

## **Appendix 5**

### **Public opinion survey sampling procedures**

Note: The sampling procedures of six public opinion surveys or survey organizations are presented in this appendix: The Gallup Poll, the Phi Delta Kappa/Gallup Education Poll, the Harris Poll, the National Opinion Research Center, The Pew Research Center for the People & the Press, and the Youth Risk Behavior Surveillance System.

Each methodology is presented individually; click on the one in which you are interested:

[Go to Gallup Poll](#)

[Go to Phil Delta Kappa/Gallup Education Poll](#)

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**GALLUP POLL**

Information on The Gallup Organization's survey sampling procedures was excerpted from The Gallup Organization, Inc. [Online]. Available: <http://www.gallup.com> [Dec. 1, 2004]. Non-substantive editorial adaptations have been made.

The Gallup Organization's public opinion polling methods are based on the fundamental sampling principle of equal probability of selection. This principle states that if every member of a population has an equal probability of being selected into a sample, the sample will be representative of the population.

Gallup polls prior to the mid-1980s were based on in-person interviewing among a national probability sample of interviewing areas throughout the United States. Readers interested in a discussion of the survey methodology and sampling for the in-person interviews should consult previous editions of SOURCEBOOK. By 1986, a sufficient proportion of American households had at least one telephone, making telephone interviewing a viable and substantially less expensive alternative to the in-person method.

For most Gallup polls (with the exception of specialized polls), the target population is referred to as "national adults." Specifically, the target population is the civilian, non-institutionalized population, age 18 and older, living in households with telephones within the continental United States. College students living on campus, armed forces personnel living on military bases, prisoners, hospital patients, and others living in group institutions are not represented in Gallup's sampling frame.

The sampling methodology involves random generation of phone numbers derived from a listing of all household telephone numbers in the continental United States. This process starts with a computerized list of all telephone exchanges in the U.S. and estimates of the number of residential households for each exchange. The random digit dialing (RDD) procedure creates computer-generated phone numbers for each exchange and generates samples of telephone numbers from those lists. In essence, this procedure creates a list of all possible household phone numbers in the U.S. and then selects a subset of numbers from that list for inclusion in the sample. The RDD procedure is utilized to avoid bias from exclusion of unlisted residential phone numbers.

The typical sample size for Gallup polls designed to represent the national adult population is 1,000 respondents. There is some gain in sampling accuracy resulting from increasing sample sizes. However,

once the survey sample reaches a certain threshold (i.e., 600-700), there are fewer and fewer accuracy gains derived from increasing the sample size. Gallup polls and other major polling organizations use sample sizes between 1,000 and 1,500 because they provide a solid balance of accuracy against the increased economic cost of larger samples. With a sample size of 1,000 national adults, (derived using careful random selection procedures), the results are estimated to be accurate within a margin of error of plus or minus 3 percentage points.

Systematic procedures are in place to maintain the integrity of the sample. If there is no answer or the line is busy, the number is stored in the computer and redialed a few hours later or on subsequent nights of the survey period. Procedures are utilized to assure that the within-household selection process is random in households that include more than one adult. One method involves asking for the adult with the latest birthday; if that adult is not home the number is stored for a call back. These procedures are standard methods for reducing the sample bias that would otherwise result from underrepresentation of persons who are difficult to find at home.

Most interviews are conducted by telephone from regional interviewing centers around the country. Trained interviewers use computer assisted telephone interviewing (CATI) technology, which displays the survey questions on a computer monitor and allows questionnaires to be tailored to specific responses given by the individual being interviewed. In most polls, once interviewing has been completed, the data are carefully checked and weighted before analysis begins. The weighting process is a statistical procedure by which the sample is checked against known population parameters to correct for any possible sampling biases on the basis of demographic variables such as age, gender, race, education, or region of the country. For certain survey items, Gallup uses a split sample technique to measure the impact of different question wordings. One-half (approximately 500 respondents) of a given sample is randomly selected and is administered one wording of a question, while the other half is administered another wording. This allows Gallup to compare the impact of differences in question wording.

The four regions of the country as reported in Gallup public opinion survey results are:

**East**--Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Delaware, West Virginia, District of Columbia;

**Midwest**--Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri,

North Dakota, South Dakota, Nebraska, Kansas;

**South**--Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas; and

**West**--Montana, Arizona, Colorado, Idaho, Wyoming, Utah, Nevada, New Mexico, California, Oregon, Washington, Hawaii, Alaska.

**Urbanization**--Central cities have populations of 50,000 and above. Suburbs constitute the fringe and include populations of 2,500 to 49,999. Rural areas are those that have populations of under 2,500.

**Race, ethnicity**--Nonwhite is comprised of individuals who report themselves as any combination of the following classifications: Hispanic, American Indian, other Indian, Asian, and black. Black and Hispanic are subcategories of nonwhite. However, due to variation in respondent reporting, the category white may also include some Hispanics.

**Sampling error**

All sample surveys are subject to sampling error, that is, the extent to which the results may differ from those that would be obtained if the entire population surveyed had been interviewed. The size of sampling errors depends largely on the number of interviews.

The following table may be used in estimating sampling error. The computed allowances have taken into account the effect of the sample design upon sampling error. They may be interpreted as indicating the range (plus or minus the figure shown) within which the results of repeated samplings in the same time period could be expected to vary, 95% of the time, assuming the same-sampling procedure, the same interviewers, and the same questionnaire.

Recommended allowance for sampling error (plus or minus) at 95% confidence level

Percent-ages near	Sample size					
	1,000	750	600	400	200	100
10	2	3	3	4	5	7
20	3	4	4	5	7	9
30	4	4	4	6	8	10
40	4	4	5	6	8	11
50	4	4	5	6	8	11
60	4	4	5	6	8	11
70	4	4	4	6	8	10
80	3	4	4	5	7	9
90	2	3	3	4	5	7

The table would be used in the following manner: Assume a reported percentage is 33 for a group that includes 1,000 respondents. Proceed to row "Percentages near 30" in the table and then to the column headed,

"1,000." The figure in this cell is four, which means that at the 95% confidence level, the 33% result obtained in the sample is subject to a sampling error of plus or minus four points.

## PHI DELTA KAPPA/GALLUP POLL

Information on the Phi Delta Kappa/Gallup Poll was excerpted from George Gallup, Jr., *The Gallup Report*, Report No. 276, p. 41; and Report No. 288, p. 41 (Princeton, NJ: The Gallup Poll); Stanley M. Elam, "The 22nd Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1990), p. 54; Stanley M. Elam, Lowell C. Rose, and Alec M. Gallup, "The 23rd Annual Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1991), p. 56; "The 24th Annual Gallup/Phi Delta Kappa Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1992), p. 52; "The 25th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (October 1993), p. 152; "The 26th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1994), p. 56; Stanley M. Elam and Lowell C. Rose, "The 27th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1995), p. 56; Stanley M. Elam, Lowell C. Rose, and Alec M. Gallup, "The 28th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1996), p. 58; Lowell C. Rose, Alec M. Gallup, and Stanley M. Elam, "The 29th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* [Online]. Available: <http://www.pdkintl.org/kappan/kpoll97.htm> [Dec. 31, 1997]; Lowell C. Rose and Alec M. Gallup, "The 30th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* [Online]. Available: <http://www.pdkintl.org/kappan/kp9809-a.htm> [Jan. 5, 1999]; Lowell C. Rose and Alec M. Gallup, "The 31st Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 1999), pp. 55, 56; "The 32nd Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2000), pp. 57, 58; "The 33rd Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2001), pp. 57, 58; "The 34th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2002), pp. 56, 57; "The 35th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2003), p. 52; "The 36th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2004), p. 52; "The 37th Annual Phi Delta

Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2005), p. 54; "The 38th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2006), p. 53; and "The 39th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2007), p. 44.

The Phi Delta Kappa/Gallup polls are modified probability samples of adults, 18 years of age and older, living in the United States.

Sample sizes and survey dates for Phi Delta Kappa/Gallup polls

	Sample size	Survey dates
1988	NA	Apr. 8-10
1989	NA	May 5-7; June 9-11
1990	1,594	Apr. 6-18; May 4-22
1991	1,500	May 3-17
1992	1,306	Apr. 23-May 14
1993	1,306	May 21-June 9
1994	1,326	May 10-June 8
1995	1,311	May 25-June 15
1996	1,329	May 2-22
1997	1,517	June 3-22
1998	1,151	June 5-23
1999	1,103	May 18-June 11
2000	1,093	June 5-29
2001	1,108	May 23-June 6
2002	1,000	June 5-26
2003	1,011	May 28-June 18
2004	1,003	May 28-June 18
2005	1,000	June 9-26
2006	1,007	June 11-July 5
2007	1,005	June 12-29

Prior to the 1993 survey, data collection was done through personal, in-home interviewing of the civilian population (excluding persons in institutions such as prisons and hospitals). Beginning with the 1993 survey, the data collection design utilized the Gallup Organization's standard national telephone sample, i.e., an unclustered, directory-assisted, random-digit telephone sample, based on a proportionate stratified sampling design. Random-digit samples are used to avoid listing bias. Numerous studies have shown that households with unlisted telephone numbers are different in important ways from listed households. "Unlistedness" is due to household mobility or to customer requests to prevent publication of the telephone number. To avoid this source of bias, a random-digit procedure designed to provide representation of both listed and unlisted (including not-yet-listed) numbers was used.

Telephone numbers for the continental United States were stratified into four regions of the country and, within each region, further stratified into three size-of-community strata. Only working banks of telephone

numbers were selected. Eliminating non-working banks from the sample increased the likelihood that any sample telephone number would be associated with a residence. This method generates a sample of telephone numbers that is representative of all telephone households within the continental United States.

Within each contacted household, an interview was sought with the household member who had the most recent birthday. This method of respondent selection provides an excellent approximation of statistical randomness in that it gives all members of the household an opportunity to be selected.

Up to three calls were made to each selected telephone number to complete an interview. The time of day and the day of the week for callbacks were varied so as to maximize the chances of finding a respondent at home. All interviews were conducted on weekends or weekday evenings in order to contact potential respondents among the working population.

The final sample was weighted so that the distribution of the sample matched current estimates from the U.S. Census Bureau's Current Population Survey for the adult population living in telephone households in the continental United States.

For further information on the survey sampling procedures see Lowell C. Rose and Alec M. Gallup, "The 39th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* (September 2007), p. 44.

## HARRIS POLL

Information on the Harris Poll survey sampling procedures was provided to SOURCE-BOOK staff by Harris Interactive, Inc., formerly Louis Harris and Associates, Inc.; similar procedures used in earlier surveys are described in Louis Harris and Associates, Inc., *The Harris Yearbook of Public Opinion 1970: A Compendium of Current American Attitudes* (New York: Louis Harris and Associates, Inc., 1971), pp. 511-514.

Harris Poll surveys are based on a national sample of the civilian population of the continental United States. Alaska and Hawaii are not represented in the sample, nor are persons in prisons, hospitals, or religious and educational institutions. The sample is based on census information on the population of each State in the country, and on the population living in standard metropolitan areas and in the rest of the country. These population figures are updated by intercensal estimates produced annually by the U.S. Census Bureau, and sample locations are selected biennially to reflect changes in the country's demographic profile.

National samples are stratified in two dimensions--geographic region and metropolitan (and non-metropolitan) residence. Stratification insures that the samples will reflect, within 1%, the actual proportions of those living in the country in different regions and metropolitan (and non-metropolitan) areas. Within each stratum the selection of the ultimate sampling unit is achieved through a series of steps, a process that is technically called multi-stage unclustered sampling. Each sampling unit yields one interview. First States, then counties, and then minor civil divisions (cities, towns, townships) are selected with probability proportional to census estimates of their respective household populations.

The Harris Poll survey has four of these national samples, and they are used in rotation from study to study. The specific sample locations in one study generally are adjacent to those used in the next study. For most surveys covering the entire country, more than one national sample may be employed. Harris Poll surveys of nationwide samples usually include approximately 1,250 respondents.

All interviews prior to 1978 were conducted in person, in the homes of respondents. At each household the respondent was chosen by means of a random selection pattern, geared to the number of adults of each sex who live in the household. Interviews lasted approximately 1 hour. Almost all interviews conducted as of 1978 have been telephone interviews. Respondents are selected on the basis of random digit dialing. When the

completed interviews are received in New York, a subsample of the respondents are re-contacted to verify that the data have been accurately recorded. Questionnaires are edited and coded in the New York office. The Harris sampling procedure is designed to produce a national cross-section that accurately reflects the actual population of the country 18 years of age and older living in private households. This means that the results of a survey among a national sample can be projected as representative of the country's civilian population 18 years of age and older.

Harris Poll survey national results are reported for the East, Midwest, South, and West regions of the country, defined as follows:

**East**--Maine, New Hampshire, Vermont, New York, Massachusetts, Rhode Island, Connecticut, Pennsylvania, Maryland, New Jersey, Delaware, West Virginia;

**Midwest**--North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio;

**South**--Kentucky, Virginia, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida, Louisiana, Arkansas, Oklahoma, Texas; and

**West**--Washington, Oregon, California, Idaho, Nevada, Utah, Arizona, Montana, Wyoming, Colorado, New Mexico.

### Sampling error

The results of the surveys are subject to sampling error, i.e., the difference between the results obtained from the sample and those that would be obtained by surveying the entire population. The size of a possible sampling error varies to some extent with the size of the sample and with the percentage giving a particular answer. The following table sets forth the range of error in samples of different sizes and at different percentages of response.

For example, if the response for a sample size of 1,200 is 30%, in 95 cases out of 100 the response in the population will be between 27% and 33%. This error accounts only for sampling error. Survey research also is susceptible to other errors, such as data handling and interview recording.

Recommended allowance for sampling error (plus or minus) at 95% confidence level:

Response percent	Sample size					
	1,600	1,200	900	500	250	100
10(90)	2	2	2	3	5	7
20(80)	2	3	3	4	6	10
30(70)	3	3	4	5	7	11
40(60)	3	3	4	5	7	12
50	3	3	4	5	8	12

## NATIONAL OPINION RESEARCH CENTER

Information on the survey procedures employed by the National Opinion Research Center was excerpted from the National Opinion Research Center, *General Social Surveys, 1972-2002: Cumulative Code-book* (Chicago: National Opinion Research Center, University of Chicago, 2003), pp. v, vi, 61, 1288, 1289, 1299, 1525, 1526.

The National Opinion Research Center (NORC) maintains a national probability sample. The General Social Surveys (GSS) are interviews administered to the NORC national samples using a standard questionnaire. They have been conducted during February, March, and April from 1972 to 1978, 1980, 1982 to 1991, 1993, 1994, 1996, 1998, 2000, and 2002.

Completed interviews for General Social Surveys, 1972-2002

	Completed interviews
Total	43,698
1972	1,613
1973	1,504
1974	1,484
1975	1,490
1976	1,499
1977	1,530
1978	1,532
1980	1,468
1982	1,860
1983	1,599
1984	1,473
1985	1,534
1986	1,470
1987	1,819
1988	1,481
1989	1,537
1990	1,372
1991	1,517
1993	1,606
1994	2,992
1996	2,904
1998	2,832
2000	2,817
2002	2,765

Note: The figure for 1982 includes an oversample of 354 black respondents; the figure for 1987 includes an oversample of 353 black respondents.

Sampling frames are based on 1970 census information for surveys conducted in 1972-78, 1980, and 1982. For all interviews conducted from 1984-91, the national sampling frame was based on 1980 census information. A split sample transition design was used in the 1983 survey; one-half of the sample was drawn from the 1970 frame and one-half from the 1980 frame. Again in 1993, a split sample transition design was employed for the 1993 survey to measure the effect of switching from the 1980 sample frame to the 1990 sample frame. Half the

sample was drawn from each frame. Beginning in 1994, the 1990 sample frame has been used. Since 1973, the median length of the interview has been about one and a half hours. This study employed standard field procedures for national surveys, including interviewer hiring and training by area supervisors in interviewing locations when necessary.

Each survey is an independently drawn sample of English-speaking persons 18 years of age and older, living in non-institutional arrangements within the United States. Alaska and Hawaii are not included in samples drawn from the 1970 sampling frame, but are represented in one-half of the 1983 surveys and all those conducted from 1984-2002. Block quota sampling was used in the 1972, 1973, and 1974 surveys and for half of the 1975 and 1976 surveys. Full probability sampling was employed in half of the 1975 and 1976 surveys and in all of the surveys conducted subsequent to 1976.

The sample is a multi-stage area probability sample to the block or segment level. At the block level, quota sampling is used with quotas based on sex, age, and employment status. The cost of the quota samples is substantially less than the cost of a full probability sample of the same size, but there is, of course, the chance of sample biases mainly due to not-at-homes, which are not controlled by the quotas. However, in order to reduce this bias, the interviewers are given instructions to canvass and interview only after 3:00 p.m. on weekdays or during the weekend or holidays. The first stage of sample selection includes selection of the Primary Sampling Units (PSUs). The PSUs employed are Standard Metropolitan Statistical Areas (SMSAs) or nonmetropolitan counties selected in NORC's Master Sample. These SMSAs and counties were stratified by region, age, and race before selection. The units of selection of the second stage were block groups (BGs) and enumeration districts (EDs). These BGs and EDs were stratified according to race and income of the residents. The third stage of selection was that of blocks, which were selected with probabilities proportional to size. In places without block statistics, measures of size for the blocks were obtained by field counting. The average cluster size is five respondents per cluster.

The quotas call for approximately equal numbers of males and females with the exact proportion in each segment determined by the 1970 census tract data. For women, the additional requirement is imposed that there be the proper proportion of employed and unemployed females in the location. Again, these quotas are based on the 1970 census

tract data. For males, the added requirement is that there be the proper proportion of males over and under age 35 in the location. Past experience suggests that, for most purposes, this quota sample of 1,500 could be considered as having about the same efficiency as a simple random sample of 1,000 cases.

The 1975 and 1976 studies were conducted with a traditional sample design, one-half full probability and one-half block quota. The sample was divided into two parts for several reasons: (1) to provide data for possibly interesting methodological comparisons; and (2) on the chance that there are some differences over time, that it would be possible to assign these differences to either shifts in sample designs, or changes in response patterns. Having allowed for the appearance of all items in the transitional sample design, the GSS then switched to a full probability sample beginning with the 1977 survey.

### Rotation

Since its inception, the GSS has employed a *rotation design* under which most of its items appeared on two out of every three surveys. While this design proved to be useful for both monitoring change and augmenting the content of the GSS, it had the disadvantage of irregularly spacing the data and allowing gaps in the time series. This problem was particularly acute during 1978-82 because of the lack of funding for surveys in 1979 and 1981. At that juncture 4-year gaps regularly appeared in the data and 6-year lapses existed for bivariate correlations between items from different rotations. Even with annual surveys 2-year gaps and 3-year intervals for bivariate correlations occur. To reduce this imbalance in the time series and reduce the length of intervals, in 1988 the rotation, across-time design previously used was changed to a *split-ballot design*. Under this design rotations 1, 2, and 3 occur across random sub-samples within each survey rather than across surveys (and years). Each sub-sample (known as ballots) consists of 1/3 of the sample. Permanent items are not affected by this switch. They continue to appear for all cases on all surveys. Rotating items now appear on all surveys and are asked of two-thirds of respondents on each survey. Over a 3-year cycle the same number of respondents are asked the "rotating" items as before (3,000), but instead of coming in two segments of 1,500 each from two surveys, they appear in three segments of 1,000 each from three surveys.

The 1993 GSS was the last survey conducted according to this design. In 1994 two major innovations were introduced to the GSS.

First, the traditional core was substantially reduced to allow for the creation of mini-modules (i.e., blocks of about 15 minutes devoted to some combination of small- to medium-sized supplements). The mini-modules space provides greater flexibility to incorporate innovations and to include important items proposed by the social science community.

Second, a new biennial, split-sample design was used. The sample consists of two parallel sub-samples of approximately 1,500 cases each. The two sub-samples both contain the identical core. The A sample also contains a standard, topical module, the mini-modules, and an International Social Survey Program (ISSP) module (on women, work, and the family). The B sample has a second topical module, mini-modules, and an ISSP module (on the environment). In effect, one can think of the A sample as representing a traditional GSS for 1994 and the B sample representing a traditional GSS for 1995. Rather than being fielded separately in two different years they are fielded together.

Beginning in 1996, and in subsequent even-numbered years, the same design described for 1994 was repeated. In addition, in 1994 only, a transitional design was utilized to calibrate any impact of deletions from the core.

Beginning in 2002, the GSS underwent a change in survey mode. In the past, the GSS was administered using a paper and pencil format. Starting in 2002, the GSS was conducted by computer-assisted personal interviewing (CAPI). In addition, the measurement of race was revised by the GSS in 2002. In the past, the GSS relied on interviewer perception to report the race of the respondent. Beginning in 2002, race is determined solely through self-report by the respondent.

Survey results are reported for four regional categories, with the States classified in the following way:

**Northeast**--Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;

**North Central**--Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;

**South**--Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;

**West**--Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

## THE PEW RESEARCH CENTER FOR THE PEOPLE & THE PRESS

Information on The Pew Center's 2003 Values Survey was excerpted from The Pew Research Center for the People & the Press, *The 2004 Political Landscape: Evenly Divided and Increasingly Polarized* (Washington, DC: The Pew Research Center for the People & the Press, 2003), p. 77.

Results for the 2003 survey are based on telephone interviews conducted under the direction of Princeton Survey Research Associates with a nationwide sample of 2,528 adults, 18 years of age and older, from July 14 to Aug. 5, 2003. Based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2 percentage points.

Information on The Pew Center's 2007 Values Update Survey was excerpted from The Pew Research Center for the People & the Press, *Trends in Political Values and Core Attitudes: 1987-2007* (Washington, DC: The Pew Research Center for the People & the Press, 2007), p. 64.

Results for the 2007 survey are based on telephone interviews conducted under the direction of Princeton Survey Research Associates International with a nationwide sample of 2,007 adults, 18 years of age and older, from Dec. 12, 2006 to Jan. 9, 2007. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling is plus or minus 2.5 percentage points. For results based on the split samples, i.e., N=982 and N=1,025, the sampling error is plus or minus 3.5 percentage points.

Both the 2003 and 2007 surveys were conducted using essentially the same methodology described below.

The samples are random digit samples of telephone numbers selected from telephone exchanges in the continental United States. The random digit aspect of the design is used to avoid "listing" bias and provides representation of both listed and unlisted numbers (including not-yet-listed). This design ensures representation by random generation of the last two digits of telephone numbers selected on the basis of area code, telephone exchange, and bank number.

The telephone exchanges were selected with probabilities proportional to their size. The first eight digits of the sampled telephone numbers (area code, telephone exchange, bank number) were selected to be proportionally stratified by county and by telephone exchange within county. That is, the number of telephone numbers randomly sampled

from within a given county is proportional to that county's share of telephone numbers in the United States. Only working banks of telephone numbers are selected. A working bank is defined as 100 contiguous telephone numbers containing one or more residential listings.

As many as 10 attempts were made to complete an interview at every sampled telephone number. The calls were staggered over times of the day and days of the week to maximize the chances of making a contact with a potential respondent. All interview breakoffs and refusals were recontacted at least once in order to attempt to convert them to completed interviews. In each contacted household, interviewers asked to speak with the "youngest male 18 or older who is at home." If there is no eligible male at home, interviewers asked to speak with "the oldest female 18 or older who is at home" for the 2003 survey, and "the youngest female 18 or older who is at home" for the 2007 survey. This systematic respondent selection technique has been shown empirically to produce samples that closely mirror the population in terms of age and gender.

Nonresponse in telephone interview surveys produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population, and these subgroups are likely to vary also on questions of substantive interest. In order to compensate for these known biases, the sample data are weighted in analysis.

The demographic weighting parameters are derived from analysis of the most recently available U.S. Census Bureau's Current Population Survey (March 2002 for the 2003 survey; March 2006 for the 2007 survey). This analysis produced population parameters for the demographic characteristics of households with adults age 18 and older, which are then compared with sample characteristics to construct sample weights. The analysis included only households in the continental United States that contain a telephone.

## YOUTH RISK BEHAVIOR SURVEILLANCE SYSTEM

Information on the Youth Risk Behavior Surveillance System was excerpted from Jo Anne Grunbaum et al., "Youth Risk Behavior Surveillance--United States, 2003," *CDC Surveillance Summaries, Morbidity and Mortality Weekly Report* 53 SS-2 (Washington, DC: USGPO, May 21, 2004), pp. 1-3; and Danice K. Eaton et al., "Youth Risk Behavior Surveillance--United States, 2005," *CDC Surveillance Summaries, Morbidity and Mortality Weekly Report* 55 SS-5 (Washington, DC: USGPO, June 9, 2006), pp. 1-3.

The Youth Risk Behavior Surveillance System (YRBSS) is conducted biennially by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and monitors priority health risk behaviors among youth and young adults. The 2003 and 2005 national school-based surveys, which were conducted as part of the YRBSS, employed a three-stage cluster sample design to produce nationally representative samples of students in grades 9 through 12 attending public and private schools.

For the 2003 and 2005 surveys, respectively, the first-stage sampling frames contained 1,262 and 1,261 primary sampling units (PSUs), consisting of large counties, subareas of large counties, or groups of smaller, adjacent counties. From the 1,262 PSUs in 2003 and 1,261 PSUs in 2005, 57 were selected from 16 strata formed on the basis of the degree of urbanization and the percentage of black (non-Hispanic) and Hispanic students in the PSU. The PSUs were selected with probability proportional to school enrollment size.

At the second sampling stage, for the 2003 and 2005 surveys, respectively, 195 schools and 203 schools were selected with probability proportional to school enrollment size.

For both the 2003 and 2005 surveys, to enable separate analysis of data for black and Hispanic students, PSUs and, subsequently, schools with higher proportions of black (non-Hispanic) and Hispanic students were sampled at higher rates than other areas and schools. The third stage of sampling consisted of randomly selecting one or two intact classes of a required subject (e.g., English or social studies) or a required period (e.g., second period) from grades 9 through 12 at each chosen school. All students in the selected classes were eligible to participate in the study.

In 2003, the school response rate was 78% and the student response rate was 86%, for an overall response rate of 67%. A total of

13,953 questionnaires were completed in 159 schools. Of these, 36 questionnaires failed quality control and were excluded from the analysis resulting in 13,917 usable questionnaires.

In 2005, the school response rate was 81% and the student response rate was 83%, for an overall response rate of 67%. A total of 15,240 questionnaires were completed in 158 schools. Of these, 26 questionnaires failed quality control and were excluded from the analysis resulting in 15,214 usable questionnaires.

Survey procedures were designed to protect students' privacy by allowing for anonymous and voluntary participation. Students completed the self-administered questionnaire during one class period and recorded their responses directly on a computer-scannable booklet or answer sheet.

A weighting factor was applied to each student record to adjust for school and student nonresponse and for the varying probabilities of selection, including those resulting from the oversampling of black (non-Hispanic) and Hispanic students. Numbers of students in racial/ethnic groups other than white (non-Hispanic), black (non-Hispanic), and Hispanic were too low for meaningful analysis. The weights were scaled so that the weighted count of students was equal to the total sample size and so that the weighted proportions of students in each grade matched national population proportions. The data are representative of students in grades 9 through 12 in public and private schools in the 50 States and the District of Columbia.