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Online Election Surveys: Keeping the Voters Honest?

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This study investigates the question of Internet mode effects in online election studies. Specifically, we examine whether Web versions of election studies can produce more accurate or truthful estimates of vote choice and party preference than their more conventional offline counterparts. Existing studies have indicated that a Web environment may lower the social context of the survey, promoting greater openness from respondents in answers on political preference items. We examine this question using data from the 2001 Australian Election Study (AES) in which a Web and mail survey were conducted. Crucially, both online and offline questionnaires relied on self-completion, a standardization lacking in previous studies and that allowed for a more controlled test of mode effects. The results reveal no significant differences in the expression of political preferences across the two surveys after controlling for key demographic and attitudinal factors. Significant differences do emerge, however, in vote choice depending on whether an individual had Internet access. We conclude that while Web mode per se does not have any notable effect on respondents' answers to political choice questions, until the issue of universal access is resolved, its substitution for existing methods would be undesirable as this would exclude an important and politically distinctive subset of the population.

KEYWORDS election study, internet, mode effects, web survey

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INTRODUCTION

The use of online methodologies in commercial and academic survey research is expanding rapidly. Application of the Internet in national election surveys has been quite limited, however, due to the relatively infrequent opportunities available to deploy it. The election studies that have adopted the technology have done so largely on an experimental and exploratory basis, focusing on three main question, namely, how representative the samples are of the wider electorate, how closely any causal inferences made about political behavior correspond to those drawn from more traditional surveying methods (such as telephone and face-to-face interviewing) and, finally, how well the poll results matched the election outcome. Overall, the results have shown that despite significant demographic and attitudinal biases in online samples, the direction and significance of relationships between variables of interest essentially replicate those found in offline samples. In addition, Web surveys have also been found to be surprisingly accurate in predicting outcomes, with online polls in the United Kingdom and United States national elections since 2000 generally coming closer to the final result than their conventional counterparts.

In attempting to explain this high level of accuracy, scholars' attention has been drawn to the possibility of mode effects in Web surveys. In particular, the remarkably accurate results of the online version of the 2001 British Election Study (BES) (replicated in 2005) prompted speculation that the medium may help to break the "spiral of silence" that has surrounded estimates of Conservative support since 1992. Whether this occurs due to Web polls' reliance on self-selection, which draws in more right-wing voters, or some unspecified Internet mode effect, however, is not clear (Sanders et al., 2004, 33). Subsequent and more systematic analysis of online election study data by U.S. scholars does offer some important insight into what these effects might be, with reports of a significant lowering in respondent anxieties to provide the "correct" response in the Web version of the election survey compared to those surveys using other methods (Chang and Krosnick, in press).

While these findings clearly raise tantalizing prospects for improving the measurement of voter preferences in election surveys, using them to draw any definitive conclusions about mode effects is problematic for a number of reasons. First, the U.S. findings about greater respondent openness centered on responses to items dealing with racial prejudice, not voter choice or preference per se, as highlighted in the BES research. In addition, and perhaps most importantly, both studies compared results from a self-administered Web survey to those produced via offline methods that used interviewers, the presence of whom may well account for respondents' greater reluctance to disclose their true intentions or feelings. Last but by

no means least, the findings from the United Kingdom and United States run distinctly counter to those from the German online election study of 2002, which was highly inaccurate, particularly with regard to the underreporting of mainstream party support (Fass, 2004).

Given the considerable confusion if not contradiction that appears to be emerging in the literature about online election studies and particularly their usefulness for divining voter preferences, this paper attempts to clarify the issue by providing a more controlled test of Web mode on vote choice items. Specifically, we use data from the 2001 Australian Election Study (AES) to compare the declared political preferences of individuals completing an online version of the questionnaire to those provided via a more traditional mail-out/mail-back paper-and-pencil format. Crucially, both versions of the survey were self-administered. Thus, as well as providing a new case to examine general questions about the representativeness and robustness of the method, the Australian study also allows for a more systematic analysis of mode effects than has hitherto been presented. Having controlled for any major demographic and attitudinal differences that exist between the two samples, we can be more assured that any remaining differences in the distribution of political preferences can more credibly be attributed to survey mode.

Given the increasing use of Web survey methodology, our analysis is both timely and significant. Vote intention and partisanship are key dependent variables in any election-related research, and while problems of representativeness and random recruitment of online samples will no doubt be resolved with time and technological innovation (as happened with telephone surveys), mode effects are arguably a more perennial issue. Identifying and understanding how the medium might affect the measurement of political preferences, therefore, and possibly even improve them is of great importance to election researchers.

THE GROWTH OF ONLINE SURVEYS: ARGUMENTS FOR AND AGAINST

The use of Web-based surveys has expanded dramatically during the past 5 years, and such surveys are now regularly referred to as authoritative sources of national popular opinion in media reports and academic publications.¹ As use of the method has widened, so has awareness of the problems and opportunities it raises for the survey research community. On the negative side, much of the criticism has focused on the quality of samples produced by Web surveys. Internet-based polls have for the most part relied largely on self-selection or "passive sampling" to recruit respondents. As well as precluding the use of probability-based estimation for population parameters

and making nonresponse rates very difficult if not impossible to calculate (Sills and Song, 2002; Dillman and Bowker, 2001; Best et al., 2001), such methods invariably skew samples toward the more enthusiastic and engaged members of the population. This bias is further compounded by the coverage error associated with such surveys, since access to the Web is far from universal in many countries and also tends to be skewed toward a younger and more educated population (Norris, 2001). While some efforts have been made to create sampling frames within known populations that overcome some of these difficulties, problems remain in that costs are defrayed to respondents in completing the survey and fears remain over network security. Such factors may be responsible for the lower response rates that have been observed among Web surveys compared to other methods (Sax, Gilmartin, and Bryant, 2003; Haraldsen et al., 2002: Miller et al., 2002; Sills and Song, 2002; Couper, 2001; Fricker and Schonlau, 2002; Kraut et al., 2004).

Taking a more positive approach to the technology, however, enthusiasts can list a number of clear advantages it offers over existing methods. Online surveys are generally cheaper to administer, can provide very large samples, and are more likely to include some of those "hard-to-reach" groups, such as busy professionals who are seldom home and who generally dislike the intrusiveness of phone or face-to-face interviews (King, 2002). Online surveys can also minimize errors and omissions by using smart software to ensure that all items are answered fully (Couper, Traugott, and Lamias, 2001; Haraldsen et al., 2002; Schaefer and Dillman, 1998). Finally, and perhaps most importantly, it is argued that Web surveys can solicit more accurate responses from respondents. As with mail surveys, people have more time to consider their answers, and the lack of an interviewer provides greater freedom to answer sensitive questions truthfully (Musch, Bröder, and Klauer, 2001). Also, since people have opted to complete the survey rather than having been selected at random, it is plausible that they are more inclined to provide their honest opinions.

Certainly the notion that one can extract more honest opinions from respondents using Web methodology gains support from the broader literature on the mode effects of electronic and computer-assisted surveying.² Kiesler and Sproull (1986), in one of the earliest studies of this question, compared responses on a series of sensitive topics using self-administered electronic surveys and equivalent paper-based surveys; they found significant differences in the extremeness of the opinions expressed. The more impersonal interaction with a computer, they concluded, rendered respondents less concerned with social norms and the impressions they give to others and more self-absorbed and uninhibited (Kiesler and Sproull, 1986, 405).³ Other work followed that confirmed this "computer effect" (Turner et al., 1998; Tourangeau and Smith, 1996; Walsh et al., 1992; Bradburn et al., 1991), with Tourangeau and Smith (1996) arguing that the computerized

environment offered uniquely high levels of privacy and legitimacy to respondents, encouraging them to make potentially embarrassing admissions: "... a survey may be seen as more important or more objective when computers are used to collect the data" (282).

Setting aside the admittedly significant sampling and coverage error to which the method is prone, it does appear that a major potential benefit associated with Web surveys may be their capacity to minimize measurement error of socially or politically sensitive attitudes and behaviors. Online election studies, one can argue, provide a particularly valid means of assessing this proposed benefit since they have a very obvious empirical indicator of the population's "true" preference against which the surveyed result can be compared: the election outcome.

ONLINE ELECTION STUDIES

Beyond Australia, to the authors' knowledge, Web surveys have been used in two official election studies: one in the United Kingdom (2001, 2005) and one in Germany (2002). In the United States, a number of online election surveys have also been conducted by academic teams as well as commercial pollsters such as Harris Interactive. Among the surveys conducted by academic teams in the United States, the most notable work was done by Krosnick and Chang at the Center for Survey Research (CSR) at Ohio State University on the 2000 presidential election. In each instance, a Web version of the election study was conducted in parallel with more traditional methods, such as randomdigit-dial (RDD) telephone surveys, face-to-face interviewing (Germany), or a combination of the two (United Kingdom).

Methods of recruitment in the online surveys differed across and within countries: In the BES in 2001, an open Web poll was conducted in conjunction with YouGov, a commercial online polling company, with respondents registering and completing the survey on a self-selected basis (so-called passive sampling); selected incentives were offered to do so (chances to win airline tickets, vacations, etc.). In 2005, a more active sampling strategy was followed whereby respondent e-mail addresses collected during the passive sampling phase formed an online "access panel" that was then randomly targeted with surveys prior to the election. In the United States, both of the major companies involved in formal election studies practiced active sampling. The Harris Interactive poll followed the YouGov model, creating a large online access panel through self-selection and incentives that was then randomly sent surveys via e-mail. The Knowledge Networks poll went considerably further to reduce problems of selection and coverage bias, constructing an online access panel using offline probability sampling methods and then installing Web TV facilities to ensure that respondents could participate. Finally, the German study used a combination of recruitment

methods, with one sample being an online access panel consisting of randomly selected individuals from a previously constructed offline probability-based sample and another constructed via an open online poll and passive sampling.

In general, the results of the online versions of the election studies showed a high degree of accuracy. As noted earlier, the predictions produced by YouGov on the eve of the 2001 and 2005 elections were among the most accurate of all the major commercial polls.⁴ Subsequent comparison of the 2001 online results to those produced by the face-to-face and RDD telephone survey versions of the BES also found it to be closest to the final outcome, even before weighting procedures were applied (Sanders et al., 2004, 36). In the United States, the results from Harris Interactive's own preelection polls for the 2000 presidential election reported astonishingly high levels of accuracy in predictions of the national and statewide vote, proving more accurate than those formed from RDD telephone surveys (Terhanian and Bremer, 2002).⁵ Krosnick and Chang's (2002) comparative analysis of the major online polls confirmed their high degree of accuracy, although their offline CSR postelection RDD telephone survey proved most accurate. In an updated and more controlled analysis of their 2000 election survey, Chang and Krosnick (2004) provided evidence to support the notion that respondents to Web surveys offered more "honest" replies to sensitive topics compared with other methods, reporting that"... white Internet respondents were more likely to offer socially undesirable answers to a question about race than were the white telephone respondents" (36).

The results from the German poll, however, ran counter to this picture of increasing accuracy in measurement of voter preferences. Even after weighting, the online polls significantly overestimated the minor party vote, particularly that of the Greens, and conversely underestimated support for the major parties, particularly the right-wing Christian Democrats. In the case of the open poll, the unweighted support for the Greens was 21.4 percent compared to the 8.9 percent they received on election day; for the Christian Democrats the gap was similar, with 23.6 percent predicted support compared to the 35.9 percent they actually received.

IS THERE A WEB MODE EFFECT?

In attempting to explain these results, researchers have focused on the effects of mode. BES researchers in particular speculated that "... the unsolicited character of net polls or an Internet mode effect" might have led to the greater accuracy in findings (Sanders et al., 2004, 37). While the authors did not elaborate further on what this mode effect might be, the results from the U.S. study suggest that the Web context may offer a more depersonalized

environment to respondents that allows the survey to break through the "spiral of silence" surrounding expressions of support for the less popular or politically correct party, in this case the Conservatives (Sanders et al., 2004, 33). Certainly, as was noted above, the idea that the Web mode, as a derivative of computer-assisted surveying, would reduce the social context of the survey such that voters felt less pressured to offer the "correct" response or give the nod to the expected winner gains some support in the wider literature. Indeed, taking this argument one stage further, one could argue that the Web mode is associated with even higher levels of anonymity and reduced social context than previous computer-based surveys because people can complete the surveys in their home environments without any researcher interaction at all. Open and access panel types of Web polls may further lower privacy concerns because they rely on respondents' opting in rather than responding to targeted contact from unknown research companies via mail or telephone.

This extended logic of a lowered social context or reduced desirability bias may even assist in explaining the German results. Much of the inaccuracy here lay in the overreporting of minor party (particularly Green Party) voting in the Web version of the survey. It is possible that such results do reflect voters' true preferences; however, in the context of a national election they proved unwilling to act on them. Such an argument has particular relevance in the German context given the legal deterrence that applies to support for small parties through proscription and the 5 percent vote threshold. In addition, there may simply have been more non–mainstream party supporters in the online population at the time of the poll. The demographic profile of the two online samples in Germany shows them to be the most skewed of all the online samples under discussion, with a very high proportion of younger voters, men, and individuals with a tertiary education.⁶

Overall, therefore, the results from online election studies do appear to lend some support to the notion that the Web environment may prompt more honest, although not necessarily more accurate, answers to questions about political preference and vote choice. In terms of testing this thesis, however, these studies are problematic. Chief among the concerns is that the U.K. and U.S. studies compared the results from online surveys that had been self-administered with those from offline methods that used interviewers, the presence of whom is associated with lower levels of disclosure by respondents, particularly in regard to socially sensitive behaviors or attitudes.⁷ Indeed, Chang and Krosnick (in press) acknowledge that this makes it difficult to attribute their findings about greater openness to the Web medium itself: "Our research leaves unanswered the question of whether the superiority of the computer mode is attributable simply to self-administration or to the use of a computer per se." (48). In addition, their findings were generated through analysis of attitudes on the socially sensitive topic of race rather than voters' political preferences, the subject of principal concern here and for election studies more generally.

Testing for Web Mode Effects: The AES

The key question being investigated in this article is whether a Web version of an election study can improve the measurement of voters' political preferences compared to more conventional offline formats. Whether this produces more accurate estimates is considered a likely—although, as the German evidence suggests, not inevitable—outcome. The 2001 AES offers a very useful means for testing this question since unlike the preceding studies, both the offline and online versions of the questionnaire relied on self-completion. The offline survey was a mail-out/mail-back questionnaire. The Web survey was conducted in a static rather than dynamic format, thereby further increasing its comparability to the mail version and also the likelihood that any differences emerging in voters' response were attributable to the medium per se (Dillman, 2000).

One obvious methodological difference between the two surveys was the method of recruitment: the Web version relied on self-selection and passive sampling and the mail-out version used random probability-based techniques. While post hoc controls were applied to account for any socioeconomic and attitudinal biases that this might have introduced into the analysis, it was not immediately evident that these differences would affect the distribution or direction of political preferences within the two samples, which forms the focus of interest here. As Sanders et al. (2004, 41) point out, demographic factors such as class are far less strongly correlated with the vote than was the case in the 1960s and 1970s. Certainly the empirical evidence from the 2001 online BES, which relied on passive sampling, supports the point, since even before weights were applied it proved to be one of the most accurate of all the surveys—offline and online—under review.

In order to address these questions, the analysis proceeds in three stages: first, the political and demographic characteristics of respondents in both surveys are profiled to establish how comparable they are to each other and the Australian electorate as a whole; the surveys are then compared for their overall accuracy in estimating the actual election result in terms of the distribution of votes for parties in the lower house; finally, the distribution of respondents' voting choice and party identification are compared across the two surveys, controlling for any "external" biases uncovered in the online sample during stage one of the analysis. The idea was that if significant differences remained in the pattern of voter preferences across the two surveys, this could more credibly be attributed to "internal" mode-related effects. Finally, conclusions are drawn about the extent to which the Web environment may be affecting the measurements of voters' political preferences.

ELECTION STUDY METHODOLOGY⁸

Offline Survey Methodology

Since 1987, the AES has been fielded at every federal election until 2001 using mail-out/mail-back questionnaires based on a random sample generated from the electoral roll.⁹ While best practice in survey methodology is a source of intense debate, as this article indicates, recent research has suggested that mail questionnaires in election surveys can be particularly advantageous in terms of improving accuracy, sample size, and eliciting respondents' underlying stable orientations (Visser et al., 1996). Certainly, the AES has shown itself to be a stable indicator of popular political attitudes, with many of the questions being asked on a repeated basis. The sample is drawn by the Australian Electoral Commission from their computerized rolls; respondents are mailed on the Monday following the federal election, which is held on a Saturday. The envelopes contain an individually addressed and signed letter explaining the purposes of the study and a guarantee of confidentiality, the questionnaire, and a return postage-paid envelope (wave 1). One week later, all respondents are mailed a thank you/reminder postcard (wave 2); this postcard has a considerable impact on the response rate. About 3 weeks following wave 2, a second follow-up of all respondents who had by that time not returned questionnaires or who had not indicated that they wished to be excluded from the study is mailed (wave 3).¹⁰

Online Survey Methodology

As noted above, the survey was an "open" Web poll and relied on selfselection of respondents. Invitations to participate were placed on portals and frequently visited Web sites to attract as wide a selection of the electorate as possible. In Australia, the ninemsn site was seen as having the widest usage, and so appeals to participate were promoted through its home page (www.ninemsn.com.au). This type of Web poll, as Couper (2000) points out, is probably the most prevalent form of Web survey in general use, having been employed for two of the major academic initiatives in this area referred to earlier: *National Geographic*'s Survey2000 and the Georgia Institute of Technology Graphic, Visualization, and Usability Center WWW User Surveys.

While concerns about the sampling error associated with this methodology clearly form a priority for those working in this field, security-related issues are of just as much importance with regard to preserving the integrity of the results. The open poll method in particular is capable of attracting tens of thousands of responses, not all of which will be authentic. "Bamboozling" is an industry term that refers to the malicious stacking of the results of Web surveys using robots or programs that automate multiple responses. Numerous examples of such subversion exist, as *Time* magazine discovered in 1999 when it launched its "Person of the Year" poll.¹¹ To address this problem, an extensive range of security protocols were established such as respondents being required to register their name, a valid postal address, and postcode which were then cross-checked. A valid and active e-mail address was also required, and those respondents with obviously "non-Australian" extensions such as ".co.uk" were removed from the database; e-mail addresses ending with the generic ".com" were included, however, since this would have meant leaving out Australians using common programs such as Americal Online, Hotmail, and Yahoo. Finally, since every e-mail carries with it an Internet protocol (IP) address, any replication of either produced a warning notice, and these cases were then investigated on an individual basis. Any suspicious entries were removed from the database post hoc. This delayed removal further enhanced the security of the registration system, since those making fraudulent entries would remain unaware that were being tracked and be less tempted to try again using more sophisticated techniques. Of course, creating multiple e-mail addresses or faking an IP address and postal details in order to make multiple valid registrations in order to "rig" the results, while difficult, was not impossible. The level of user sophistication and amount of time required to create enough different names, addresses, e-mail addresses, and IP addresses to confound the poll, however, was considered to act as a sufficient disincentive. The numbers of people actually identified as problem cases was, in the end, extremely small.¹²

The online survey was conducted in the preelection period from October 12 to November 9, 2001, and resulted in a final sample of 1,943. The mail survey was administered 1 week after the election (with responses being received up to 3 months afterward). This difference in the timing of the fieldwork resulted in some changes to question wording for certain variables in terms of their being placed in the past or future tense (see Appendix B for full details of questions used). In particular, those regarding voting behavior referred to intention in the online survey and recall in the mail survey (questions about partisan identification and demographic background were identical). These differences may raise some questions about the comparability of the two surveys' measurement of vote choice and particularly whether the offline poll would be more accurate in relying on recall. However, we contend that this is not obviously problematic within the Australian context for a number of reasons. First, because of compulsory voting, reports of vote intention in advance of an election tend to be much more accurate than in other countries. Only a very small proportion (less than 5 percent) of the population do not vote, and thus the overreporting typical to preelection polls and the bias that usually flows from it is reduced. Further, while we would expect there to be some fluctuation between vote intention and actual behavior, given the closeness of the online survey to election day itself and the lack of any dramatic event or revelation during the period of time the online survey was live, we would expect any such change to be small and also, more importantly, random in nature.

FINDINGS

Representativeness of the Online and Offline Samples

According to the census data from 2001 (the election year), just under 40 percent of Australians reported access to the Internet.¹³ As expected, given the results of the other election studies, online respondents in Australia were found to constitute a more elite socioeconomic group than their offline survey respondents.

As Table 1 reports, there were significant sex and education differences between the two groups. Respondents to the online survey were disproportionately male—60 percent compared to 46 percent of the offline respondents—reflecting, at least in part, greater numbers of men having access to the Internet in their workplace. The online respondents also disproportionately had a tertiary education; more than two thirds had a degree compared to just over one quarter of the offline respondents. Variations in income were not of the same magnitude but nevertheless remained statistically significant; almost one in four of the online respondents were in the top income quintile (defined as gross income of more than \$A80, 000), compared to 17 percent of the offline respondents. The most marked differences that emerged, however, were in regard to age (Table 2). While similar proportions of those in their late 30s, 40s, and early 50s are included in the two surveys, as Figure 1 shows, the online survey was heavily skewed toward those in their 20s.

	Census 2001	AES offline	AES online	t Value	<i>p</i> Value
Sex (percentage male)	49.3	46	60	8.97	<.000
Age, years (median)	35	48	38	19.73	<.000
Tertiary education (percentage)	12.9	24	69	28.27	<.000
Family income >\$A80,000	_	17	23	4.58	<.000
N .		(1,881)	(1,884)		

 TABLE 1
 Socioeconomic Differences

The education question was "Have you obtained a trade qualification, a degree or a diploma, or any other qualification since leaving school? What is your highest qualification?" (both surveys); the income question was "What is the gross annual income, before tax or other deductions, for you and your family living with you from all sources? Please include any pensions and allowances and income from interest and dividends." (both surveys).

Census figures for education were based on 3.2% of those with a postgraduate education and 9.7% reporting a bachelor's degree (i.e., excluding the 21.8% of people with an advanced diploma, diploma, or certificate). Census figures for family income are not reported. The publicly available figures report individual income over \$A78,000.

Source: 2001 Australian Election Study.

	AES offline	AES online	Difference
Direction			
Labor	36	37	-1
Liberal-National	41	42	-1
Other	8	9	-1
None	15	12	+3
N	(1,956)	(1,305)	
Strength			
Very strong	18	30	-12
Fairly strong	48	51	-3
Not very strong	34	19	+15
N	(1,681)	(1,177)	

TABLE 2 The Direction and Strength of Party Identification

Online questions: "Generally speaking, do you usually think of yourself as Liberal, Labor, National, or what?" "Would you call yourself a very strong, fairly strong, or not very strong supporter of that party?" *Source*: 2001 Australian Election Study.

For example, 19 percent of online respondents were aged between 18 and 24 years, compared to just 7 percent among the offline respondents. At the other end of the scale, 9 percent of the offline respondents were aged in their 70s, compared to just 1 percent of the online respondents. The mean age of the online respondents was 38 years compared to 46 years for the offline respondents.

Political Characteristics of Respondents

Based on the findings from existing studies using parallel online and offline surveys, we did expect there to be some significant differences in the



FIGURE 1 Age distribution of online and offline respondents.

distribution of underlying political orientations among the online and offline respondents. To examine this, we profiled both samples on partisan attachment and levels of political interest as well as more topical questions relating to the election. Looking first at partisan identification, we found that the online survey estimate was very similar to that provided by the offline survey—within 1 percent for those providing identification. Nonidentifiers were slightly overestimated, by 3 percentage points (Table 2). The online poll, however, was far less accurate in replicating offline estimates of partisan strength; very strong identifiers were overestimated by some 12 percentage points, and not very strong identifiers, in the opposite direction, by 15 percentage points.

While the differences observed in partisan strength across the two samples are undoubtedly due in part to the demographic biases of the online respondents, particularly in terms of education, they are also no doubt due to the different recruitment methods used by the surveys. The passive sampling basis of the Web survey would necessarily mean that it attracted more people with higher levels of political interest (Wu and Weaver, 1997). Our study provides empirical support for this supposition, as Table 3 illustrates. A full two thirds of the online poll respondents said that they had a "good deal" of interest in the election, compared to less than half that proportion in the offline poll. Significantly more online respondents watched the televised debate between the two main party leaders, John Howard and Kim Beazley, at the beginning of the election campaign. Overall levels of attention to the election in the media were also substantially higher among the online respondents, most notably in the case of newspapers and, as

	Percentage			
	AES offline	AES online	t Value	<i>p</i> Value
Interest in the election (a "good deal")	30	67	23.38	<.000
Watched leaders' TV debate	40	66	16.15	<.000
Followed election a "good deal" on				
Television	26	39	7.78	<.000
Radio	16	22	4.71	<.000
Newspapers	15	33	12.32	<.000
Internet	1	28	23.47	<.000
N	(1,881)	(1,884)		

TABLE 3 Interest in the Election

The questions were "How interested are you in the federal election that is to be held on November 10?" (online survey); "How much interest would you say you took in the election campaign overall?" (offline survey); "Did you watch the televised debate between John Howard and Kim Beazley on Sunday September 13?" (both surveys); "Do you pay much attention to the election campaign coverage on television/radio/in the newspapers/on the Internet?" (offline survey); "How much interest did you pay to reports about the election campaign in the newspapers?" (offline survey); "Did you follow the election campaign news on television? And did you follow the election campaign news on the radio?" (offline survey). Numbers for individual items vary due to missing data.

Source: 2001 Australian Election Study.

we would expect, in Internet use. Overall, online respondents were, as expected, more interested in the outcome of the election and more avid consumers of election news.

Accuracy in Predicting Outcome

Table 4 reports the unweighted estimates of voting behavior in the House of Representatives contest from the offline and online AESs alongside the actual result. As noted above, the online survey results constitute a genuine prediction having been gathered prior to the election. The offline results offer more of a "post-diction" in that the survey was fielded directly after the election. Despite the skew observed in the online sample in terms of its sociodemographic profile and attitudinal intensity, in line with the British and U.S. findings, the unweighted online estimate is found to be highly accurate, particularly in estimating major party support. The online survey predictions were slightly closer to the right-wing party vote (within 3.2 percent compared to 3.4 percent for the offline recall) but underreported the Labor vote by 1.8 percentage points, whereas the mail survey was within 0.6 percent of the Labor vote. As with the German survey, however, the online survey did prove notably less precise in its estimates of the minor parties' votes, particularly those of the Australian Democrats (the survey estimate was almost double the actual vote), as well as the Greens and One Nation. Overall, for the offline survey the mean deviation between the estimated and the actual vote was 1.7 percent, and for the online survey, 3.0 percent.¹⁴

The Impact of Survey Mode

In this final step of the analysis, we examined the key question of whether the differences that did emerge in vote and party preferences between the

	Election result	AES offline	AES online
Liberal Party	37.4	42.3	44.0
National Party	5.6	4.1	2.2
(Total Coalition)	(43.0)	(46.4)	(46.2)
Australian Labor Party	37.8	37.2	36.0
Australian Democrats	5.4	5.5	9.3
Pauline Hanson's One Nation	4.3	3.6	2.8
Greens	4.4	5.3	3.1
Others	5.1	2.1	2.6
N		1,856	1,696

TABLE 4 The Election Result and the AES Estimate

The election result is the first preference vote in the House of Representatives. Offline question: "In the federal election for the House of Representatives on Saturday November 10, which party did you vote for first in the House of Representatives?" Online estimates combine those who had decided and those who were inclined to vote for a party.

Sources: Australian Electoral Commission; 2001 Australian Election Study.

two samples can be traced to a survey mode effect. To do this, we created a pooled file of offline and online respondents and introduced a dummy variable that indicated which type of survey a respondent completed. We then examined the impact of survey type on respondents' partisan identification and vote choice in conjunction with a range of other factors that would reasonably be expected to affect these attitudes and behaviors. These controls included the standard socioeconomic background variables that typically influence voter preferences as well as individuals' ability to access the technology. The notably higher levels of political interest among online respondents were also taken into account, along with a number of other politically relevant variables that might affect the direction of voter preferences. These included people's like or dislike of the two main party leaders as well as the importance attributed to a range of key election issues. Since both surveys were self-administered, it was considered that if the variable for survey mode emerged as significant after holding constant this range of factors, then the presence of a Web mode effect could be more reasonably claimed than was possible in the previous analyses.

In operational terms, socioeconomic and demographic differences are measured by sex, age, tertiary education, and income. Political interest is measured by general interest in the election, watching the leaders' TV debates, and following election news in the mass media. Election issues are assessed by the four major issues in the election, and leader ratings by measuring Howard's and Beazley's popularity. The dependent variables vote intention (online) and vote recall (offline)—are scored 1 for Labor and 0 for the Liberal-National Coalition, with all others being scored 0.5. This process has the advantage of enabling us to interpret the partial coefficients in terms of a percentage change in Labor or Coalition support, based on a 1-unit change in the independent variable in question. For interpreting survey mode effects captured by the dummy variable, the excluded category was the group of respondents who were sampled online.

The main finding to emerge from the analysis reported in Table 5 is that contrary to initial expectations, survey mode itself does not appear to have any impact on how respondents answered questions about vote and party choice. Online respondents and offline respondents with Internet access did not differ in their expressions of support for parties in the 2001 federal election. Significant differences do emerge in the pattern of vote preferences between these two groups and those without Internet access, however. Those lacking Internet access are found to be significantly more likely to support the Labor party than those who are using the Internet. To the extent that any mode effects can be traced to use of the Web survey methodology, therefore, these appear to stem from deeper structural issues about access to the new medium rather than technique itself. In addition, these differences are only significant differences between the three groups of respondents.

	Vote		Partisanship	
	Partial	Standardized	Partial	Standardized
Method (online)				
Mail, Internet access	.03	.03	02	02
Mail, no Internet access	.13 ^a	.11 ^a	.04	.03
Socioeconomic status				
Sex (male)	01	01	.00	.00
Age (years)	001^{a}	09^{a}	00	03
Tertiary education	.00	.00	02	02
High income	02	02	04^{b}	03^{b}
Election interest				
Interested in election	06^{b}	05^{b}	04	03
Watched leaders debate	01	01	.01	.02
Followed TV news	.02	.03	.02	.03
Followed radio news	01	02	.00	.00
Followed newspapers	01	01	.00	.00
Followed Internet news	.03 ^a	.08 ^a	.00	.00
Election issues				
Education	08^{a}	06^{a}	.02	.02
Health	01	01	.01	.01
Tax	02	02	03	02
Refugees, asylum seekers	02	01	.03	.02
Leader ratings (0 to 10)				
Howard	07^{a}	53^{a}	07^{a}	55^{a}
Beazley	.04 ^a	.27 ^a	.04 ^a	.30 ^a
Constant	.67		.61	
Adj R^2	.49		.57	
N	3,695		3,695	

TABLE 5 Method Effects in Predicting Vote and Partisanship

Statistically significant at ${}^{a}p < .01$, ${}^{b}p < .05$, both two-tailed.

Table depicts results of ordinary least squares regression analyses showing partial and standardized coefficients predicting vote and partisanship. Vote and partisanship are scored as follows: 1 = Labor, 0.5 = minor party/no partisanship, 0 = Coalition. Age is in single years. Election interest: 1 = very interested; 0.5 = fairly interested; 0 = not very or not at all interested. All variables are scored zero or one except for age (single years) and leader ratings (zero to 10). For method, online respondents are the excluded category.

Source: 2001 Australian Election Study.

Thus, while Internet users in the 2001 Australian federal election appear to have been significantly more likely to support the Coalition than non–Internet users, the distribution of their underlying partisanship attachments are effectively the same.

Interpreting the coefficients in practical terms, the findings show that there was no appreciable percentage change in Labor voting or in Labor partisanship among those with Internet access who completed different versions of the survey. However, regardless of their own individual socioeconomic position and their behavior in the election, mail-in respondents who lacked Internet access did answer differently from online respondents to the tune of a 13 percent increase in voter support for Labor. In the case of partisanship, however, this figure drops to a statistically insignificant 4 percent. These findings are robust in that when reanalyzed with the two method variables entered first and the other variables progressively controlled for, there was no appreciable change in the coefficients.

CONCLUSION

Enthusiasts of online polling have already begun envisaging a future in which Web surveys supersede the more labor-intensive methods of phone and face-to-face interviewing (Black, 1998). On the basis of the results of this analysis, however, we do not foresee that day arriving for some time. Returning to the central question that this article has sought to answer, our results challenge the notion that the Web environment itself provides for a more open expression of respondents' political preferences. The online survey in the Australian election of 2001 was reasonably accurate in predicting the final result, but not noticeably better than the non-Web version. In the more controlled comparison of voters' election preferences across the two selfadministered surveys, any differences observed between the two versions effectively disappeared. There were no distinctive differences in the overall pattern of responses to items dealing with vote choice between those who completed the Web version of the questionnaire and those who completed the offline mail version. As such, it appears that, as Chang and Krosnick (2004) suspected, the results from the international literature indicating more honest or "real" opinions being voiced by online samples compared to those drawn using more conventional modes were indeed a methodological artifact resulting from the presence of interviewers in the latter.

Overall, however, these findings clearly provide some positive news for practitioners of online surveys. While the new technique may not be keeping the voters more honest than other methods, it does not appear to be introducing any additional biases into the measurement of election preferences. Indeed, as a simple forecasting device, once the appropriate weighting and statistical adjustments have been applied, the method appears to have considerable merit. Certainly, our results suggest that as more creative methods are developed to generate random samples, it is evident that the online format could be used interchangeably with other self-administered formats. This might provide particular advantages in reaching higher-status groups that prove hard to survey through other methods.

These results do offer a note of caution to any short-term roll-out of the online format in election studies and survey research more broadly. Those not using the Internet respond differently to questions about political orientation than do those without access. These differences persist even after controlling for socioeconomic status and levels of political interest, suggesting that there is a distinctive group of voters with more left-wing leanings who are choosing not to use the Internet despite having the financial means and cognitive skills to do so. While the numbers of these "refuseniks" will undoubtedly shrink over time as the Internet integrates further into our everyday lives, such an erosion will not happen overnight. Any rapid switch to use the new methodology based on the premise of a rapidly closing digital divide would be premature, therefore, according to these findings, since it would remove a small but politically distinct minority of the population from survey research.¹⁵ As such, online surveys are still to be seen as of supplements to, rather than as replacements for, existing practice.

NOTES

1. See recent stories in U.K. newspapers: "Election briefing" by Caroline Linton in The Guardian, April 25, 2003. Available at http://politics.guardian.co.uk/elections/story/0,13008,943568,00.html, accessed on May 26, 2003, and "Brown still holds trump card on Euro referendum" by Peter Kellner in The Observer, May 18, 2003. Available at http://www.observer.co.uk/politics/story/0,6903,958331, 00.html, accessed on May 26, 2003. In the academic environment, a number of initiatives have also been taken to conduct large-scale Internet-based surveys. Among the most notable of these have been Survey2000 and Survey2002, conducted by Clemson University in the United States and hosted on the National Geographic Web site. The data from these surveys have formed the basis for a series of articles published in social science journals including the following: "Does the Internet increase, decrease or supplement social capital? Social networks, participation and community commitment" by Wellman et al. in American Behavioral Scientist, 45, 3 (November 2001), 437–456 and "The global villagers: Comparing Internet users and uses around the world" by Wellman et al. in The Internet in Everyday Life (74-113), edited by Barry Wellman and Caroline Haythornthwaite. (Oxford: Blackwell, 2002). In addition, a series of online surveys have been run by the Georgia Institute of Technology Graphic, Visualization, and Usability Center (GVU). Details of the GVU and the results from the user surveys, as well as papers and publications, are available at http://www.cc.gatech.edu/gvu/user_surveys.

2. Although a number of studies comparing the results of self-administered Web surveys have found a lack of support for any such differences, these studies were done largely in relation to non–socially or politically sensitive topics (Carini et al., 2003; Bandilla, Bosnjak, and Altdorfer, 2003; Miller et al., 2002).

3. Research comparing data gathered from computer-assisted and pen-and-paper personal interviewing found a higher reporting of alcohol problems in the former sample than in the latter (Bradburn et al., 1991).

4. In the British General election of 2001, YouGov's predicted support for Labor was 43 percent and for Conservatives, 33 percent; the actual results were 42 percent and 33 percent, respectively. In 2005, predictions were 37 percent and 32 percent, and the final results were 33 percent and 36 percent, respectively. See www.YouGov.com for further details, also "Taking online research forward," a presentation at the 38th Essex Summer School in Social Science Data Analysis and Collection by Joe Twyman, YouGov, July 25, 2005.

5. Other non–election based analyses of Web surveys are plentiful and increasing. Such studies have generally focused on the nonrepresentativeness of the samples produced in demographics and strength of attitudes as well as the underlying comparable nature of the findings, in terms of variables of significance and direction of causality. See Miller et al.'s (2002) analysis of attitudes toward city services in Web and mail respondents; Berrens et al.'s (2003) analysis of knowledge and opinion of the Kyoto Protocol between Harris Interactive, Knowledge Networks, and RDD telephone survey respondents; Bandilla et al.'s (2003) examination of environmental attitudes and knowledge between Web respondents (recruited via online access panel) and those completing traditional self-administered paper-and-pencil questionnaires. Witte, Amoroso, and Howard (2000) attest that demographic nonrepresentativeness, weighting according to cultural characteristics (musical tastes), rather than straight demographics proved much more stable.

6. In the German online access poll, the 16 to 24 age group constituted 22 percent of the sample compared to 8 percent for 18- to 24-year-olds in the comparable U.S. Harris Interactive access panel. In addition, 44 percent of German respondents reported tertiary-level education. Although the Harris Interactive survey reported 49.5 percent with a college degree, the disproportionality becomes more evident

when one compares the figures to those of the offline probability samples, with only 26.6 percent of Germans reporting tertiary education compared with 42 percent of Americans.

7. For a useful review, see Chang and Krosnick (in press). They point to a range of studies on topics such as alcohol consumption and income, attitudes toward birth control among Catholics, and reporting of personal and health problems and of unprotected sex outside of the primary relationship that demonstrate that the absence of an interviewer made people less concerned with the impression they are creating and less likely to seek to conform to social desirability standards (Sudman and Bradburn, 1974; see also Chang and Krosnick, in press, 47–48).

8. See Appendix A for further details.

9. A national survey was also conducted during the November 1999 Republic Referendum. In addition to the survey of voters, in all federal elections except for 1998, election candidates have been sampled, producing response rates of 70.5 percent (1987), 65 percent (1990), 70 percent (1993), 63.5 percent (1996), and 58 percent (2001).

10. In the 1987 survey, a fourth and final wave was used, consisting of a letter. However, this elicited comparatively few extra responses and was not considered cost-effective; it has not been used in the post-1987 surveys.

11. "When robots attack online polls: A report on ourselves." February 26, 1999 (www.time.com/time/arts/article/0,8599,35440-1,00.html).

12. According to the figures supplied by YouGov, the number excluded for bamboozling was less than 10. None of these appeared to be deliberate attempts to influence the results but were the result of accidental repeated submissions or instances in which the browser had collapsed, severing the connection and corrupting the data.

13. "Australia online: How Australians are using computers and the Internet 2001" by Rachel Lloyd and Anthea Bill. (2004). Canberra, Australia: Australian Bureau of Statistics.

14. The difference is statistically significant (t = 4.60, p < .0001). It should be noted that in Australia, at least part of this accuracy is attributable to the system of compulsory voting. A major source of survey error in voluntary voting systems is making an accurate estimate of actual turnout, since many respondents report that they voted when they actually abstained. In the BES, for example, the discrepancy between actual and reported turnout varied by between 5 and 10 percent (Eagles and Erfle, 1989; Heath and Taylor, 1999). In Australia, around 95 percent of registered voters actually vote, obviating this problem; in 2001, the figure was 94.85 percent in the House of Representatives.

15. Notably, assertions of universal penetration in Internet use due to falling costs are actually coming under increasing doubt, given mounting evidence in Europe at least that education and age barriers are not being overcome (Gibson, 2002; Norris, 2002).

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APPENDIX A: SAMPLING PROCEDURES AND FIELDWORK DATES

The sample for the Australian Election Study was drawn from the Australian population as listed in the electoral roll at the close of rolls, October 2001. The sample was selected using a stratified systematic random sample and was drawn by the Australian Electoral Commission. The information supplied by the commission included name and address only. The response rate was 55 percent. This was calculated after excluding "out of scope" respondents (return to sender, deceased) from an initial mail-out of 4,000 questionnaires. This reduced the number of units in scope to 3,631 from which 2,010 completed questionnaires were returned. The survey was conducted between November 12, 2001, and April 5, 2002, which was the closing date for returns.

The sample for the Australian Election Study Online was drawn from the Australian population with access to the Internet. To be included, respondents had to supply a valid name, e-mail address, postal address, and postcode. Recruitment was through self-selection or passive sampling, which

meant that an invitation to complete the questionnaire was posted on the Web site of one of the major online news organizations (ninemsn [www. ninemsn.com.au]). Interested respondents could follow the link through the online questionnaire hosted by YouGov, and their data would be collected in a MySQL database and then converted to SPSS portable format. The self-selection basis of passive sampling used YouGov meant that it was not possible to calculate a response rate. The survey was conducted between October 12, 2001, and November 9, 2001.

APPENDIX B: COMPARABILITY OF OFFLINE AND ONLINE QUESTIONS

Vote Choice

The election result is the first preference vote in the House of Representatives.

Online question: "Have you decided which party you will vote for, or haven't you decided yet?" Yes = Decided; No = Not decided yet; Will not vote.

"If you have already decided, which party is that? If you have not already decided, which party do you think you are most likely to vote for?" Liberal; Labor; National (Country Party); Australian Democrats; Greens; One Nation; Other/independent.

Online estimates combine those who had decided and those who were inclined to vote for a party.

Offline question: "In the federal election for the House of Representatives on Saturday November 10, which party did you vote for first in the House of Representatives?"

Party Identification

Online question: "Some people think of themselves as usually being a supporter of one political party rather than another. Do you usually think of yourself as being a supporter of one particular party or not? If yes, which party is that?"

"Would you call yourself [a] very strong, fairly strong, or not very strong supporter of that party?"

Offline question: "Generally speaking, do you usually think of yourself as Liberal, Labor, National, or what?"

"Would you call yourself a very strong, fairly strong, or not very strong supporter of that party?"

Political Interest

Online question: "How interested are you in the federal election that is to be held on November 10?

Offline question: "How much interest would you say you took in the election campaign overall?"

Leader Debate

Both surveys: "Did you watch the televised debate between John Howard and Kim Beazley on Sunday September 13?"

Attention to Media Coverage

Online question: "Do you pay much attention to the election campaign coverage on television/radio/in the newspapers/on the Internet?"

Offline question: "How much interest did you pay to reports about the election campaign in the newspapers? Did you follow the election campaign news on television? Did you follow the election campaign news on the radio? Do you ever use the Internet to do any of the following: look for information on politics, campaigns, or issues in the news in general?" (Numbers for individual items vary due to missing data.)

Leader Ratings

Both surveys: "Using a scale that runs from 0 to 10, where 0 means strongly dislike and 10 means strongly like, how do you feel about John Howard; Kim Beazley; John Anderson; Pauline Hanson; Natasha Stott Despoja; and Bob Brown?"

Political Issues

Online question: "In your opinion, how important are the following issues for you during this election campaign: taxation; immigration; education; the environment; goods and services tax; industrial relations; health and Medicare; refugees and asylum seekers; defense and national security; unemployment; worker rights; and terrorism?"

"Of these issues, which do you see as the single most important facing Australia in this election?"

Offline question: "Here is a list of important issues that were discussed during the election campaign. When you were deciding about how to vote, how important was each of these issues to you personally?"

Education

Both surveys: "Have you obtained a trade qualification, a degree or a diploma, or any other qualification since leaving school? What is your highest qualification?"

Income

Both surveys: "What is the gross annual income, before tax or other deductions, for you and your family living with you from all sources? Please include any pensions and allowances and income from interest and dividends."

Age and Sex

Online question: These variables were asked as part of the registration stage by YouGov and entered into the data set at a later stage. Response categories for male and female were recorded as well as age in whole years.

Offline question: "When were you born? Just the year will do. (Year 19__). What is your sex?"