

**POLITICAL TALK RADIO
METHODOLOGICAL REPORT
Waves 1 - 5**

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POLITICAL TALK RADIO: A METHODOLOGICAL REPORT

This is a report on the methodology used for a five-wave panel study of political talk radio conducted by Princeton Survey Research Associates (PSR) for the Annenberg School for Communication. The study focused on the effects of talk radio during a presidential election year. The first three waves of telephone interviewing were completed during the primary phase of the 1996 presidential campaign; the final two waves of interviewing took place in the fall, immediately before and after the November election.

The report is divided into three sections. The first section describes the overall research design, including the sampling and weighting procedures. The second section details the characteristics of the panel respondents -- those interviewed on more than one occasion -- and examines the issues of attrition and representativeness. This second section also compares the initial samples of talk radio listeners and non-listeners with supplemental samples of these same groups added later in the election year. The final section presents the questionnaires used for all waves of interviewing, and summarizes the "top-line" results for all questions asked.

The Research Design

Design Structure

The research design employed divided the adult population into four mutually exclusive groups, based on exposure to political talk radio: (1) Regular listeners to Rush Limbaugh's afternoon radio program; (2) Regular listeners to a political talk radio program with some other host; (3) Regular listeners to both Limbaugh and another host; (4) Non-regular listeners to political talk radio. "Regular" listening was defined as two or more days per week.

The research design called for an initial cross-sectional survey of approximately 1,200 adults, 18 years and older, plus supplemental interviews with regular talk radio listeners in sufficient numbers to allow for reliable and valid comparisons between listeners and non-listeners, as well as between Limbaugh listeners and listeners to other political talk radio. A random-digit-dial sample design was used for both the general public component and the

oversamples of listeners (see pages 10 - 13 for a detailed description of the sample design). Including the oversampling of listeners, a total of 1,666 adults were interviewed for Wave 1 of the study. These initial interviews were conducted between February 21 and March 6, 1997, early in the primary phase of the presidential campaign. Table 1 breaks out the overall percentage of the national adult population represented by each of the four groups, along with the numbers of interviews initially collected for each group, and the source of these interviews (general public sample vs. oversample).

Table 1: Distribution of Population and Sample by Regular Talk Radio Exposure

Description of Group	Percent in Population	Number in GP Sample	Number in Over-Sample	Total Number of Resps.
Regular Listeners to Rush Limbaugh	7%	86	127	213
Regular Listeners to Other Political Talk Show Hosts	7%	86	336	422
Regular Listeners to Rush Limbaugh and Other Hosts	4%	43	0	43
Non-regular Listeners to Political Talk Radio	82%	988	0	988
Total	100%	1203	463	1666

The Initial Panel Created at Wave 1

Three of the four groups defined by their exposure to political talk radio at wave 1 -- regular Limbaugh listeners, regular listeners to other talk show hosts, and non-regular listeners -- became part of a panel of respondents who were recontacted and reinterviewed up to four more times over the course of 1996 . The remaining group -- regular listeners to both Limbaugh *and*

another host -- were excluded from the panel by design. These “dual listeners” failed to qualify as the “pure” types of political talk radio listeners who were the focus of the study

Since the initial research design centered on the effects of political talk radio during the primary phase of the 1996 presidential campaign, a second and third wave of interviewing were completed later in the spring. Wave 2 interviewing was conducted between March 13 and March 24; Wave 3 interviewing was conducted between April 25 and May 7. After the first three waves of interviewing were completed, the research design was expanded to include two additional waves of interviewing. Wave 4 was conducted between October 17 and 24 after the presidential and vice presidential debates. Wave 5, a post-election interview, was completed between November 11 and 17.

Table 2: Distribution of Interviews on Panel Waves

Num. of interviews	Limbaugh Listeners	Other Listeners	Non Listeners
Wave 1 interviews	213	422	988
Wave 2 reinterviews	158	295	634
Wave 3 reinterviews	121	237	527
Wave 4 reinterviews	98	221	369
Wave 5 reinterviews	75	160	282
Pct. of Reinterviews			
Wave 2	74%	70%	64%
Wave 3	57%	56%	53%
Wave 4	46%	52%	37%
Wave 5	35%	38%	29%

Tables 2 and 3 show the disposition of 1,623 of the 1,666 respondents interviewed at Wave 1. (The remaining 42 respondents are “dual listeners” excluded from the panel by design.) For the three groups of panel respondents, Table 2 breaks out the number of interviews completed at each wave and, for waves 2-5, the percentage of wave 1 respondents who were successfully re-interviewed. Table 3 provides a detailed description of the 12 possible permutations of completion outcomes for the three groups of wave 1 panel respondents. Of the total 1,632 panel respondents, 1,087 were successfully reinterviewed at wave 2 (67%), and 885 at wave 3 (55%). After a five month hiatus, 688 respondents were reinterviewed at wave 4 (42%), and 517 (32%) at wave 5. All wave 1 panel respondents were eligible for recontact at each subsequent wave with one exception: those who did not participate in wave 4 became ineligible for wave 5, and therefore were not recontacted.

Table 3: Permutations of Respondent Paths for Initial Panel

Waves of Interview Successfully Completed	Limbaugh n=213	Other n=422	Non-Listener n= 988
Wave 1 only	17%	18%	24%
Waves 1 & 2 only	15	13	15
Waves 1 & 3 only	4	4	6
Waves 1, 2 & 3 only	17	13	17
Waves 1 & 4 only	1	2	2
Waves 1, 2 & 4 only	4	4	2
Waves 1, 3 & 4 only	1	2	2
Waves 1, 2, 3 & 4 only	5	6	5
Waves 1, 4 & 5 only	1	2	1
Waves 1, 2, 4 & 5 only	5	5	2
Waves 1, 3, 4 & 5 only	1	2	2
Waves 1, 2, 3, 4 & 5	28	29	23
TOTAL (Rounded)	99%	100%	101%

Supplemental Respondents Added at Waves 3 and 4

At two time points after wave 1 interviewing, PSR added new respondents to the study and increased the size of the panel for subsequent waves of interviewing. First, at wave 3, concurrent with the second reinterview of the original panel, PSR also conducted 200 interviews with an independent sample of regular Limbaugh listeners. This wave 3 supplement had two objectives: (1) to bolster the respondent base of regular Limbaugh listeners; and (2) to make it possible to test for panel activation effects. Interviewing for the wave 3 supplement was conducted between April 29 and May 11.

At the time of wave 3, it was first proposed that the talk radio study be extended for two additional waves of interviewing in the fall. The size of the initial panel was considered inadequate for such an extension, however, given the five-month gap between waves 3 and 4. The 200 regular Limbaugh listeners interviewed for the wave 3 supplement provided a convenient source of additional panel respondents for one of the three target groups. To make it easier to supplement the remaining two target groups -- regular listeners to "other" political talk radio and "non-listeners" -- questions were added to the wave 3 supplement which allowed such respondents to be identified in the process of screening for regular Limbaugh listeners.

At wave 4, PSR successfully added 90 "other" political talk radio listeners and 489 "non-listeners" to the panel, by calling back those so identified in the wave 3 supplemental interview. The size of the total panel at wave 4 -- and a breakdown of the source of respondents for each target group -- is displayed in Table 4.

The *definition* of the study's primary independent variable -- exposure to talk radio -- is the same for all respondents in the supplemental samples, whether added at wave 3 or wave 4. In effect, supplemental respondents were "frozen" into a particular group when first contacted during the screening process for additional Limbaugh listeners at wave 3. Wave 1 panel respondents were similarly "frozen" into their groups in February and March. Although

subsequent waves of interviewing included some questions about current radio listening habits, no attempt was made to reclassify respondents at any point from wave 1 to wave 5.

Table 4: Source of Respondents by Listener Group*

	Limbaugh	Other	Non-Listener	Total
Initial Sample	213	422	988	1623
Supplemental Sample	200	90	489	779
Total Respondents	413	512	1477	2402

* Excludes 43 "Dual" listeners interviewed in initial sample.

Summary Information: The Initial Panel and Supplemental Interviewing

The following two tables provide a detailed summary of the interviewing conducted for all five waves of interviewing for this talk radio study. Table 5 shows the number of interviews by source for each wave of interviewing. Table 6 shows the permutation of respondent paths for all 2,402 persons in the initial panel and supplemental samples combined, again excluding the 43 "dual" listeners interviewed at Wave 1.

Table 5: Respondent Source Profile--Initial or Supplemental Interviews

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
Initial Panel--Total	1623	1087	855	688	517
Limbaugh Listeners	213	158	121	98	75
Other Listeners	422	295	221	221	160
Non-Listeners	988	634	369	369	282
Supplemental Sample--Total			200	688	456
Limbaugh Listeners			200	109	83
Other Listeners				90	60
Non-Listeners				489	313

Table 6: Permutations of Respondent Paths for Initial Panel

Respondent Paths	Limbaugh	Other	Non-Listener
<i>Initial Panel Members</i>	213	422	988
Wave 1 only	37	75	240
Waves 1 & 2 only	32	54	153
Waves 1 & 3 only	9	16	61
Waves 1, 2 & 3 only	37	56	165
Waves 1 & 4 only	2	10	17
Waves 1, 2 & 4 only	8	16	18
Waves 1, 3 & 4 only	2	8	6
Waves 1, 2, 3 & 4 only	11	27	46
Waves 1, 4 & 5 only	2	9	9
Waves 1, 2, 4 & 5 only	11	21	24
Waves 1, 3, 4 & 5 only	3	9	21
Waves 1, 2, 3, 4 & 5	59	121	228
<i>Supplemental Interviews</i>	200	90	489
Wave 3 only	91	*	*
Wave 3 & 4 only	26	*	*
Waves 3, 4 & 5	83	*	*
Wave 4 only	*	30	176
Waves 4 & 5	*	60	313
TOTAL	413	512	1477

* Not within the framework of the research design.

Sampling Error

All sample surveys contain some “error,” that is, the expected probable difference between interviewing everyone in a given population versus a *sample* drawn from that population. “Sampling error” is commonly expressed as how confident one is that the true population parameter will be included in some range around the estimate from the sample parameter. The confidence level of 95 percent is generally used for these estimates, as is the case in other tests of statistical inference. The sampling error figure varies depending on the number of people involved and the (binomial) distribution of the sample. Sampling error figures for divisions of 50%-50%, 70%-30%, and 90%-10% are shown in Table 7, at sample sizes that range from 100 to the full first wave sample of almost 1,700.

By way of illustration: Suppose we had a random sample of 1,100 people, half of whom said they listened to talk radio. The sampling error for 1,100 at a 50-50 division is ± 3 percent. Thus based on the sample distribution, we would be 95 percent confident that the true value of talk radio listeners in the underlying population is somewhere between 47 and 53 percent ($50\% \pm 3$). Sampling error increases as sample size decreases. Overall sampling error for the group of 988 non-listeners is just a little over ± 3 percent. It is approximately ± 5 percent for the 422 “Other” talk radio listeners, and about ± 7 percent for the 213 Rush Limbaugh listeners interviewed at wave 1.

The random digit aspect of the sample is used to avoid "listing" bias. According to a recent estimate from the Bureau of the Census, there are 96.4 million households in the continental United States, and approximately 95% of them contain one or more telephones. Telephone directories list only about 73% of such "telephone households" and numerous studies have shown that households with unlisted telephone numbers are different in several important ways from listed households. Moreover, nearly 15% of listed telephone numbers are "discontinued" due to household mobility and directory publishing lag, and it is reasonable to assume that a roughly equal amount of working residential numbers are too new to be found in published directories.

In order to avoid these various sources of bias, a random digit procedure designed to provide representation of both listed and unlisted (including not-yet-listed) numbers is used. The design of the sample ensures this representation by random generation of the last two digits of telephone numbers selected on the basis of their area code, telephone exchange (the first three digits of a seven digit telephone number), and bank number (the fourth and fifth digits).

This selection procedure produces a sample that is superior to random selection from a frame of listed telephone households, and the superiority is greater to the degree that the assignment of telephone numbers to households is made independently of their publication status in the directory. That is, if unlisted numbers tend to be found in the same telephone banks as listed numbers and if, in general, banks containing relatively few listed numbers also contain relatively few unlisted numbers, then the sample that results from the procedure described below will represent unlisted telephone households fully as well as it represents listed households. Random number selection within banks ensures that all numbers within a particular bank (whether listed or unlisted) have the same likelihood of inclusion in the sample, and that the sample so generated will represent listed and unlisted telephone households in the appropriate proportions.

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 proportionally 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 U.S.

Only working banks of telephone numbers are selected. A working bank is defined as 100 contiguous telephone numbers containing three or more residential listings. By eliminating non-working banks of numbers from the sample, the likelihood that any sampled telephone number will be associated with a residence increases from only 20% (where all banks of numbers are sampled) to between 60% and 70%.

The sample was released for interviewing in replicates, which are random sub-samples of the larger sample. Using replicates to control the release of sample to the field ensures that the complete call procedures are followed for the entire sample. The use of replicates also ensures that the regional distribution of numbers called is appropriate. This works to increase the representativeness of the final sample.

At least four attempts were made to complete an interview at every sampled telephone number. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Most interview breakoffs and refusals were re-contacted 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 man at home, interviewers asked to speak with "the oldest woman 18 or older who lives in the household". This systematic respondent selection technique has been shown empirically to produce samples that closely mirror the population in terms of age and gender.

The sampling frame for waves 2 and 3 was defined by those who had completed interviews at wave 1, except for the 43 “dual” listeners. As noted earlier, a fresh over-sample of 200 Limbaugh listeners was added at the time wave 3 was conducted. The sampling frame for wave 4 was all those who had completed wave 1, except for “hard” refusals on waves 2 and 3--where people had explicitly requested we not call them back. The fresh over-samples of “other” and non-listeners were also added at wave 4. These were secured by means of the RDD sample described earlier that produced the Limbaugh over-sample at wave 3 of the study. The sampling frame for wave 5 was the base of completed interviews from wave 4. All panel respondents were called multiple times (from five to 10) in hopes of securing cooperation with the study. Pre-paid phone cards were offered as incentives to certain groups of respondents at waves 3, 4, and 5.

Weighting

Non-response 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. For example, men are more difficult than women to reach at home by telephone, and people with relatively low educational attainment are less likely than others to agree to participate in telephone surveys. In order to compensate for these known biases, the sample data are weighted in analysis. Two sets of weights were computed: one for the first wave of data, and again at wave 4 when fresh samples in two of the groups were added.

The demographic weighting parameters are derived from a special analysis of recently available Census Bureau Annual Demographic File (from the March 1994 Current Population Survey). This analysis produced population parameters for the demographic characteristics of households with adults 18 or older, which are then compared with the sample characteristics to construct sample weights. The analysis only included census households in the continental United States with telephones for comparability to the sample design used for this survey. The

weights are derived using an iterative technique that simultaneously balances the distributions of all weighting parameters on the variables of gender, age, race, education and geographic region.

PSRA calculated the effects of the sample weights on the statistical efficiency of the sample design, so that an adjustment can be incorporated into tests of statistical significance when using these data. This so-called "design effect" or "deff" represents the loss in statistical efficiency that results from systematically under-sampling (through sample design and non-response) parts of the population of interest. The square root of the design effect should be multiplied by the standard error of a statistic in computing tests of statistical significance. Thus the formula for computing the 95% confidence interval around a percentage is:

$$1.96 * (\text{sqrt of the design effect}) * \\ \text{sqrt of } [(p)(1-p)/\text{unweighted } n]$$

The square root of the design effect for this sample is 1.22. Using this formula, we calculate the 95 percent confidence interval for results expressed as percentages in this study as plus or minus 3 percentage points for results near 50% based on the total sample of 1,666. Sampling error figures for the sub-groups are as follows: Limbaugh listeners, $\pm 7\%$; "Other" listeners, $\pm 5\%$; Non-listeners, $\pm 4\%$.

The formula for computing the 95 percent confidence interval around a *difference* between percentages is presented below. These formulas may be used to calculate the confidence interval around any percentage or any difference between percentages for the results reported.

$$1.96 * \text{sqrt of } [(deff \text{ for group } 1 * (p_1)(1-p_1)/\text{unweighted } n_1) + \\ (deff \text{ for group } 2 * (p_2)(1-p_2)/\text{unweighted } n_2)]$$

Table 7: Relationship Between Sample Size and Sampling Error

Sample Size	Div 50-50%	Div 70-30%	Div 90-10%
100	10	9.2	6
200	7.1	6.5	4.2
300	5.8	5.3	3.5
400	5	4.6	3
500	4.5	4.1	2.7
600	4.1	3.7	2.4
700	3.8	3.5	2.3
800	3.5	3.2	2.1
900	3.3	3.1	2
1000	3.2	2.9	1.9
1100	3	2.8	1.8
1200	2.9	2.6	1.7
1300	2.8	2.5	1.7
1400	2.7	2.5	1.6
1500	2.6	2.4	1.5
1600	2.5	2.3	1.5
1700	2.4	2.2	1.4
% Div.	50/50	70/30	90/10

Table Note: Sampling error figures listed are computed based on unweighted data.

Sample Design and Selection

The survey results from the first wave are based on telephone interviews with a nationally representative sample of adults, 18 and older living in telephone households in the continental United States. The sample for this survey was designed to produce a representative sample of telephone households in the continental United States through a random digit sample of telephone numbers selected from telephone exchanges in the continental United States. This sample was drawn by Survey Sampling, Inc. of Westport, Connecticut following PSRA's specifications.

Disposition of Call Attempts

With a random-digit-dial sample of the kind described above, many of the call attempts do not result in contact with a household or respondent. Some numbers dialed are non-working, and some reach business establishments. Other numbers were never answered after repeated (at least four) call attempts, leaving the question of whether contact with an eligible respondent was possible. A total of 5,159 numbers were dialed during the course of interviewing for the cross-sectional survey, 2,086 of which resulted in contacts. The reasons for non-contact and their prevalence of occurrence are presented below in Table 8.

**Table 8: Call Dispositions on Cross-sectional Survey
(Dispositions Reflect Final Call Attempt)**

5,159	Total of phone numbers dialed
3,073	Calls not resulting in contacts
790	Number disconnected/Changed/Not in Service
782	No Answer
432	Business/Non-residential number
358	Answering Machine
177	Language Problem
174	Repeated requests to call back
119	Modem/fax line
100	Health/Hearing problems
92	Respondent away for duration of study
6	Other
2,086	Calls resulting in contacts
1,203	Completions
711	Refusals (558 of whom were recontacted and again refused)
128	Over-quota for reasons of gender or geographic area
41	No qualified respondent (over 18) in household
3	Terminated in mind-interview

A much more extensive calling effort was necessary on the oversample to reach the study goals of at least 200 regular Limbaugh listeners and 400 regular “Other” listeners. Both of these groups are estimated to be at an incidence level of just under seven percent in the telephone public. In total 23,405 call attempts were made on the over-samples at wave 1, 9,061 of which resulted in contact with a household. However, unlike the cross-sectional survey, where almost all households contacted were eligible, most contacted on the over-sample were not eligible, as the vast majority do not listen to political talk radio. Additionally, once the quota of Limbaugh listeners was filled at 200, additional screening calls were necessary to reach the target goal of 400 “Other” listeners. The disposition of call attempts for the oversample is detailed below.

**Table 9: Call Dispositions on Oversample
(Dispositions Reflect Final Call Attempt)**

23,405	Calls not resulting in contacts
3,720	Number disconnected/Changed/Not in Service
3,682	No Answer
1,835	Business/Non-residential number
1,617	Answering Machine
416	Language Problem
1,914	Repeated requests to call back
584	Modem/fax line
266	Health/Hearing problems
206	Phone busy
51	Respondent away for duration of study
26	Other
9,061	Calls resulting in contacts
5,291	Not qualified; not regular listener
235	Not qualified; dual listener (Limbaugh and Other)
172	Not qualified; no one in household over 18
2,641	Refusals
463	Completions (either Limbaugh or Other)
211	Over quota
48	Terminate in mid-interview