THE LINGERING PRIME: TESTING THE EFFECTS OF EARLY PRIMES ON SUBSEQUENT ATTITUDES

Andrea Chronister, Rutgers University
Department of Political Science, New Brunswick, NJ 08903

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As long as there has been an academic interest in measuring public opinion, there has been a common awareness of the need to devise better survey tools. Though most of us are familiar with V.O. Key's dismaying observation that coming to grips with public opinion is like coming to grips with the Holy Ghost, the quest for better survey tools continues. Often this quest begins with determining what is wrong with the tools already in use, and to this end many studies have attempted to assess the effects of question wording, question order, and other aspects of "priming" on the survey response.

When the environment primes people, they are likely to spontaneously mention what comes to mind most easily. There is a general consensus that beliefs which are tightly held, and that are based in knowledge about the subject, are less susceptible to priming; beliefs that are conflicted in the mind of the respondent are more responsive to environmental "cues." What happens when these cues become salient is that they enter into the mental process that respondents go through before they actually report their response, altering it from what would be a "truer" response. The important question is no longer, "What is your attitude about X," but rather, "What information are you using *now* to come up with your response? How is your response being affected by the way the question is being asked?"

In this paper I examine findings about the effects of priming from a 1990 General Social Survey study in which respondents were exposed to differing "primes" on four issues: race; gender equality; foreign policy; and abortion. For each set of attitude measurements on these issues, questions were designed to elicit either liberal or conservative responses. The respondents were divided into three groups with slightly different questionnaires. All three questionnaires, or ballots, had the attitude questions in common, and they varied only in terms of the priming questions asked.

The most dramatic findings occur in the attitudes toward abortion so I have focused on only this part of the questionnaire. Table I below gives information about the type of prime received by the first two groups; the third group did not receive any prime and served as the control group. In Table II we can see how the primes affected the attitude questions in Ballots 1 and 2. The responses to the "hard" questions (involving birth defect, endangerment of the mother's health, and rape), do not differ between the ballots by more than 2%. However, the responses to the "soft" reasons (i.e., economic, matrimonial, or other reasons), show differences ranging from 5 to 9% - but *in the opposite direction of the primes.* Those who were given a pro-choice context were less permissive of a woman's right to abortion. This is the opposite of what would be expected according to the logic of priming.

I argue that the key to understanding this paradox is in the fact that those who were given conservative cues on abortion had also been given liberal cues on women's issues earlier in the questionnaire. These earlier primes, which in ballot 1 involved women's importance in the work place, and in ballot 2, women's importance at home with their children, must have had a stronger effect on abortion attitudes than the primes that were intended to affect abortion attitudes. These differing images of women's roles, I argue, lingered in the mind of respondents, even though dozens of unrelated questions separated the two sections in the questionnaire. If this is the case, then the responses to the abortion questions were consistent with simple priming logic after all: those who were primed for liberal responses on women's issues were more likely to respond liberally on abortion issues; those who were primed for conservative responses on women's issues were more likely to respond conservatively on abortion issues.

These questions that have been raised by simply glancing at the marginals deserve further examination, not just to understand the results of this particular study, but to understand the extent to which responses can be shaped by internal aspects of the questionnaire. Can we say that a particular response is "true"? Or has the respondent been primed in a particular setting so that if he or she is asked the same question in a different context, the response would be different? The implications are disturbing. One implication (made famous by Philip Converse) is that people do not have stable attitudes, so it is not surprising that they are susceptible to the effects of priming. Moreover, depending on the extent to which public opinion moves policy, results can misinterpret the "real" choices of citizens and lead to unwanted policies.

TABLE I

	BALLOT I PRIMES	BALLOT II PRIMES
WOMEN'S ISSUES:	LIBERAL:	CONSERVATIVE:
	Do you agree that a woman's social status depends on the prestige of her job outside the home? Do you agree that without adequate day care, women can never have an equal chance of career advancement?	Do you agree that the importance of the woman as the central nurturing figure in the family is tremendously undervalued? Do you agree that pre-school children suffer emotionally and intellectually if their mothers work outside the home?
ABORTION:	CONSERVATIVE:	LIBERAL:
	Do you think the government has a responsibility to protect the lives of the unborn? Do you agree that having children enables you to live on, even after you die? Do you agree that watching children grow up is one of life's greatest joys?	Do you agree that a woman can never obtain equality and control of her own life without the right of reproductive control over her own body? Do you agree that a woman's decision to have an abortion is extremely personal, and that the government should not be allowed to make that decision for her?

TABLE II - % Agree that abortion should be legally obtained under certain conditions:

	% agree		
	Ballot 1	Ballot 2	% Difference
"Hard" Reasons:	(CON)	(LIB)	
if birth defect	83	81	-2
if health endangered	90	92	2
if rape	84	86	2
"Soft" Reasons:			
if child not wanted	46	39	-7
if cannot afford	51	42	-9
if not married	47	42	-5
if for any reason	45	38	-7

The literature on priming offers significant support for the argument that primes can 'linger' in the mind of the respondent and affect responses to subsequent related questions (see Bishop et al 1984; 1985; Tourangeau, Rasinski, Bradburn & D'Andrade 1989; Schuman et al 1983). I have performed several regressions which test the effects of the earlier primes. I will begin with a simple two-variable model that measures the effect of the ballot received, 1 or 2, on abortion attitudes. After exploring that model, I will present the estimates of a multivariate model that assesses the impact of different ballots while controlling for other variables which have been shown by past research to be important in predicting abortion attitudes. Finally I will discuss the results of a preliminary model that compares the unprimed responses in 1989 with the primed responses in 1990.

The Bivariate Models

I tested four different versions of the bivariate model, each using a slightly different dependent variable. In the first version the dependent variable is the total number of abortion conditions supported by

TABLE III-A

DEPENDENT VARIABLE	BALLOT I	BALLOT II
Average number of conditions for which abortion allowed	4.22 T: -1.05	3.95 T: -2.18
Average number of "hard" reasons supported	2.44 T: -1.19	2.44 T: -1.11
Average number of "soft" reasons supported	1.78 T: -.76	1.5 T: -2.31

TABLE III-B **EXTREMITY OF BELIEFS**

Variable:	b	T	Sig T
ballot 1	-.05	-.384	.701
ballot 2	-.31	-2.347	.019

the respondent. In the second, the dependent variable is the number of "soft" conditions supported; since the variation between the two respondent groups occurs with these conditions I expect to see that the primes have the largest impact here. The dependent variable in the third version is the number of "hard" conditions supported, and I expect to see very little priming effect because research has shown that most people support these conditions anyway.

In Table III-A above we see that ballot 2 respondents were less supportive in general, despite the pro-choice primes. Ballot 1, however, is not significant, but ballot 2 is. Why might this be? The answer is in the wording of the primes for women's issues; there is 'something' about the wording of the prime in ballot 2 that has an effect on the abortion responses. In ballot 1 the respondents are primed with the idea that the woman's prestige is based on her job outside of the home and that women need adequate day care for children if they are to have career chances equal to men's; in ballot 2 the prime involves the importance of women as the "central nurturing figure" of the family, and the idea that pre-school children may suffer emotionally and intellectually if their mothers work outside the home. Thus respondents who were primed with 'motherhood' ideas were less supportive of abortion even though they received subsequent pro-choice primes. 'Woman as mother' became salient for later retrieval, or to use Zaller's term, became the "gatekeeper", in a way that 'woman as workplace-equal' did not (Zaller 1992).

The next model splits up the measure for support for abortion into two groups: support for "hard" reasons, (ranging from 0 to 3, as there are three "hard" conditions to choose from) and support for "soft" reasons (ranging from 0 to 4). Going back to Table III-A we see how these two categories were related to the ballots. I did not expect to find a priming effect on the "hard" component, because in repeated studies most people accept these reasons, and accordingly, there is no difference between the ballots. However, ballot 2 had a significant effect on the level of support for "soft" reasons, again, despite the pro-choice prime. Ballot 1 had no effect. The "soft" reasons were more susceptible to the 'woman as mother' context.

Finally, the fourth version was designed to assess the relationship between the ballot received and the extremity of the responses received. Those who were most extreme were those who supported all or none of the abortion conditions; they were given the value of 4, and the least extreme (given a value of 1) were those who supported 3 or 4 or the conditions. I've created such a variable to test the prime's effect on those who are 'moderate' (i.e., they support abortion some of the time). For these respondents coming to a judgment about an attitude is not as automatic as for those with an unambiguous stance; thus salience may be an important part of the attitude retrieval process. I therefore expected to find that those who are uncertain or moderate in their beliefs are more open to the priming effect. If you look at Table III-B this was the case. Ballot 2 respondents were significantly less extreme in their attitudes than those who received ballot 1; they supported some and not other conditions.

In sum, these models illustrate the lingering effects of a particular prime on subsequent responses, despite significant 'buffering' by dozens of unrelated questions.

The Multivariate Models

How do these relationships hold up when we control for other independent variables that affect abortion attitudes? The multivariate models that I present include the same dependent variables used in the bivariate models, and in addition to the dummy variables for the ballot received I look at the level of education, a measure of the respondent's knowledge about the abortion issue, the frequency with which the respondent discusses abortion, the frequency with which the respondent discusses women's issues, the gender of both the interviewer and the respondent, and a variable which measures frequency of church attendance. Whether these variables are important in this particular data set can be addressed in the four regression models, the results of which appear in Table IV-A through IV-D.

As Table IV-A indicates, even when controlling for other variables, the ballot 2 variable retains most of its significance. Education, talking about women's issues, and knowledge about abortion issues significantly increase the level of support for the seven conditions. Interestingly, however, talking about abortion has the opposite effect; those who talk most about abortion must be talking about their disapproval of it, because they support fewer conditions. Finally, not surprisingly, those who attend church the most are far less likely to support abortion.

In Table IV-B the dependent variable is the number of "soft" conditions supported. Education and knowledge about abortion are the important variables that lead to higher support; ballot 1 and church attendance lead to decreased support for the soft reasons. Since most people support the hard reasons, we would expect a different make-up of those who support the soft reasons. The core of pro-choicers must be those who are educated and those who know at least the basic issues of the debate, findings that are certainly consistent with the literature on abortion (e.g., Luker 1984).

TABLE IV-A

(Y = Number of Conditions for Abortion Supported)

Variable:	B	SE B	T	Sig T
ballot 1	-.26	.21	-1.20	.230
ballot 2	-.37	.22	-1.69	.093
gender (male=0)				
respondent	.10	.19	.54	.588
interviewer	.02	.18	.10	.918
education	.16	.03	4.79	.000
knowl. of abortion	.35	.13	2.66	.008
discuss abortion	-.20	.12	-1.63	.104
disc.women's issues	.31	.13	2.47	.014
attend church	-.32	.03	-9.48	.000
Adjusted R Square	.19	N = 582		

TABLE IV-B

(Y = Number of **"Soft"** Conditions for Abortion Supported)

Variable:	B	SE B	T	Sig T
ballot 1	-.15	.16	-.91	.364
ballot 2	-.32	.17	-1.92	.055
gender (male=0)				
respondent	.11	.14	.74	.458
interviewer	-.01	.14	-.05	.960
education	.11	.03	4.00	.000
knowl. of ab.	.32	.10	3.24	.001
discuss ab.	-.06	.09	-.66	.510
disc.women's issues	.14	.10	1.45	.148
attend church	-.23	.03	-8.83	.000
Adjusted R Square	.17	N = 582		

As expected, and as seen in Table IV-C, the ballot variables had no effect on support for the hard reasons, just as in the bivariate model, since most people support some of the hard reasons. Here education, and talking about women's issues increase support; talking about abortion and frequent church attendance decrease support. This suggests that when people talk about women's issues or abortion, they are discussing the hard reasons; they're not going beyond these more 'socially acceptable' reasons like the core of soft-reason supporters discussed above.

Finally, the results in Table IV-D indicate that those who know about abortion issues, those who talk about abortion, and those who are the most educated are more likely to hold extreme, i.e., non conflicted, beliefs about which conditions they support. According to the priming literature, we would expect them to be *less* susceptible to priming because they have relatively unambiguous opinions. From the previous models, we can conclude that education and knowledge about abortion lead to extreme support; talking about abortion leads to extreme nonsupport (because as we saw in Table IV-A those who talk about it most support it least). Moderation, or conflict within their beliefs, is seen in those who received ballot 2, those who attend church most frequently, and those who talk more about women's issues.

In sum, the clearest explanation for these findings calls to mind the long-standing debate about whether buffering to control response bias actually works. According to this experiment it does not; when the idea of the mother's responsibility to her children was planted, the idea became relevant to the subsequent retrieval of abortion attitudes, particularly for those who may have had conflicting beliefs to begin with. Those who never waver in their support or rejection of abortion are not going to be swayed, but those who

TABLE IV-C

(Y = Number of **"Hard"** Conditions for Abortion Supported)

Variable:	B	SE B	T	Sig T
ballot 1	-.11	.09	-1.21	.228
ballot 2	-.05	.09	-.51	.612
gender (male=0)				
respondent	-.01	.08	-.06	.952
interviewer	.03	.08	.34	.737
education	.06	.01	4.11	.000
knowl. of ab.	.02	.06	.43	.670
discuss ab.	-.14	.05	-2.67	.008
disc.women's issues	.17	.05	3.22	.001
attend church	-.09	.01	-6.47	.000
Adjusted R Square	.11	N = 582		

TABLE IV-D

(Y = Extremity of Response: 4 = Respondent supported all or none of the 7 conditions, i.e., "most extreme"; 3 = respondent supported 6 or 1; 2 = respondent supported 5 or 2; 1 = respondent supported 3 or 4, i.e., "most moderate")

Variable:	B	SE B	T	Sig T
ballot 1	-.08	.13	-.65	.518
ballot 2	-.32	.13	-2.43	.016
gender (male=0)				
respondent	.15	.11	1.39	.164
interviewer	-.11	.11	-.99	.325
education	.05	.02	2.22	.027
knowl. of ab.	.24	.08	3.09	.002
discuss ab.	.16	.07	2.28	.023
disc.women's issues	-.12	.07	-1.56	.119
attend church	-.08	.02	-4.10	.000
Adjusted R Square	.07	N = 582		

never quite thought about it or have mixed feelings may use that earlier information to answer.

Because this study was carried out on a panel from the 1989 GSS, the data provide the unusual opportunity to assess the effects of priming over time. Did those who receive primes in the 1990 reinterview report different attitudes about abortion than they reported in 1989? This is a different question than the ones we have been asking thus far, because we have been confined to a single questionnaire. Preliminary analysis of this question does suggest that those who were primed with either ballot 1 or ballot 2 were more likely to change their responses between 1989 and 1990. Those who talk about women's issues and attend church frequently were also more likely to change their responses; and those who are educated and who are more likely to talk about abortion were less likely to change their responses.

This corresponds with the findings about the extremity with which opinions were held. The same people who gave nonextreme, or conflicted, responses in the primed 1990 questionnaire (those who received ballots - primarily ballot 2, talk about women's issues, and attend church) are apparently less likely to hold these attitudes over time. On the other hand, those who are educated, who have more knowledge about abortion issues, and who discuss abortion often were more likely to be "extreme", or consistently supportive or non supportive of abortion, within the questionnaire, just as they were more likely to be stable over time.

What is interesting about the questions that panel data raise is that we can see how priming affects particular individuals' responses rather than merely aggregate responses; thus we can develop more nuanced theories about the susceptibility to priming. Unfortunately, there has been little, if any, systematic use of panel data in the priming literature. These data provide the unusual opportunity to explore these questions, and future research will be directed toward developing the preliminary model I have put forth.

Conclusions

There are several broad implications that arise in light of these findings. One is that people's attitudes are indeed susceptible to manipulation. This manipulation can be internal, an automatic process that structures information to make it usable, or it can be externally manipulated by creators of questionnaires. One unfortunate consequence of manipulation is that it becomes difficult to chart attitudinal trends. Possible context effects from a single survey may have been ignored or suppressed, and its results may be charted against results of an equally flawed survey. How does this get us closer to knowing what people really think and how their thinking has changed? The implications of this situation are made clearer when you think about what effect this may have on policy. No one is going so far as to say that public opinion dictates political decisions, but what *is* possible is that assumptions of what the public is thinking constrain the range of choices that leaders are willing to make. Students of public opinion must think about where these assumptions come from, and how closely they approximate the "truth."

Expanded paper and bibliography are available from the author upon request.

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