

The Measurement of Public Opinion on Abortion: The Effects of Survey Design

By Larry L. Bumpass

A factorial experiment examined the effects of the wording and sequence of survey questions on the measurement of attitudes toward abortion. When a first-trimester pregnancy is specified, 55% of respondents agree that a woman should be able to obtain a legal abortion for any reason, compared with 44% when no pregnancy duration is stated. Specifying first-trimester pregnancies has little effect on the proportion of respondents who agree that abortion should be available for maternal health, fetal defects or rape, but it significantly increases the proportion who agree that a woman should be able to obtain an abortion if she is single, has financial constraints or wants no more children. When gestational lengths from one to six months are presented to respondents in ascending order, agreement that a woman should be able to obtain an abortion for any reason is lower for any given length of gestation than when pregnancy durations are presented in descending order. Forty-eight percent of respondents agree that abortion should be legal for any reason when that question is posed after a series of specific reasons; however, 60% do so when it is the first question in the sequence. The difference in agreement with abortion for any reason between Catholics and non-Baptist Protestants, and between Republicans and Democrats, is much smaller when the question is asked first than when it is presented last.

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The measurement of public opinion on abortion is both extremely important and fraught with difficulty. The wording and sequencing of questions can affect measured levels of approval¹ and the extent to which various abortion-related attitude items are correlated with one another.² This article reports on an experiment that replicates and extends prior work on these measurement issues.

The series of abortion attitude questions asked in the General Social Survey (GSS) is a primary source of data for analyses of trends and differentials in attitudes and in the correlations among specific abortion-related attitudes.³ The GSS has been conducted annually (with a few exceptions) since 1972 by the National Opinion Research Center at the University of Chicago and therefore makes it possible to monitor changes over time. This article begins with an update of trends from the GSS and then—using the questions from the survey—examines possible design effects on measured levels of approval. The analysis is based on a telephone survey that used a factorial experimental design to evaluate the effect of specifying the

stage of pregnancy on agreement that legal abortion should be available, and the effect of a change in where in the question sequence respondents are asked whether abortion should be legal for any reason.

Trends in Abortion Attitudes

The GSS has carefully maintained the same wording and sequence of questions from year to year to avoid introducing context changes into the time series.* Respondents are asked whether a woman should be able to obtain a legal abortion for a series of reasons, beginning with “if there is a strong chance of defect in the baby” and ending with “if the woman wants it for any reason.”

Figure 1 (page 178), which shows average levels of approval for five-year periods from 1975 through 1994,[†] demonstrates an overall stability in approval levels over time. Two levels of approval are apparent, depending on the reason given for wanting an abortion: About 80% of respondents agree that a woman should be able to obtain an abortion if her health is endangered, if the fetus has a serious defect or if the pregnancy resulted from rape (hereafter referred to as limited reasons). Only 41–46% approve, however, if the woman desires an abortion because she wants no more children, has financial con-

straints or is unmarried (more inclusive reasons); slightly lower proportions agree that a woman should be able to obtain an abortion for any reason at all.

Second, and more important, the modest decline in agreement from the late 1970s through the late 1980s was followed by a complete recovery in the early 1990s. With the most recent data taken into account, the GSS provides no evidence that opinions on abortion are growing more conservative, as seemed to be the case in the 1980s.⁴ On the contrary, the proportion of respondents agreeing that a woman should be able to obtain an abortion for any reason rose from 34% to 43% between 1975–1979 and 1990–1994; most of this change occurred since the late 1980s.

It is puzzling that agreement on this item continued to increase during a period when agreement on each specific reason was temporarily declining. This finding may imply a decrease during that period in the context effects examined in this analysis.

Design Effects

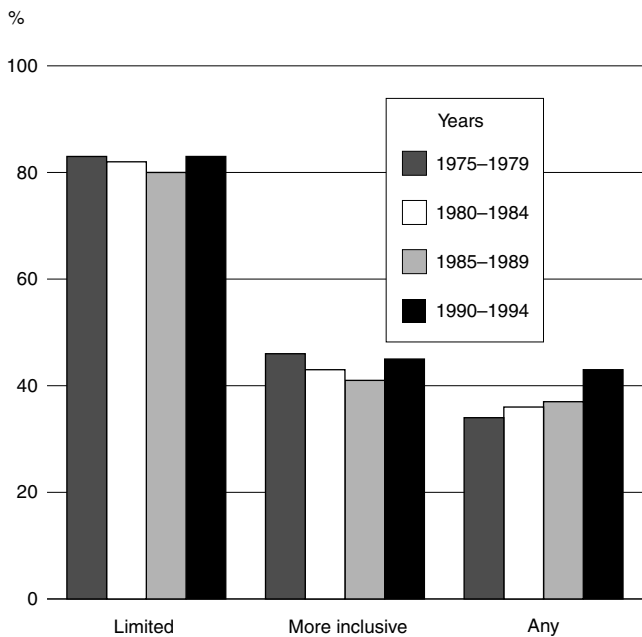
Although the consistent wording and sequencing of questions on abortion has allowed the GSS to monitor trends over time, the language and order of questions may have affected estimated levels of public support for abortion. Two issues are especially important—the gestational length implicit in the questions, and the sequence in which the various reasons given for wanting an abortion are presented. For example, because the duration of pregnancy is left unspecified in the GSS, respondents may base their answers on different

*A minor exception was a 1983 ballot experiment in which some respondents received one form (ballot) and others another. This experiment placed questions about the importance of children immediately before the series, with only small effects (see: T. W. Smith, reference 1).

†Grouping by five-year period results in highly stable estimates because each period is represented by more than 5,000 cases. The abortion questions were not asked in 1979, 1981, 1986 or 1992, so each of the “five-year” periods actually includes four years. Blacks were oversampled in 1982 and 1987 so the data for those years have been reweighted to match the racial make-up of the population in the surveys in adjacent years. For estimating proportions, the data have been weighted to account for differential selection probabilities depending on the number of eligible adults in a household.

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Figure 1. Trends in the percentage of respondents agreeing that a woman should be able to get a legal abortion, by reasons for an abortion, General Social Survey, 1975–1994



Note: Limited reasons include fetal defects, woman's health and rape; more inclusive reasons include wanting children, having financial constraints and being unmarried.

assumed durations of pregnancy. Given the focus on late-term abortions in the public debate, differing assumptions could have important implications for the measurement of attitudes toward abortion.

Further, research has found that the proportion of respondents agreeing that abortion should be legal for any reason is higher when that question is the first one presented than when it is asked after a sequence of questions that probe approval of abortion for an array of reasons beginning with fetal defects.⁵ This appears to be a contrast effect whereby, having first been presented with compelling reasons, respondents feel obliged to be less approving of reasons they perceive as less pressing. The study reported on in this article addresses these issues by comparing responses to the standard GSS questions and format with responses obtained when the sequence and wording are varied.

The experiment used a nationally representative sample of listed and unlisted residential telephone numbers in the continental United States. Approximately 5–7% of U.S. households do not have telephones and thus are not represented in the sample. The 1,216 numbers drawn from the sample were randomly assigned to one of five sets of questions (Table 1). The first was the standard GSS format, while the remaining four sets of questions specified the duration of pregnancy or changed the po-

sition of the question asking whether abortion should be legal for any reason.

Results

Table 2 presents the average proportions of GSS respondents who agree that abortion should be allowed for limited reasons, for more inclusive reasons and for any reason. The comparison of the first two rows shows that the replication of the GSS series in our experimental treatment yields estimates close to those obtained in the 1994 GSS.

The first two alternative formats test responses to two ways of specifying the duration of pregnancy. The first of these repeats “and she is less than three months pregnant” after each rea-

son for wanting an abortion, whereas the second includes the phrase only at the beginning of the series.

The dynamics of telephone interviewing could lead to differences in levels of approval between these two alternative formats. In a telephone survey, the introductory question is repeated when respondents ask for it or seem to need reminding. This interaction between interviewers and respondents⁶ means that some GSS respondents are probably reminded, at various stages in the sequence, that early pregnancies are at issue, but that the proportion who remember this point could decline substantially by the time they are asked if they agree that abortion should be legal for any reason. If this is the case, the first alternative format would provide better estimates of levels of approval because the wording is more specific.

When the responses obtained from the exact replication of the GSS format and the two alternative formats are compared, the estimated levels of agreement are essentially the same for the limited reasons, but the alternative formats yield higher estimates for the more inclusive reasons (54% each vs. 48%). This result provides some evidence that, as the theory behind these experimental treatments would suggest, the GSS estimates might be biased downward because of the failure to specify gestational length. An alternative explanation is that

the phrase specifying the duration of pregnancy in the alternative formats communicates to respondents that their responses to the less serious circumstances (the more inclusive reasons) should be less severe.

The levels of approval of abortion for any reason are less consistent. For this item, the proportion of respondents agreeing that a woman should be able to obtain an abortion is higher when the specification of pregnancy duration is repeated after each reason (55%) than when it is not stated or is stated once (44% and 47%). Although the difference between the responses to the exact replication of the GSS format and the pooled responses to the alternative formats is significant at $p \leq .10$, the levels of approval yielded by the two alternative formats are not significantly different from each other.

Two additional formats were designed to evaluate both the effect of specifying gestational length and the effect of the sequence in which various durations of pregnancy are presented (increasing from one month

Table 1. Wording and sequence of questions on attitudes toward abortion in the General Social Survey and in four alternative formats

GSS sequence

- Please tell me whether you think it should be possible for a woman to obtain a legal abortion:
- If there is a strong chance of a defect in the baby?
 - If she is married and does not want any more children?
 - If the woman's own health is seriously endangered by the pregnancy?
 - If the family has a very low income and cannot afford any more children?
 - If she became pregnant as a result of rape?
 - If she is not married and does not want to marry the man?
 - If the woman wants it for any reason?

Alternative Format 1

Replication of GSS sequence but adding “and she is less than 3 months pregnant” at the end of each reason.

Alternative Format 2

Replication of GSS sequence with altered introduction: “...be possible for a woman who is less than 3 months pregnant...” (The phrase is not repeated after each reason.)

Alternative Format 3

- GSS introduction, followed by:
- If the woman wants it for any reason?
 - If the woman wants it for any reason and she is 1 month pregnant?
 - ...2 months pregnant?
 - ...3 months pregnant?
 - ...4 months pregnant?
 - ...6 months pregnant?

Alternative Format 4

- GSS introduction, followed by:
- If the woman wants it for any reason?
 - If the woman wants it for any reason and she is 6 months pregnant?
 - ...4 months pregnant?
 - ...3 months pregnant?
 - ...2 months pregnant?
 - ...1 month pregnant?

Table 2. Percentage of respondents who agree that abortion should be legally available, by reasons for abortion, according to format of questions

Format	Limited	More inclusive	Any
1994 GSS	83	47	44
Experimental format			
Replicates GSS	80	48	44
Repeats "and less than 3 months" after each reason	82	54	55
States "and less than 3 months" only at beginning	83	54	47

or decreasing from six months). In both formats, respondents are asked first whether abortion should be legal for any reason, without a specified duration of pregnancy.

Although this part of the experiment was designed under the assumption that many respondents might not be indicating approval for abortion because they were imputing later stages of pregnancy, the results in Table 3 do not support that theory. The levels of approval are similar when the question is asked without a specified duration and when one month is specified. Thus, our concern that the lack of specification of gestational length is affecting survey results is unwarranted.

As we would expect, the level of approval for abortion is highly dependent on gestational length, with a rapid drop after the end of the first trimester. For example, when pregnancy durations are presented in increasing lengths, the proportion agreeing declines from 61% for a pregnancy duration of one month to 54% for a duration of two months, and to 44% and 21% for durations of three and four months, respectively; only 11% agree that a woman should be able to abort a pregnancy of six months' duration.

The sequence in which gestational length is presented creates its own context effect: A sequence of increasing durations communicates progressively more stringent conditions, while a sequence of decreasing durations has the opposite effect. The proportion of respondents who approve when a six-month pregnancy is specified is 16% in the format where that duration is presented first, compared with 11% in the format where it is presented last. The largest such difference between the two formats is for the borderline four-month duration, where those proportions are 32% and 21%, respectively.

Finally, we explore the implications of ordering the sequence so that the question on whether abortion should be legal for any reason (as in the third and fourth al-

ternative formats) is asked first; that question is last in the original GSS sequence and in the first two alternative formats. Whereas 48% agree when this item is asked last, 60% do so when it is the first question presented. This difference is significant at $p \leq .0001$.

Table 4 (page 180) is organized to illustrate the potential impact of these context effects on measured attitude differences according to selected key variables in the policy debate over abortion. With a few exceptions, the focus is not on the differentials within categories, which have been examined elsewhere in the literature,⁷ but on patterns of difference between the first bank of columns, based on responses to the original GSS sequence and the first two alternative formats, and the second bank of columns, which is based on responses to the third and fourth alternative formats.

In the examination of gender, it is necessary to distinguish women who are in the labor force from those who are not. In the GSS format, where approval of abortion for any reason is the last question, the proportion of respondents who agree with that position is no higher among nonemployed women than among men, whereas employed women are more likely than men to approve (53% vs. 45%). When this item is asked first, however, women who are not employed fall between men and employed women. (It is worth noting that being female, irrespective of employment, is one of the strongest determinants of agreement that, at four months of gestation, abortion should be legal for any reason.)

The very large difference between those who attend religious services weekly and those who do so less often is not affected by the sequence effect. Among those who attend services weekly, levels of approval are higher when the question is asked first than when it is presented last (37% vs. 26%); this is also the case among those who attend less often (72% vs. 60%).

Baptists and Catholics are contrasted to non-Baptist Protestants because of the clearly articulated and strong opposition to abortion of the first two groups. When the question is presented last in the sequence, both Baptists and Catholics are significantly less likely than non-Baptist Protestants to agree that abortion should be available for any reason (37% and 41% vs. 55%). Asking the question first rather than last results in higher levels of approval in all groups, but the increase is much greater for Catholics than for Baptists. In this format, the influence of being Catholic is markedly reduced and becomes nonsignificant.

Table 3. Percentage of respondents who agree that a woman should be able to get a legal abortion for any reason, by month of pregnancy and order in which pregnancy durations are presented

Month and order	%
Ascending	
Not specified	62
1 month	61
2 months	54
3 months	44
4 months	21
6 months	11
Descending	
Not specified	58
6 months	16
4 months	32
3 months	48
2 months	59
1 month	64

The very large differences by self-classification as politically liberal or conservative are slightly smaller when the question is asked first rather than last, but remain strong and significant. In contrast, estimates of attitude differences by political party are dramatically affected by question sequence. As with religious affiliation, asking the question last as in the GSS format yields smaller differences between political parties than public debates might imply (40% of Republicans and 52% of Democrats approve). This difference shrinks to a nonsignificant 62% vs. 58% when the question is asked first. This result is surely relevant to the 1996 Republican platform battle over the abortion plank and the subsequent avoidance of the issue during the campaign.

Perhaps because of the relatively small samples, the apparent differences according to religion and political party in the treatment effect are not significant. Nonetheless, the patterns of the differences suggest that this issue should be examined in larger samples.

Conclusions

The GSS series reveals an increase over time in the proportion of respondents who agree that women should be able to obtain an abortion for any reason; this trend accelerated in the early 1990s.* Our multiple factor experiment examined the consequences of specifying various pregnancy durations and different question sequences. Contrary to our expectations, there is no evidence that the measurement of attitudes toward abortion is biased if gestational length is not specified.

*Noting the beginning of this acceleration in 1991, Cook and colleagues (see reference 1) suggest that it may have been a response to the 1989 Webster decision that allows states more leeway in limiting abortion access.

Table 4. Percentage of respondents who agree that a woman should be able to get a legal abortion for any reason, and odds ratios (and standard errors) of agreeing, by selected characteristics, according to position of question in sequence

Characteristics	Asked last*		Asked first†	
	%	OR	%	OR
Total	48	na	60	na
Gender/employment				
Male	45	1.00	55	1.00
Nonemployed female	46	0.98 (0.93)	60	1.18 (0.50)
Employed female	53	1.37 (0.06)	66	1.53 (0.04)
Church attendance				
Less than weekly	60	1.00	72	
Weekly	26	0.23 (0.00)	37	0.21 (0.00)
Religion				
Catholic	41	0.56 (0.01)	61	0.90 (0.70)
Baptist	37	0.48 (0.00)	42	0.53 (0.13)
Other Protestant	55	1.00	63	1.00
Other	48	1.00 (0.98)	52	1.20 (0.46)
Political orientation				
Conservative	36	1.00	49	1.00
Liberal	67	3.55 (0.00)	73	2.42 (0.00)
Other	50	1.87 (0.07)	66	1.92 (0.00)
Political affiliation				
Republican	40	1.00	58	1.00
Democrat	52	1.72 (0.01)	62	1.47 (0.11)
Other	50	1.57 (0.01)	60	1.25 (0.32)

*Combines the GSS replication and alternative formats 1 and 2. †Combines alternative formats 3 and 4. Note: Odds ratios derived from a logit regression analysis.

On the other hand, our experiment suggests that a majority of Americans agree that a woman should be able to get a legal abortion for any reason when this GSS question is asked before, rather than after, a series of specific reasons. Two different, and not necessarily conflicting, perspectives can be brought to these results. The GSS items are generally thought to reveal the underlying structural complexity of attitudes toward abortion, and that is surely true. Research has found that people who are opposed to abortion have more tightly integrated attitude structures,⁸ hold opinions with greater centrality and intensity⁹ and are more likely to act on their opinions.¹⁰

Many Americans are ambivalent about abortion and uncomfortable with the idea of abortion being casually used as a method of contraception.¹¹ For this reason, responses to survey questions about abortion are likely to be highly susceptible to context effects. Which sequence yields the most accurate response when people are asked if they agree that abortion should be legal for any reason? Of course, there

is no true level of agreement. Both the GSS sequence and the experimental sequences reveal complexities in underlying attitudes and in the measurement of attitudes. Indeed, the phrase “for any reason” may suggest trivial reasons that even some who support unrestricted abortion would feel are inappropriate.

Our concluding examination of differentials in approval of unrestricted abortion suggests that the present approach raises issues beyond measured levels of agreement and that these issues are relevant to the policy debate. While the effects on abortion attitudes of church attendance and self-identification as liberal or conservative seem little affected by context effects, classifications associated with religious or political affiliations are less clearly associated with opposition to unrestricted abortion than often believed. At the very least, the present analysis suggests that substantive interpretation of attitude questions on abortion should attend more to the possibility of context effects in measured levels and differentials.

References

1. H. Schuman and S. Presser, *Questions and Answers in Attitude Surveys: Experiments on Question Form, Wording, and Context*, Academic Press, Orlando, 1981; T. W. Smith, “Thoughts on the Nature of Context Effects,” in N. Schwartz and S. Sudman, eds., *Context Effects in Social and Psychological Research*, Springer-Verlag, New York, 1992; and E. A. Cook, T. G. Jelen and C. Wilcox, *Between Two Absolutes: Public Opinion and the Politics of Abortion*, Westview Press, Boulder, Colo., 1992.
2. J. Stets and R. K. Leik, “Attitudes about Abortion and Varying Attitude Structures,” *Social Science Research*, 22:265–282, 1993; A. L. McCutcheon, “Sexual Morality, Pro-Life Values, and Attitudes Toward Abortion,” *Sociological Methods and Research*, 16:256–275, 1987; and R. J. Adamek, “Public Opinion and Roe v. Wade: Measurement Difficulties,” *Public Opinion Quarterly*, 58:409–418, 1994.
3. E. A. Cook, T. G. Jelen and C. Wilcox, 1992, op. cit. (see

reference 1).

4. E. C. Ladd, “Has Public Opinion Shifted on Abortion?” *Public Perspective*, 1:16–30, 1989.
5. H. Schuman and S. Presser, 1981, op. cit. (see reference 1).
6. N. C. Schaeffer, D. W. Maynard and R. Cradock, “Negotiating Certainty: Uncertainty Proposals and Their Disposal in Standardized Survey Interviews,” CDE Working Paper, Center for Demography and Ecology, University of Wisconsin-Madison, 1993.
7. E. A. Cook, T. G. Jelen and C. Wilcox, 1992, op. cit. (see reference 1).
8. J. Stets and R. K. Leik, 1993, op. cit. (see reference 2).
9. H. Schuman and S. Presser, 1981, op. cit. (see reference 1).
10. T. W. Smith, 1992, op. cit. (see reference 1).
11. E. A. Cook, T. G. Jelen and C. Wilcox, 1992, op. cit. (see reference 1); and —, “Measuring Public Attitudes on Abortion: Methodological and Substantive Considerations,” *Family Planning Perspectives*, 25:118–121 & 145, 1993.