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that tactical voting needs to be taken seriously.²⁶ What our analysis adds is an appreciation of just how widespread tactical considerations (of some sort) are. Especially when constituency and individual characteristics are most supportive, it appears that tactical thinking is not the province of a small band of political *aficionados*, but is engaged in by a good many otherwise ordinary voters.

²⁶ In addition to studies cited earlier, see S. L. Fisher, 'The Wasted Vote Thesis: West German Evidence', *Comparative Politics*, 5 (1973), 293-9; Larry Bartels, *Presidential Primaries and the Dynamics of Public Choice* (Princeton, NJ: Princeton University Press, 1988); André Blais, Richard Johnston, Henry E. Brady and Jean Crête, 'The Dynamics of Horse Race Expectations in the 1988 Canadian Election' (paper presented at the Annual Meeting of the Canadian Political Science Association, Victoria, BC, 1990). Tactical voting was also found in a small experimental study of approval voting; see Richard G. Niemi and Larry Bartels, 'The Responsiveness of Approval Voting to Political Circumstances', *PS*, 17 (1984), 571-7.

The Hawthorne Effect in Election Studies: The Impact of Survey Participation on Voting

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Movements of the heavenly bodies are not affected in any discernible way by the fact that there are people on earth recording the apparent movement. Similarly it is almost inconceivable that the planets would alter their orbits because of Kepler's discovery and publication of the laws of planetary motion. The social and behavioural sciences are different in that the objects under investigation may behave differently as a result of the research process.¹ This is particularly true when the method involves naturalistic observation, surveys or experiments. When people behave differently because of being research subjects, this is called a Hawthorne effect.²

We could differentiate here between behavioural variations that appear while the

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¹ This is different from the principle of limited measurability identified by Heisenberg in physics. It holds that the position and momentum of an electron cannot be measured simultaneously. This is quite different from asserting that the characteristics or movement of an electron might be affected by the fact that it is being observed.

² See John R. P. French Jr, 'Experiments in Field Settings' in L. Festinger and D. Katz, eds, *Research Methods in the Social Sciences* (New York: Holt, Rinehart and Winston, 1953), pp. 98-135; F. J. Roethlisberger and William J. Dickson, *Management and the Worker* (Cambridge, Mass.: Harvard University Press, 1939); John Ross and Perry Smith, 'Orthodox Experimental Designs' in H. Blalock and A. Blalock, eds, *Methodology in Social Research* (New York: McGraw-Hill, 1968), pp. 333-89. Exactly what was found in the Hawthorne Western Electric Studies is a matter of continuing controversy in the social sciences. See, for example, R. H. Franke, 'The Hawthorne Experiments: Re-view', *American Sociological Review*, 44 (1979), 861-7; Dana Bramel and Ronald Friend, 'Hawthorne, the Myth of the Docile Worker, and Class Bias in Psychology', *American Psychologist*, 36 (1981), 867-78; H. M. Parsons, 'What Happened at Hawthorne?', *Science*, 183 (1974), 922-32. This issue cannot be pursued here as our interest is only in the general possibility, which nearly everyone would concede, that people may behave differently because of participating in research.

research is still in progress and that which occurs after the research is completed. In either case, if it is the behaviour of the research subjects themselves that has been affected, it can be referred to as a Hawthorne effect. When other people alter their behaviour in the light of published research in the social sciences, this is referred to as an 'enlightenment' effect.³

The possibility of a Hawthorne effect in social research has been acknowledged for many years. Humans may be apprehensive about having their behaviour observed and evaluated by scientists.⁴ None the less, the existence of a Hawthorne effect is still in doubt, and it is sometimes referred to as a 'phantom' or 'elusive' phenomenon.⁵ In this Note, we consider evidence of a Hawthorne effect in election studies.

Age Clausen compared the self-reported vote of American adults from the University of Michigan's survey with a large post-election survey done by the Census Bureau.⁶ Testing his 'stimulus hypothesis' required that the turnout for people interviewed before an election be compared to the turnout of people not interviewed before an election. Clausen found that 78 per cent of those interviewed before the election voted, compared to 72 per cent of those interviewed after the election, implying a stimulus effect of about 6 percentage points. He concluded there was over-reporting of voting in both studies, but also found corroboration for the stimulus hypothesis. That is, the pre-election interview probably stimulated some people to think about politics and increased the likelihood that they would vote.⁷ Clausen's finding has been replicated in lower turnout situations involving a primary election for the US House of Representatives and a municipal election. More recently, it was reported that black Americans interviewed by black interviewers were more likely to actually vote.⁸

These results can be interpreted as a Hawthorne effect, but it also ought to be borne in mind that Clausen was comparing results from two rather different surveys. Also, he relied on self-report for measurement of the dependent variable. In subsequent studies in the United States, only about 88 per cent answer truthfully when asked whether they voted. About 27 per cent of the non-voters in the United States falsely claim

³ See Kenneth Gergen, 'Social Psychology as History', *Journal of Personality and Social Psychology*, 26 (1973), 309-20. This was an unfortunate choice of terms by Gergen in that it implies the sanguine view that only beneficial or progressive use will be made of published materials in the social sciences. This seems unwarranted. Presumably the knowledge of social science could also be used for nefarious purposes.

⁴ See Milton J. Rosenberg, 'The Conditions and Consequences of Evaluation Apprehension', in R. Rosenthal and R. Rosnow, eds, *Artifact in Behavioral Research* (New York: Academic Press, 1969), pp. 279-349.

⁵ See Elliot Aronson, Phoebe C. Ellsworth, J. Merrill Carlsmith and Marti Hope Gonzales, *Methods of Research in Social Psychology* (New York: McGraw-Hill, 1990).

⁶ See Aage R. Clausen, 'Response Validity: Vote Report', *Public Opinion Quarterly*, 32 (1968), 588-606.

⁷ This effect is analytically different from any alleged effects of canvassing by political campaigns. In the pre-election interviews in the election studies, people are not directly encouraged to vote.

⁸ See Robert E. Kraut and John B. McConahay, 'How Being Interviewed Affects Voting: An Experiment', *Public Opinion Quarterly*, 37 (1973), 398-406; Richard F. Yalch, 'Pre-Election Interview Effects on Voter Turnout', *Public Opinion Quarterly*, 40 (1976), 331-6; Barbara A. Anderson, Brian D. Silver and Paul R. Abramson, 'The Effects of Race of the Interviewer on Measures of Electoral Participation by Blacks in SRC National Election Studies', *Public Opinion Quarterly*, 52 (1988), 53-83.

to have voted.⁹ British researchers have reported similar tendencies in which about 95 per cent of voters answered truthfully, and 25 per cent of the non-voters said they voted.¹⁰ The low turnout level in US elections is not typical of most Western democracies. In our research, we have asked whether the stimulus hypothesis could be supported in a high turnout context.¹¹ The studies we report have the desired feature of random assignment to conditions. Also, our dependent variable does not rely on self-reported behaviour. Furthermore, we have sought to identify more precisely the segment of society in which a Hawthorne effect is likely to occur.

THE SWEDISH CONTEXT

The sample in each of the Swedish election studies is a random sample of Swedish citizens eligible to vote, age 18–80. The sample is drawn from the register of the Central Statistical Bureau. In each of the last six parliamentary elections in Sweden (1973–88), the design of the national election study has been a rolling panel in which half of the people are randomly assigned to be interviewed in person before the election and the other half are given a similar interview after the election. Half of the people will have been interviewed in connection with the previous election, and the other half will be part of the panel interviewed in the following election. In these years, voter turnout has varied between 86.0 per cent and 91.8 per cent of those who were eligible to vote. The response rate in these election studies, i.e., the percentage of people in the sample who were successfully interviewed, has varied between 74 and 82 per cent. Comparing pre- and post-election subsamples, the response rate has been very similar with neither having a consistently higher response rate. Combining across recent election studies, the response rate has averaged 79.2 per cent for the pre-election sample and 79.3 per cent for the post-election sample. The brochure sent to people prior to being contacted by an interviewer tells them that information about them will be drawn from the official register, and that data from the study will be kept on file for some time. From this, respondents could reasonably infer that the official records will be checked to see whether they have voted. Respondents are not directly or routinely forewarned that they will be re-contacted in the future, but it would be a reasonable inference from the information provided.

The hypothesis is that being interviewed at length about politics before an election increases the likelihood of voting. The dependent variable is measured by checking the official records to see whether the person voted. This measurement is made by Sweden's Central Statistical Bureau in co-operation with local election officials and the Election Studies Project at Göteborg University.¹²

⁹ See Barbara A. Anderson and Brian D. Silver, 'Measurement and Mismeasurement of the Validity of the Self-Reported Vote', *American Journal of Political Science*, 30 (1986), 771–85.

¹⁰ See Kevin Swaddle and Anthony Heath, 'Official and Reported Turnout in the British General Election of 1987', *British Journal of Political Science*, 19 (1989), 537–51; Catherine Marsh, 'Prediction of Voting Behaviour from a Pre-election Survey', *Political Studies*, 33 (1985), 642–8.

¹¹ See Donald Granberg and Sören Holmberg, *The Political System Matters: Social Psychology and Voting Behavior in Sweden and the United States* (Cambridge: Cambridge University Press, 1988).

¹² See Mikael Gilljam, Sören Holmberg, Kent Asp, Martin Bennulf, Peter Esaïsson and Maria Oskarson, *Röti Blått Grönt: En Bok om 1988 Riksdagsval* (Stockholm: Bonniers, 1990); Sören Holmberg, 'Election Studies: The Swedish Way' (paper presented at a conference on the Comparative History of Election Studies at the University of Twente, the Netherlands, June 1990).

If being interviewed in an election study increases the likelihood that people will vote, then those who are interviewed before an election should be more likely to vote than those who are interviewed after the election. In fact, the difference, although never large, is in that direction in each of six Swedish election studies ($p < 0.01$). If we limit the analysis to those who were not in a panel from the previous election, the percentage who were validated as having voted was 95 per cent for those interviewed before the election and 93 per cent for those interviewed after the election.¹³

This may seem like an extremely small difference. It is not our contention that this is necessarily a strong effect, but merely that it is a significant effect. Moreover, one must take into account a ceiling effect.¹⁴ If we take the turnout figure for the post-election interviewees as the baseline, the stimulus effect is about 32 per cent of the distance to complete turnout. In other words, it is reasonable to estimate that many of the erstwhile non-voters who were interviewed before the election, perhaps nearly a third of them, were sufficiently stimulated actually to vote. Even though the numbers are quite different from those in Clausen's analysis, given the lower percentage voting in the United States, they turn out to be quite similar upon closer examination.¹⁵

We considered the possibility that the stimulus effect might be most likely to occur among young voters, especially the first-time voters, aged 18–20. The results indicated, however, that the stimulus effect was about as strong among young voters as among adults as a whole.

¹³ In all of the Swedish election studies, people who were interviewed before or after the election voted at a higher rate than people who were chosen as part of the original sample but were, for whatever reason, not interviewed. In addition to the people who were members of the panel from the preceding election, we excluded those who were assigned to be interviewed before the election but were not interviewed until after the election. Also excluded were people who agreed to participate only in a short or a very short interview. This was done to control for the fact that more time is available for interviewing after the election and a greater effort is made to interview people after the election, even if they agree to only a short interview. Even though we consider our method of exclusion to be a fairer test, the results would not be altered significantly if all the non-panel people who were interviewed in a given year were included. Incidentally, the turnout percentages were 89 and 91 respectively for those given the short and very short interviews. Thus, the turnout rate for these people was slightly lower than for people who were given the full interview but higher than for people who were not interviewed at all. The turnout for the people who were selected as part of the original sample but who were not interviewed was 80 per cent. See Donald Granberg and Sören Holmberg, 'Self-Reported Turnout and Voter Validation', *American Journal of Political Science*, 35 (1991), 448–59.

¹⁴ See Hans Zeisel, *Say It with Figures* (New York: Harper and Row, 1968).

¹⁵ Clausen's data on the stimulus hypothesis involved a turnout of 77.7 per cent for the Survey Research Center's respondents who were interviewed before the election, compared to turnouts of 71.2 per cent and 72 per cent for the Census and Economic Survey respondents who were not interviewed before the election. If we subtract the average of the latter two from the former, the stimulus effect is just over 6 percentage points. We can then take the turnout for the post-election interviewees as the baseline and subtract it from 100 to find the maximum amount of change. If we divide the amount of change (6.1 per cent) by the maximum (28.4 per cent), the result implies that in 1964 about 21 per cent of the erstwhile non-voters in the US survey were stimulated by the pre-election interview to vote. This is similar to our estimate of the relative size of the stimulus effect in Sweden. These estimates could be net effects. That is, it is possible that some people may have become bored or upset by the political content of the pre-election survey, causing them to become demobilized, i.e. not to vote whereas they would have voted without the pre-election interview. If so, they must be outweighed by those who were stimulated to vote by being asked the battery of pre-election interview questions.

Another alternative was suggested by Clausen who asserted but did not test the hypothesis that 'the people who are stimulated to vote by the pre-election interview are people who are generally less interested and less informed about political affairs than those who would have voted, interview or no'.¹⁶ We therefore undertook an additional examination for a stimulus effect, controlling for level of political interest. The results of this analysis are shown in Table 1. In each of the six most recent parliamentary elections, a stimulus effect appears to have occurred among people with a low interest in politics. Combining across the six studies, 93.1 per cent of the low interest people interviewed before the election subsequently voted, compared to 89.6 per cent of the low interest people interviewed after the election. Thus, among the low interest citizens who most probably would not have voted, the pre-election interview may have stimulated as many as 34 per cent of them actually to vote.¹⁷

It was expected that being interviewed before the election would have less of a stimulus effect on people with a high interest in politics. Table 1 shows that this prediction was also sustained. Among people with a high level of interest in politics, the turnout for those interviewed before the election was only slightly higher than for people interviewed after the election (96.7 per cent to 96.1 per cent, combining across six studies).

The results in Table 1 are based on analyses in which the political interest variable is collapsed from four to two categories. This is necessary since the number of people in the two extreme categories (not at all interested and very much interested) is quite small in any one election study. However, we also examined the stimulus hypothesis within each of the four interest levels after combining across the six election studies. If we are on the right track, the stimulus effect ought to be most evident among the least interested. The results in Figure 1 show that this is indeed the case. The stimulus effect was 7.5 percentage points among people who were not at all interested, compared to 2.6 for those who were not especially interested, 0.7 for the quite interested people and 0.2 for those who were very much interested in politics. The difference in turnout between people interviewed before and after the election was significant for each of the two lower interest categories ($p < 0.01$) but not for the two higher interest categories ($p > 0.05$).

¹⁶ Clausen, 'Response Validity: Vote Report', p. 604.

¹⁷ While people were randomly assigned to be interviewed before or after the election, they were categorized as high or low in political interest on the basis of self-selection. This could introduce a bias in that voting or not voting could have an effect on one's level of political interest. Bem's self-perception theory holds that people infer their own psychological characteristics (attitudes, or in this case, level of political interest) from observing their own behaviour (see Daryl R. Bem, 'Self-Perception: An Alternative Interpretation of Cognitive Dissonance Phenomena', *Psychological Review*, 74 (1967), 183-200). If this applies here, people might infer high interest from voting and low interest from not voting. This implies the hypothesis that, compared to voters interviewed before the election, voters interviewed after the election would express a higher level of interest. At the same time, compared to non-voters interviewed before the election, non-voters interviewed after the election would express a lower level of interest in politics. The evidence, however, shows that the distribution on the interest question is nearly the same for voters interviewed before and after the election and for non-voters interviewed before and after the election.

TABLE 1 *Percentage Who Are Validated Voters in Six Recent Swedish Election Studies as a Function of Political Interest and When the Person Was Interviewed*

Year	Low Political Interest			High Political Interest		
	Pre	Post	Diff	Pre	Post	Diff
1988	87	86	+1	95	95	0
1985	93	90	+3	98	96	+2
1982	94	90	+4	95	94	+1
1979	96	93	+3	98	98	0
1976	95	91	+4	98	97	+1
1973	93	89	+4	97	97	0
Combined	93	90	+3	97	96	+1
Combined N	2,339	2,264		2,381	2,735	

Note: The table excludes people who had been interviewed in the preceding election as part of the rolling panel. The political interest question was, 'Generally how interested are you in politics? Are you very much interested, quite interested, not especially interested, or not at all interested?' People who answered very much or quite interested are grouped as high political interest, and those who answered not especially or not at all interested are grouped as low political interest in this table.

IMPLICATIONS: BASIC AND APPLIED

Our results point to consistent support for the stimulus hypothesis, even in the high turnout context of Sweden. When considered together with earlier studies from the United States, there is compelling evidence that a Hawthorne effect occurred. Our analysis of political interest as an intervening variable strengthens the interpretation. The experimental design of the Swedish election studies is based on samples of people who were to be re-interviewed three years hence, and thus they were still subjects in the research project when the behaviour under consideration occurred. Recall also that our definition of a Hawthorne effect was a broad one that was not limited to effects which occur only while the research is in progress.

We recognize that the percentage of the erstwhile non-voters in our analysis who seem stimulated by the pre-election interview to vote, roughly one-third, is only an estimate. The imprecision follows, in part, from the relatively low response rate of non-voters. In these studies, only about 52 per cent of the non-voters are successfully interviewed. The non-voters who are not interviewed may be the hard-core non-voters who could not be easily stimulated to vote. On the other hand, while those who are not interviewed vote at a lower rate (80 per cent) than those who are interviewed, their turnout rate is not extraordinarily low.

The Hawthorne effect we have observed presents an intriguing dilemma for people who wish to study voter turnout scientifically. If the relevant measures are taken before the election, the evidence suggests quite clearly that making these measurements will probably influence the behaviour of some of the research subjects. This is a Hawthorne effect which should not be disregarded.

Thus, one should consider that variables measured before the election, such as ideological extremity, political involvement, cynicism, trust, efficacy and the like might be

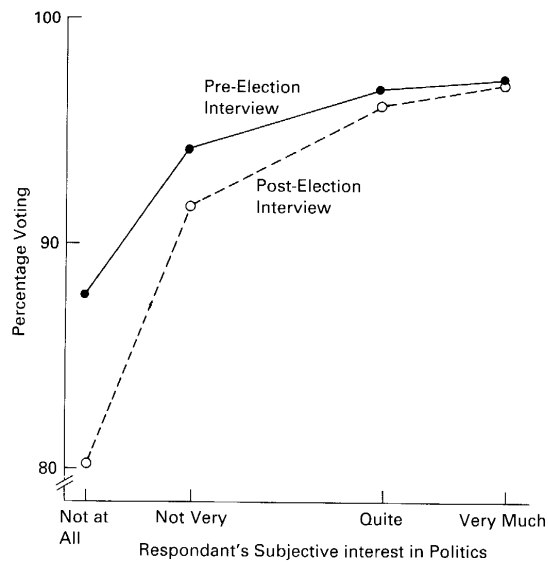


Fig. 1. Percentage voting as a function of when the person was interviewed and subjective interest in politics

Note: The interest variable is scaled on the abscissa according to the distribution of respondents: 8 per cent were not at all interested, 39 per cent not very, 42 per cent quite, and 11 per cent very much interested.

related to voter turnout differently in the observed sample from the way in which these same variables would be related in the population. If the Hawthorne effect occurs disproportionately among people who are for a variety of reasons not predisposed to vote, then the observed strength of the relationships in the sample would most likely underestimate the true strength of the relationships in the population. Future work might enable analysts to devise some correction factor that could take this into account, but that is well beyond the scope of the present analysis. An alternative is to take all of the measures after the election, but this would preclude analysis in a predictive mode. The problems attendant to such cross-sectional analyses are well known, and therefore need not be reviewed here.

While the preceding is an intriguing scientific dilemma, at another level our results are encouraging to people who have invested time, energy and resources in election studies. If participating in an election study interview stimulates some probable non-voters to think more about politics and to vote, this certainly speaks well for the election study method. We cannot claim to know precisely how the stimulus effect is produced, but it is worthy of speculation.

One thing that occurs in a pre-election interview is that the citizen is compelled to confront actively the issues of the day in a way quite different from that which normally occurs in an election campaign. The pre-election interview can also be viewed

as a person-to-person contact which may have much more impact on people who are not opinion leaders than the more typical media-to-person contact.¹⁸

One might regard this Hawthorne effect as an unintended consequence of doing an election study. Without such evidence, the cynic might assert that after enduring a seemingly endless and detailed set of questions, people being interviewed might never want to hear anything about politics again, to say nothing of actually going out to vote. With the evidence supporting the stimulus hypothesis, it is quite plausible to say that most people, even probable non-voters, viewed the interview experience favourably. People like to have their views count and to be taken seriously, and that certainly happens when one is interviewed in an election study.¹⁹

It follows that if the average non-voter could somehow be brought through the process of answering a set of questions like those in an election study interview, the turnout rate might increase with perhaps as many as 20 to 30 per cent of the erstwhile non-voters turning out to vote. The expense of doing this in a simple and straightforward manner would, of course, be exorbitant and prohibitive. None the less, clever people might be able to devise a more economical and feasible facsimile to the election study interview. Recent evidence suggests that it may even be sufficient to ask people shortly before an election whether they intend to vote. Asking people to predict whether they will perform a socially desirable act, such as voting, may increase the probability that the person will do the act.²⁰ Also, with the aid of modern technology, people could be reminded by computerized telephone messages about deadlines for registration, poll hours, where to vote and the like. For many people the decision about whether to vote is apparently a marginal one of fleeting importance. Just what is required or sufficient to get such people to the voting booth could be the topic of some interesting future research.

¹⁸ See Paul Lazarsfeld, Bernard Berelson and Hazel Gaudet, *The People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign* (New York: Columbia University Press, 1944).

¹⁹ While our interpretation is plausible and consistent with the facts, it is by no means the only one that could be made. We cannot claim to have direct knowledge of the underlying psychological process which occurs as a result of being interviewed during the pre-election period. The most harsh interpretation of the stimulus effect might be that people somehow feel intimidated, coerced or frightened into voting out of a feeling that their behaviour is going to be under continuing surveillance and monitoring in the future. We do not favour such an interpretation and do not think it applies to the Swedish election studies we have analysed. We point it out here merely to indicate an awareness of our ignorance of the underlying process associated with the stimulus effect.

²⁰ See Steven J. Sherman, 'On the Self-Erasing Nature of Errors of Prediction', *Journal of Personality and Social Psychology*, 39 (1980), 211-21; Anthony Greenwald, Catherine Carnot, Rebecca Beach and Barbara Young, 'Increasing Voting Behavior by Asking People if They Expect to Vote', *Journal of Applied Psychology*, 72 (1987), 315-18.