

**Misreporting Turnout:  
Explaining Survey Error in National Election Studies\***

Stephen Quinlan

GESIS Leibniz Institute for the Social Sciences  
D-68072 Mannheim  
Germany

[stephen.quinlan@gesis.org](mailto:stephen.quinlan@gesis.org)

Ian McAllister

School of Politics and International Relations  
The Australian National University  
Canberra, ACT 0200

[ian.mcallister@anu.edu.au](mailto:ian.mcallister@anu.edu.au)

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## **Abstract**

Election turnout is central to the health of a democracy, yet measuring it accurately in national election surveys presents major problems. Surveys consistently show that respondents over-report their turnout, usually by between 10 to 20 percentage points. To date, most research has been conducted on the United States, and what little comparative research exists has typically covered a small number of countries. In this paper we present the largest comparative study yet conducted on turnout misreporting. By utilising 20 years of data from Comparative Study of Electoral Systems (CSES) we analyse 184 elections across 55 different states. In addition to testing the social desirability and mode effects explanations for misreporting, we examine the electoral and party systems and survey methodology. The results show that the operation of the electoral system and the survey methodology are the most important explanations for misreporting, but there are also significant effects for the election context and the party system. These results provide an important corrective to current studies by showing that institutional factors are at least as important in shaping misreporting as methodology.

## **Misreporting Turnout: Explaining Survey Error in National Election Studies**

The level of election turnout misreporting in opinion surveys far exceeds that of any other variable that is regularly collected in election surveys, including recalled vote itself.<sup>1</sup> The difference between reported and actual election turnout in a post-election survey can be as high as 40 percent, depending on the country in question and how and when the survey was conducted (DeBell and Crowden, 2010; McDonald, 2005). Misreporting can even vary considerably between surveys conducted after the same election; this can be as much as 10 percentage points (DeBell et al 2018: 5-6). Such discrepancies cast doubt on the reliability of election surveys to accurately measure political behaviour, with important implications for the research that uses them (Selb and Munzert, 2013).

This consistently high level of survey error has led to much research on its causes and possible solutions. Among the causes that have been identified, the fact that the error is almost always in the direction of over- rather than under-reporting turnout has focused attention on social desirability coupled with self presentation as major motivational mechanisms (Belli et al, 2001). Another theme in the research has examined the design of the surveys, concentrating on how the sample is drawn, the survey response rate and the survey mode (Berent, Krosnick and Lupia, 2016; Burden, 2000). And a third strand has argued that misreporting may simply be the result of respondent recall problems, which suggests that there is no systematic bias resulting from misreporting.

In devising solutions to the problem, one approach is to frame turnout questions so that admitting abstention is more acceptable and ‘face-saving’ (Belli, Moore and Van Hoewyk, 2006; DeBell et al 2018: 4-5). This has been shown to significantly reduce misreporting, by up to 18 percentage points, depending on the country and level of government in question (Morrin-Chasse et al, 2017). Another solution is to validate reported turnout from official records by matching the respondent with her official election records. This also greatly reduces error, but it is accompanied by other difficulties, such as developing effective matching procedures (Berent et al, 2016), the extra resources required to conduct the exercise, and securing access to government records.

Understanding the causes of election turnout misreporting and developing mechanisms to rectify it are of more than passing interest. Donald Trump’s unexpected victory in the 2016 US presidential election has been attributed to surveys overstating turnout among specific social groups (Kennedy et al, 2018: 5). As turnout declines around the world—among the advanced democracies, turnout has declined by about 10 percentage points since the 1970s (Blais, 2007;

Blais and Rubenson, 2013)—differential turnout and its possible effects on election outcomes becomes more pronounced as some social groups (for example, the young and the less educated) are more likely to abstain from voting (Dassonneville and Hooghe, 2017). While the aggregate effect of differential turnout tends to be small, it has the potential to change electoral outcomes in closely competitive elections where turnout is low (Lutz and Marsh, 2007).

This paper takes a different approach to analysing the causes of the misreporting of election turnout. Using the unique resource of the Comparative Study of Electoral Systems (CSES), we are able to analyse 184 post-election surveys conducted in 55 different countries over two decades. This enables us to examine not only social desirability and survey mode, but to evaluate for the first time the relative effects of a wide range of other factors, including election system design, the characteristics of the party system and survey administration. The first section of the paper examines the theory and previous research on the problem of measuring turnout reliably in election surveys. The second section advances a series of hypotheses, while the third section outlines the data and operationalises the main explanatory variables. The fourth section presents the results, while the conclusion places these findings in the context of previous research on turnout misreporting.

## **Theory and Previous Research**

The research on the misreporting of turnout has generally focussed on three main causes. The first involves the survey methodology and the extent to which the sample provides a sufficiently accurate representation of the electorate. The second possible cause is recall problems among the respondents, leading to unintentional misreporting. And the third possible cause is social desirability, so that respondents know that they did not turnout to vote but are reluctant to admit as such in the survey. We deal with each of these causes in turn.

The research that has examined survey methodology as a cause of misreporting has identified the sample and the survey mode as areas for scrutiny. Concerns about the sample focus on the possibility that survey respondents are a biased sample of the general electorate (Berent, Krosnick and Lupia, 2016; Burden, 2000). This stems from the fact that certain groups, such as the politically disengaged, the less educated and the young, are more difficult to sample compared to those who are more interested in politics, better educated and older (Blais, 2007). Since these are precisely the social characteristics that will influence who will vote and who will abstain, it follows that any systematic sample bias among these groups will have an impact on reported levels of turnout.

In support of this argument, Burden (2000) shows that declining response rates in the American National Election Study (ANES) have resulted in an increasing sample bias, with consequences for who reports turning out to vote. Burden argues that increasing selection bias has interacted with other factors, notably social desirability, to exaggerate presidential election turnout in the most recent surveys (p.397). Other scholars who have examined the impact of sample bias on misreporting have either not found any effects (Martinez, 2003) or have found it to be minimal at best (Groves and Peytcheva, 2008). However, any systematic evaluation is complicated by differential response rates among social groups which themselves have different probabilities of voting.

The survey mode has been identified as a possible cause of misreporting because of its interaction with social desirability. In comparing the results of personal interview with telephone surveys, DeBell et al (2018: 8-9, Table 2) find that personal interviews are more accurate than telephone interviews. This is attributed to 'survey sacrificing' or 'the tendency of some respondents to give the first answer that comes to mind that may seem acceptable' (p.9). This, they argue, is a more common characteristic in telephone interviews than in personal interviews, not least because telephone interviews tend to be shorter in length and it is a mode that is more suited to quick, short (and possibly unreliable) answers. However, even in personal interviews the level of misreporting still goes into double figures. Other research that has analyzed the growing number of internet surveys has found that they are less susceptible to social desirability response bias due to the absence of an interviewer/respondent interaction (Holbrook and Krosnick, 2010; Holbrook, Green, and Krosnick 2003).

The second cause of misreporting is held to be an inaccurate recall of whether or not the respondent voted. This may be the result of random factors rather than any deliberate intention to provide a false response (Stocke, 2007; Stocke and Stark, 2007). Recall error stems from the simple fact that for many respondents, the act of voting is an unimportant activity. Morin-Chasse et al (2017) show that responses to an experiment designed to reduce misreporting varies with the level of government, suggesting that the salience of an election to the respondent is an important factor. Belli et al (1999) also find that misreports are more likely to occur the longer the interview is from election day, also suggesting a recall problem. On the other hand, as Burden (2000: 440) argues, if misreporting is indeed random then there should be equal proportions of under- as over-reports; this is not the case and almost all misreports are over-reports.

The third theme in the research has identified the psychological processes that may underly the response to a turnout question. In this context, lower levels of political interest, knowledge and citizen duty have all been found to be significant, leading to the conclusion that social

desirability—‘the tendency of some respondents to give answers that they think will be viewed favourably by others’ (DeBell et al, 2018: 7)—plays a major role in misreporting. As noted earlier, social desirability can interact with other factors, such as survey mode, to increase misreporting. Evidence to support the importance of social desirability includes the fact that misreporting is higher among those social groups who might be seen as having a greater stake in an election outcome. For example, studies have found that educated voters are more likely to misreport (Belli et al 2001: 493; Gorecki, 2011) as are white voters in the southern US (Bernstein et al 2001). Other evidence suggests that social desirability is most likely to be relevant in high turnout contexts, where there is a public expectation that citizens will turnout to vote (Karp and Brockington, 2005).

Despite the large number of studies, the research that has been conducted to date has two major limitations. First, most of the studies are based on a single country and often focussed around a single election. The vast majority of studies use the US as a case study utilising the ANES, the General Social Survey (GSS) and other surveys. This has led Belli et al (2001: 496) to comment on their own research that ‘the most serious limitation of this study is that it is based only upon analysis of data from the United States’. Studies have examined other countries, notably Denmark (Dahlgaard et al, 2019), Israel (Waismel-Manor and Sarid, 2011), Norway (Waldahl and Aardal, 2000), Sweden (Granberg and Holmberg, 1991; Gorecki, 2011) and Switzerland (Sciarini and Goldberg, 2016). While many of the recent single country studies have advanced our knowledge of misreporting by matching survey estimates with administrative data (see, eg, Dahlgaard et al, 2019), the findings cannot be extrapolated to other countries.

Just four comparative studies have been conducted, ranging from six countries covering 49 elections (Selb and Munzert, 2013),<sup>2</sup> five countries (Karp and Brockington, 2005),<sup>3</sup> and three countries (Andersson and Granberg, 1997). The only broadly comparative study covers 19 European and Canadian elections, but only three are national elections (Morin-Chasse et al, 2017) and a fourth is the 2014 European Union election, a second order election.<sup>4</sup> Almost all of these studies have examined the advanced democracies, for which the relevant data is most readily available. There is, then, no comparative study which examines only national election studies conducted across a wide range of countries, with differing survey methodologies, election contexts, and electoral and party systems. This paper seeks fills this gap in the research.

A second limitation of current studies is the focus on the micro factors which may influence misreporting, typically socioeconomic background and concentrating on variables such as age, gender, and education. There are efforts in some of the studies to use multiple datasets to compare differences in turnout reporting due to question wording, mode, election salience, or other factors. However, for the most part, there is little attention devoted to the macro factors that

may affect misreporting, such as the type of election (beyond its relevance to the individual voter), the design of the electoral system, the characteristics of the party system, and the survey methodology. Without this broad focus on the wide range of factors that may affect misreporting, it is not possible to identify which factors may be more important than others.<sup>5</sup>

This paper overcomes these two limitations. First, we present the most extensive comparative analysis of misreporting yet undertaken, covering 184 national postelection surveys in 55 countries, 24 of them outside Europe. Unlike other studies, the countries included in the analyses cover not just the advanced democracies, but newer democracies as well. Second, we evaluate the relative influence of a large number of factors on misreporting, covering not just the survey methodology but the design and operation of the country's major political institutions. This enables us to provide an unrivalled perspective on what factors influence misreporting of turnout in national studies. The next section outlines the main hypotheses.

## Hypotheses

The availability of 184 national election studies covering 55 countries enables us to test an unprecedented number of possible explanations for misreporting, and to evaluate their effect net of other possible factors. We group our main hypotheses into four categories: election context, electoral system design, the party system, and survey methodology.

The first set of hypotheses predict that misreporting will be influenced by the election context. We already know that the relevance of the election to the voter will influence misreporting (Morin-Chasse et al, 2017), as will higher turnout, due to its apparent interaction with social desirability (Karp and Brockington, 2005). Several US studies have attempted to take into account the nuance of an election, by combining a series of datasets (see, for example, Belli, Traugott, and Beckmann, 2001). Based on this research, we might expect that a parliamentary as opposed to a presidential election would produce more misreporting, due to its weaker relevance to the voter, as will elections conducted in the summer and at the weekend. This leads to two hypotheses:

- H1a Parliamentary elections will have higher levels of misreporting than presidential elections.
- H1b Elections held in the summer or at the weekend will have higher levels of misreporting.

The second set of hypotheses examine how misreporting varies with the design of the electoral system. As turnout increases approaches 100 percent, we would expect that misreporting would decline, due simply to the declining proportions of nonvoters. We would

therefore predict that compulsory voting would be negatively associated with misreporting. We would also predict that the proportionality of the electoral system may also be relevant. This would be because the larger numbers of competing candidates and parties in proportional representation (PR) systems would make it more difficult for respondents to recall whether they voted or not. In addition, the reduced likelihood of one party winning may place a greater information burden on the respondents. Studies also show that turnout is higher in PR as opposed to majoritarian elections (Blais, 2007), which may be a complementary factor. We therefore propose two hypotheses:

H2a Countries with compulsory voting systems will have lower levels of misreporting.

H2b PR systems and those delivering more proportional outcomes will have higher levels of misreporting.

The party system has not hitherto been regarded as a potential influence on misreporting. There are, however, sound theoretical reasons why the party system may affect misreporting. One reason relates to the number of competing parties, with more parties leading to a greater informational burden on the respondent and therefore a greater likelihood that she may misreport turning out to vote. Conversely, a more polarised party system will present a more identifiable set of party choices to voters, together with a greater incentive to vote and therefore an easier recall of participating. Finally, a more competitive election, reflected in the margin between the first two parties, may also present voters with more incentive to participate. This leads to three hypotheses:

H3a Elections with more parties will have higher levels of misreporting.

H3b More polarized party systems will have lower levels of misreporting.

H3c More competitive elections will have lower levels of misreporting.

The final set of hypotheses relate to survey administration. There is already an extensive literature which shows that mode matters in misreporting, with personal interview surveys showing less misreporting than telephone surveys (DeBell et al, 2018). We can extend this by analysing surveys which use mail self-completion, and we would expect these surveys to have less misreporting than other modes due to the absence of an interviewer/respondent interaction. Other aspects of the survey administration may impact on misreporting. We might expect surveys that include a panel component to have higher levels of misreporting, as would surveys that include an incentive (monetary or otherwise) for the respondent to participate. Misreporting could therefore occur because some respondents would be motivated to participate either because of panel conditioning or in order to gain an incentive. Finally, studies show that the longer after

the election the fieldwork commences, the greater the level of misreporting we might expect due to recall error (Debell et al 2018: 23; Stocke, 2007). This leads to three hypotheses:

- H4a Personal interview and mail self completion surveys will have lower levels of misreporting compared to telephone surveys.
- H4b Surveys including panel components in the sample and using incentives will have higher levels of misreporting.
- H4c The longer the time after an election the survey is fielded, the higher the level of misreporting.

## Data and Measurement

*Data.* The data come from the CSES Integrated Module Dataset which combines modules 1, 2, 3 and 4, with the addition of 12 studies from module 5. The data includes a total of 184 election surveys across 55 states collected between 1996 and 2018; full details appear in the Appendix. The number of elections covered in each country varies between one and seven. Two countries, Germany and Greece, had election study surveys conducted in the same year (2002 and 2015, respectively). All of the countries are nation states with the exception of Hong Kong which has five elections in the dataset. Since our unit of analysis is election studies rather than countries, it was decided to retain Hong Kong in the analysis.

*Measurement.* The variables used in the model are shown in Table 1 together with their scoring and means. Misreporting is the actual turnout (based on the registered electorate) minus the survey estimate.<sup>6</sup> The independent variables are divided into four categories, plus controls. The first category, election context, is measured by whether or not the election in question was conducted during the summer<sup>7</sup> and whether voting in the country takes place at the weekend. In addition, a variable is included for whether or not the election was parliamentary; 139 of the 184 elections fell into this category, with the remainder either being presidential only, or both presidential and parliamentary.<sup>8</sup>

The electoral system is represented by three variables. Compulsory voting measures whether or not the country uses enforced compulsory voting; seven of the 55 countries fall into this category, covering 18 of the 184 elections.<sup>9</sup> Also included is the Gallagher index of disproportionality, which measures the degree of disproportionality between votes cast and seats won in an election, with zero representing complete proportionality and 100 complete disproportionality (Gallagher, 1991). A dummy variable is included for whether or not voting in the legislative election was by proportional representation; almost seven out of 10 of the elections covered fell into this category. The party system is represented by the effective number

of electoral political parties (ENEP) using the Laakso and Taagepera (1979) formula. The degree of polarization within the party system is measured using Dalton's (2008) polarization index, which measures the degree of polarization on a left-right scale; it runs between zero (least polarization) to 10 (most polarization). The marginality of the election is the percentage difference between the first and second parties in the election.

**Table 1: Variables, Definitions, Means**

Variable	Scoring	Mean
<i>Misreporting turnout</i>	Percent actual turnout minus survey turnout	14.81
<i>Election context</i>		
Summer election	1=yes, 0=no	.11
Weekend voting	1=yes, 0=no	.68
Parliamentary election	1=yes, 0=no	.76
<i>Electoral system</i>		
Compulsory voting	1=yes, 0=no	.10
Disproportionality index	From 0 to 100	6.37
PR electoral system	1=yes, 0=no	.69
<i>Party system</i>		
ENEP	Number	4.82
Party polarisation	From 0 to 10	3.32
Marginality	Percent	10.01
<i>Survey methodology</i>		
Telephone	1=yes, 0=no	.17
Mail self completion	1=yes, 0=no	.04
Mixed	1=yes, 0=no	.08
Panel component	1=yes, 0=no	.19
Incentive	1=yes, 0=no	.32
Sample size	Hundreds of respondents	162.09
Fieldwork commencement	Days after election	33.13
<i>Turnout</i>	Percent, registered electorate	69.67
<i>Controls</i>		
Europe	1=yes, 0=no	.59
Democracy	1=yes, 0=no	.82
Year of survey	Year	2006.80

Estimates are based on 184 post election surveys.

Source CSES Integrated Module Data.

The survey methodology is measured by seven variables. The survey mode is measured by whether or not the survey was conducted by telephone, by mail or by using a mixed mode; the excluded category is personal interview, which represents the most frequently used methodology at 130 of the 184 election studies. In addition, we include information about whether or not the sample included a panel component, if there was an incentive offered to encourage respondent

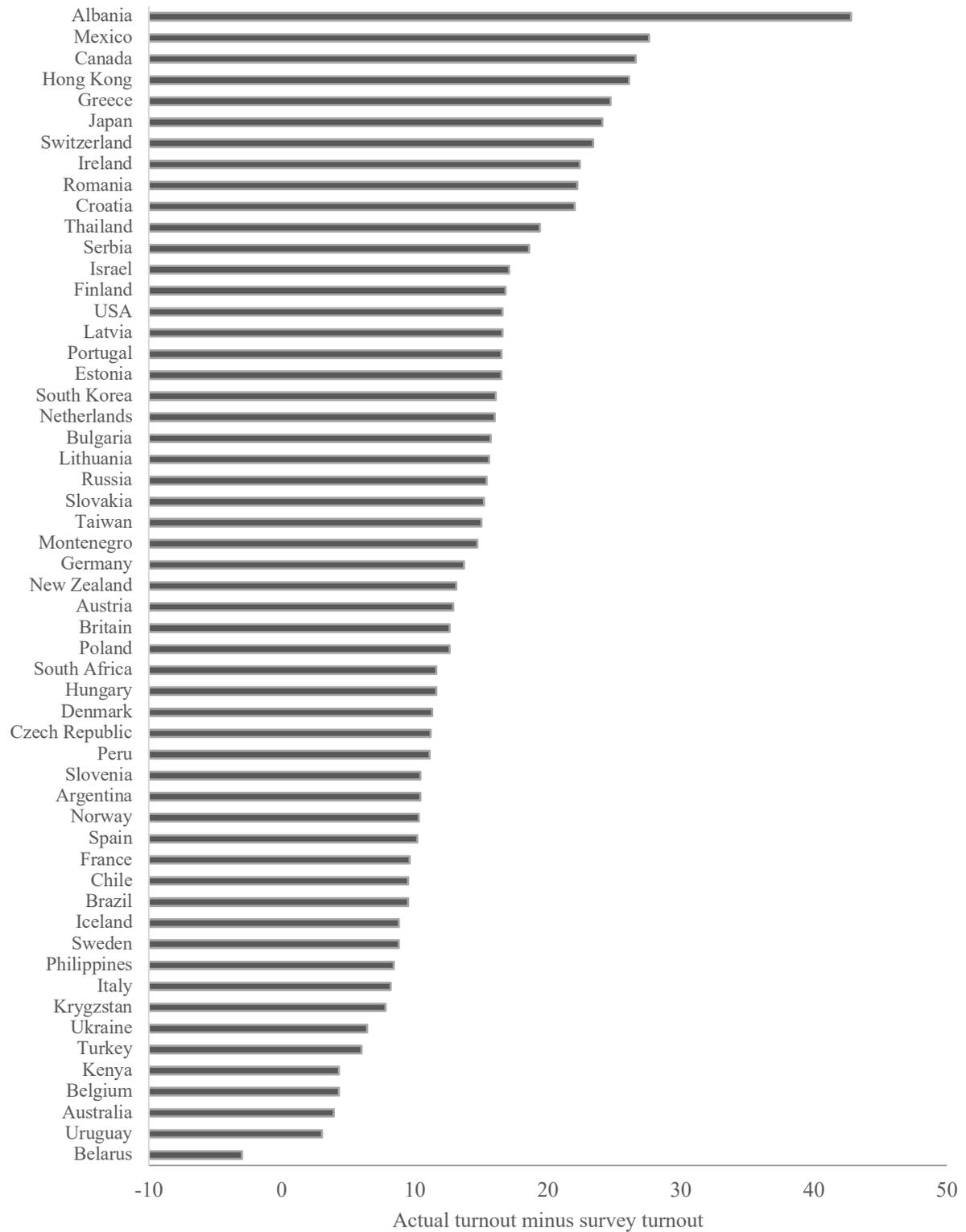
participation, by the number of respondents in the survey, and by a measure of the elapsed time between the election and the commencement of fieldwork.<sup>10</sup> Finally, controls are included for whether the country is in Europe, is a democracy,<sup>11</sup> and for the year in which the election study was conducted.<sup>12</sup> In addition, we control in one of the two models for turnout since, as turnout increases, the opportunity for misreporting diminishes.

*Method.* The analyses rely on ordinary least squares regression techniques, using mean substitution for missing values. Since the election studies are clustered by country, we estimate the models using robust standard errors.

## Results

By any standards, the level of election turnout misreporting is substantial, amounting to a mean of 14.8 percent across the 184 election studies included in the analysis. Just three election studies record an under-reporting of turnout: Belarus in 2008 (-8.1 percent), Italy in 2006 (-2.3 percent) and France in 2002 (-0.4 percent). The remaining studies all record an over-reporting, with the highest in Albania in 2005 (42.8 percent, a figure that Selb and Munzert [2013: 186] describe as ‘staggering’), Mexico in 2015 (34.6 percent) and Hong Kong in 2012 (32.8 percent). Grouped by country (Figure 1), countries which have three or more election studies included in the analyses and which show high over-reporting include Canada (26.6 percent over-report, based on five studies), Switzerland (23.4 percent, four studies) and Greece (24.7 percent, also four studies).

These results confirm the consistent over-reporting of turnout in election studies. They also show a much greater range of misreporting than emerges in the admittedly small number of cross-national studies. For example, Karp and Brockington estimate an average of 32.7 percent in the six national elections they cover (Karp and Brockington, Table 1),<sup>13</sup> while Morin-Chasse et al (2016) estimate over-reporting of 7.6 percent based on their 19 post election studies. The various US studies show misreporting of 10 percent or more (Debell et al, 2018: 2-3), depending on whether the election is presidential or congressional. Even large-scale US government surveys show over-reporting of around 11 percent (Berent, Krosnick and Lupia, 2016: Table 1). In the context of these other studies, the patterns of misreporting presented here show very considerable variation,<sup>14</sup> providing a rich dataset with which to identify its causes.

**Figure 1: Turnout Misreporting by Country**

Estimates are the percent actual turnout minus the percent survey estimated turned in each country, averaged across election studies. Source CSES Integrated Module Data.

In order to test the four sets of hypotheses, we regress the four sets of independent variables, together with controls, on the level of misreporting. Two models are estimated, the first including all of the independent variables without turnout, and the second with turnout added. The results are shown in Table 2. Since the dependent variable is a percentage, the partial regression coefficients can be interpreted as a percentage change in either the over- or under-reporting of turnout as a result of a change in the independent variable in question.

The most important set of predictors of misreporting in Table 2 is the design of the electoral system, closely followed by survey methodology. All three electoral system variables have a statistically significant effect in misreporting in the first model, in the hypothesized directions. When turnout is added to the equation, the substantial impact of compulsory voting is reduced to statistical insignificance. Nevertheless, PR electoral systems and those with more proportional outcomes both result in higher levels of misreporting in both models. In particular, a PR electoral system for legislative elections results in almost 5 percent more over-reporting compared to a majoritarian system. We therefore reject H2a and confirm H2b, with the latter demonstrating the important impact of the type of electoral system on survey estimates of turnout, a factor that has not hitherto been examined in the research.

The impact of the survey methodology is confined to the survey mode, and to how soon after the election the fieldwork commenced. As already discussed, the survey mode has been widely found to be significant in the literature, and in line with this research, over-reporting is highest in telephone (relative to personal interview) surveys. Also confirming with the recent research which shows that internet surveys have a lower level of misreporting due to the absence of a mode effect (Holbrook and Krosnick, 2010), the results confirm the low levels of misreporting that occur in mail self-completion surveys, although this is reduced to insignificance in the second model. In the first model the effect is substantial: compared to a telephone survey, a mail self completion survey has, on average, just over 8 percent less over-reporting and almost 5 percent less over-reporting compared to a personal interview survey. In the second model, a mail survey has about 4 percent less misreporting compared to a telephone survey. There are, however, relatively few mail surveys in the CSES; just eight of the 184 surveys used this mode, with Australia and New Zealand accounting for three each.<sup>15</sup> These results confirm H4a.

**Table 2: Predicting Misreporting Turnout (OLS Estimates)**

	Model 1		Model 2	
	Est	(SE)	Est	(SE)
<i>Election context</i>				
Summer election	3.31**	(1.41)	2.66**	(1.25)
Weekend voting	-.47	(1.65)	-1.45	(1.34)
Parliamentary election	3.88***	(1.58)	.09	(1.49)
<i>Electoral system</i>				
Compulsory voting	-8.57***	(2.75)	-.62	(2.29)
Disproportionality index	.50***	(.17)	.28*	(.14)
PR electoral system	4.88**	(2.39)	4.57**	(1.72)
<i>Party system</i>				
ENEP	-.13	(.41)	-.45	(.28)
Party polarisation	-1.83***	(.54)	-1.45***	(.38)
Marginality	-.01	(.05)	-.01	(.04)
<i>Survey methodology</i>				
Telephone	3.70*	(2.15)	5.00***	(1.31)
Mail self completion	-4.82**	(1.88)	.93	(1.63)
Mixed	2.67	(3.42)	4.15	(3.16)
Panel component	1.34	(1.75)	2.26	(1.38)
Incentive	1.21	(1.31)	.79	(1.13)
Sample size	.01	(.01)	.01	(.01)
Fieldwork commencement	-.03***	(.01)	-.02*	(.01)
Turnout	—na—		-.37***	(.07)
<i>Controls</i>				
Europe	-2.74	(1.94)	-.96	(1.33)
Democracy	-3.85**	(1.96)	-2.81*	(1.50)
Year of survey	.18**	(.09)	.14**	(.07)
Constant	-348.29		-239.58	
Adj R-squared	.42		.62	
(N)	(184)		(184)	

\*\*\* p<.01, \*\* p<.05, \* p<.10.

Estimates are partial regression coefficients (b) and standard errors in parentheses (SE) from an OLS regression analysis predicting the misreporting of turnout, measured as a percentage.

Source CSES Integrated Module Data.

Among the remaining effects attributable to survey methodology, in either models there is no effect for having a panel component as part of the sample, including an incentive to encourage respondents to participate, and nor is there any significant effect for having a larger number of respondents. We therefore reject H4b. There is, however, a strong and significant effect for how soon after the election the fieldwork commenced in model 1, and a reduced but still significant

effect in model 2. Based on other research, H4c predicted that there would be less misreporting the sooner after the election the fieldwork commenced, and if it began close to the election the respondents would have a more accurate recall of whether or not they voted. The results in Table 2 shows the opposite effect, and over-reporting declines by .03 percent for each additional delay in the fieldwork in model 1, and by .02 percent in model 2. Based on model 1, this means in practice that the over-reporting of turnout in Italy in 2006 (where fieldwork started 30 days after the election) would be 0.9 percent lower than in Australia in 2013 (where fieldwork began two days after the election). We therefore reject H4c.

The negative effect for the elapsed time between the election and the start of the fieldwork commencement contradicts the other research, admittedly restricted to the US. Belli et al (2001: 495) find that over-reporting increases the longer the gap, and a similar finding comes from Debell et al (2018: 23) who attribute it to recall error. Our findings suggests that social desirability may be reduced the longer after the election the survey is conducted, so that the respondents may feel less compelled to say that they voted when they actually abstained. There is no definitive way to test this hypothesis with the current data. However, if social desirability was reduced in presidential elections the longer the delay in interviewing the respondents, then we would expect the correlation between the elapsed time and misreporting to be both negative and higher in presidential elections than in parliamentary elections. This is indeed the case: the correlation for the former is -0.57 (n = 42, p <.00) and for the latter, -0.17 (n = 130, p<.06)

The third most important effect on the reporting of turnout is the election context, and in both models an election held in the summer producing more misreporting than one held at another time of the year. The reasons for this must remain speculative, but may relate to the social groups that are more likely to be on holiday and unable to vote during the summer. Since the effect persists when turnout is taken into account, it is clearly unrelated to different levels of turnout due to the seasons. There is no effect for an election held on a weekend. We therefore find reasonable support for H1b. In the first model, a parliamentary election produces more misreporting than a presidential election, presumably due to salience, but the substantial effect in model 1 becomes non-significant in model 2 when turnout is taken into account. We therefore reject confirm H1a.

Of least importance is the fourth group of factors, the characteristics of the party system, although there is a strong effect for party polarisation in both models. This suggests that the more polarised the party system is the less the likelihood of misreporting, in line with H3b. This may be because in polarised party systems, voters may have a greater incentive to report their participation due to nature of the party competition. We therefore support H3b. Since there is no effect for the number of parties, we reject H3a, as well as H3c since there is no effect for the

closeness of the election contest. Finally, among the control variables, there is no effect for the country being European, but misreporting is reduced if the country is a full democracy. This may reflect political stability and the rule of law, with respondents having fewer concerns about reporting their electoral behaviour in an opinion survey. There is also an effect for the year the survey was conducted, with later surveys showing more misreporting than earlier surveys.

## **Conclusion**

While there have been major advances in survey methodology, a persistent and unresolved problem remains the over-reporting of election turnout. The level of over-reporting is consistently high in all but a handful of surveys, and has the potential to undermine the reliability of voting behaviour analyses, especially in closely fought elections. The seriousness of the problem has led to considerable research effort, but the most part this effort has been restricted to the United States, and often to one or a handful of elections. While these studies have been valuable, they have been unable to examine the institutional factors that may influence misreporting. In this paper we have rectified this gap in the literature by presenting by far the most extensive analysis of misreporting, covering 184 national election studies conducted around the world since 1996.

Our findings provide an importance corrective to current studies, by identifying the dominant effects on misreporting. The results show that the design of the electoral system and its operation—hitherto not examined in the literature—has the strongest aggregate effect on misreporting. More specifically, the degree to which the system is proportional increases misreporting significantly. Survey methodology also matters, mainly through mode; there is no evidence that sampling is important. However, we do find that when the later the fieldwork was conducted matters in reducing over-reporting, an effect which appears to be related to social desirability, with respondents being more willing to admit abstaining the more time that has elapsed since the election. The results also show some impact on misreporting from the context of an election and for the characteristics of the party system (through the level of polarization). However, for the most part the main effects are the electoral system and the survey methodology.

## Appendix

The countries (together with the election years) included in the analysis are as follows.

Albania (2005)	Argentina (2015)
Australia (1996, 2004, 2007, 2013)	Austria (2008, 2013, 2017)
Belarus (2001, 2008)	Belgium (1999, 2003)
Brazil (2002, 2006, 2010, 2014)	Britain (1997, 2005, 2015)
Bulgaria (2001, 2014)	Canada (1997, 2004, 2008, 2011, 2015)
Chile (1999, 2005, 2009, 2017)	Croatia (2007)
Czech Republic (1996, 2002, 2006, 2010, 2013)	Denmark (1998, 2001, 2007)
Estonia (2011)	Finland (2003, 2007, 2011, 2015)
France (2002, 2007, 2012)	Germany (1998, 2002 [two surveys], 2005, 2009, 2013, 2015)
Greece (2009, 2012, 2015 [two surveys])	Hong Kong (1998, 2000, 2008, 2012, 2016)
Hungary (1998, 2002, 2018)	Iceland (1999, 2003, 2007, 2009, 2013)
Ireland (2002, 2007, 2011, 2016)	Israel (1996, 2003, 2006, 2013)
Italy (2006, 2018)	Japan (1996, 2007, 2013)
Kenya (2013)	Korea (2000, 2004, 2008, 2012, 2016)
Latvia (2010, 2011, 2014)	Lithuania (1997, 2016)
Mexico (1997, 2000, 2003, 2006, 2012, 2015)	Montenegro (2012, 2016)
Netherlands (1998, 2002, 2006, 2010)	New Zealand (1996, 2002, 2008, 2011, 2014)
Norway (1997, 2001, 2005, 2009, 2013)	Peru (2000, 2001, 2006, 2011, 2016)
Philippines (2004, 2010, 2016)	Poland (1997, 2001, 2005, 2007, 2011)
Portugal (2002, 2005, 2009, 2015)	Romania (2004, 2009, 2012, 2014)
Russia (1999, 2000, 2004)	Serbia (2012)
Slovakia (2010, 2016)	Slovenia (1996, 2004, 2008, 2011)
South Africa (2009, 2014)	Spain (1996, 2000, 2004, 2008)
Sweden (1998, 2002, 2006, 2014)	Switzerland (1999, 2003, 2007, 2011)
Taiwan (1996, 2001, 2004, 2008, 2012, 2016)	Thailand (2007, 2010)
Turkey (2011, 2015)	Ukraine (1998)
Uruguay (2009)	United States (1996, 2004, 2008, 2012, 2016).

## Endnotes

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- <sup>1</sup> For example, see van Elsas et al (2014) and Waldahl and Aardal (2000).
- <sup>2</sup> The countries are Ireland, New Zealand, Norway, Sweden, the United Kingdom and the United States.
- <sup>3</sup> Although Selb Selb and Munzert (2013) include 49 studies across their five countries.
- <sup>4</sup> The elections are France in 2012, Spain in 2011, and Switzerland in 2011.
- <sup>5</sup> Partial exceptions to this include Selb and Munzert (2013) who seek to decompose the relative importance of overrepresentation of actual voters and vote misreporting by actual nonvoters among survey respondents, and Jackman and Spahn (2018), who show that over-reporting is the main component of misreporting, followed by nonresponse bias and inadvertent mobilization.
- <sup>6</sup> We also used actual turnout based on the voting age population, but the model fit was substantially less than using the registered electorate. Actual turnout is from International IDEA.
- <sup>7</sup> As defined by the American Meteorological Society, summer elections are those held in June, July, and August in the northern hemisphere and November, December, January and February in the south.
- <sup>8</sup> Of the remaining 45 elections, 34 combined a presidential and a legislative election and 11 were a presidential election only. In practice there was no difference in these two types of elections in the levels of misreporting and for that reason they have been combined.
- <sup>9</sup> The countries are Australia, Belgium, Brazil, Chile, Italy, Thailand and Turkey. Preliminary analyses also included compulsory registration, but the effect was non-significant and it was excluded.
- <sup>10</sup> Two other variables, random selection of the primary sampling unit and the length of the fieldwork period, were tested but excluded in the final model since they were non-significant.
- <sup>11</sup> Democracy is defined as meeting the Freedom House definition of a full democracy.
- <sup>12</sup> Initially the modules were included as dummy variables, but they reached the same substantive conclusion as survey year and in order to reduce the number of variables, year was used instead.
- <sup>13</sup> The estimate is based on the US congressional and presidential elections, and the general elections in Britain, Norway, New Zealand and Sweden.
- <sup>14</sup> The standard deviation is 7.9 percent.

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<sup>15</sup> The other two countries are Germany in 2002 and Britain in 1997. Until 2019, when Australia conducted an online probability survey on module 5, there were no internet surveys in the CSES.

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