical analysis: multiple regression.

Multiple Regression. The next step in the multivariate analysis was using multiple linear regression to determine which of the predictor variables best associated with these factors or concepts.

Regression analysis investigates the extent to which independent variables (*e.g.*, age, income, race, sex) influence the dependent variable(s) (*e.g.*, a particular factor). Regression also helps determine whether a statistically significant influence of an independent variable on a dependent variable indicates a real or superficial relationship by controlling for other independent variables.

In this study, demographic and lifestyle variables were “regressed” successively against each factor to determine the degree of their association, if any. This

process also ranks the strength of association between predictor variables and controls for all predictor elements in each factor analysis.

The independent variables used on all regression models were:

- Gender
- Age (Q90)
- Race (Q91 and Q92)
- Education (Q82)
- Income (Q93)
- Self reported health status (Q75)
- Religious preference (Q85)
- Religiosity—frequency of religious services attendance (Q86)
- Origin of birth (Q87)
- Employment status (Q76)
- Marital status (Q81)
- Children under 18 in household (Q80)
- Household size (Q79)
- Member of AARP (Q83)
- Party ID (Q84)