



A reassessment of the association between political interest and electoral participation: adding vote overreporting to the equation

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Abstract

Electoral participation research points to political interest as a strong and consistent predictor of voting, but overlooks the propensity of interested people to overreport in surveys. Vote validation studies demonstrate that vote overreporting exaggerates the association between political interest and turnout, but fails to highlight the pathways through which this bias occurs. To fill this gap and link these two strands of literature, we take a closer look at the relationships between political interest, likelihood of voting (as defined by one's actual voting record), and participation in given vote, while taking care of overreporting. Applying causal mediation models to a unique set of validated vote data, we show that the *modus operandi* of overreporting is both direct and indirect: A portion of politically interested people overreport their vote regardless of whether they usually vote or not. Yet, the indirect path also matters: Another portion of interested people do vote frequently, which prompts them to overreport if they for once abstain. This is consequential for the commonly found association between political interest and turnout.

Keywords Post-election surveys · Political interest · Turnout bias · Validated vote data · Vote overreporting · Mediation models

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Introduction

Political interest is one of the main predictors of electoral participation. The more citizens are interested in politics, the more they are likely to vote. Political interest is motivational in nature, and it is a catalyst for political participation (Luskin 1990; Prior 2010), be it because politics arouses a citizen's attention or curiosity (Van Deth 2000), because politically interested people have higher levels of confidence in their ability to influence the political system (Smets and Van Ham 2013), or simply because they like politics (Blais and Daoust 2020, p. 6). According to Smets and van Ham's (2013) meta-analysis, the association between political interest and turnout is significant in 85% of the reviewed studies. Notwithstanding the often-reported close relationship between political interest and political participation, we argue that this relationship is not as deterministic as usually assumed. In particular, people may claim they are interested in politics, although they are in fact not politically active.

The propensity of politically interested people to overstate their political participation is well known to vote validation studies and related overreporting literature. According to that literature, the propensity of survey respondents to report they voted, whereas they abstained is higher among people who are likely to vote, i.e., among politically interested or involved people (Bernstein et al. 2001; Presser and Traugott 1992; Silver et al. 1986; Stocké and Stark 2007). This, in turn, biases our understanding of electoral participation, by overestimating the difference in participation between interested and uninterested people (*ibid*).

While vote validation studies convincingly demonstrate that overreporting exaggerates the association between political interest and turnout, they fail to highlight the pathways through which this bias occurs. The reason for this is that they do not distinguish citizens' feeling of political interest from their actual likelihood of voting, and treat them instead as equivalent. So doing, they conflate an *attitude* self-reported in a survey with the likelihood of a concrete political *behavior*, as defined by one's voting record. In this paper, we contribute to—and actually link—both the electoral participation research and the overreporting literature, by shedding light on how overreporting biases the influence of subjective political interest on voter turnout. To that end, we take a closer look at the relationships between subjective political interest, objective likelihood of voting, and participation in a given vote, while controlling for respondents' overreporting.

Political interest comes first in the causal chain that links it to the likelihood of voting, and next in the causal chain links the likelihood of voting to voter turnout. Accordingly, we argue that the disruptive effects of overreporting on the association between political interest and self-reported participation follow two paths. On the one hand, politically interested people may overreport their vote regardless of their likelihood of voting, i.e., regardless of whether they usually vote or not. In this scenario, there is a direct connection between political interest and overreporting. On the other hand, interested people who do usually vote are prone to overreport if they for once abstained. In this alternative scenario, the propensity of politically interested people to overreport operates indirectly, that is, it runs through their likelihood of voting.



Assessing these direct and indirect paths calls for a causal mediation approach. We thus fit mediation models on a unique data-set of vote validation studies collected in the canton of Geneva, Switzerland. In addition to offering highly reliable validated vote data, this data-set also includes official information about respondents' frequency of participation in previous ballots. This actual voting record is a straightforward and highly valid measure of respondents' objective likelihood of voting.

Our results confirm that politically interested people tend to overreport their vote. This, in turn, exaggerates the association between political interest and self-reported participation in a given vote. These findings add to existing studies by showing that the path through which this bias occurs is both direct and indirect: A portion of politically interested people overreport although they are not particularly active politically; another portion of politically interested people do vote frequently, which prompts them to overreport if they abstain in the vote of interest. However, the latter bias usually remains unnoticed, as frequent voters who overreport are overwhelmed by frequent voters who participate. This results in an overestimation of the direct influence of political interest on turnout, that is, a significant part of the commonly found positive association between political interest and participation in a given vote is actually due to citizens' objective likelihood of voting. In other words, political interest does not matter per se. It mainly matters because it influences citizens' voting habit, which then influences their propensity to participate in a specific vote.

Political interest, likelihood of voting, and turnout

Political interest is a stable and enduring attitude (Prior 2010), which spurs engagement with politics (Blais and Daoust 2020; Luskin 1990; Prior 2010; Robinson 2017).¹ The positive influence of political interest on political participation is one of the most consistent findings of participation research (Blais 2007; Brady et al. 1995; Delli Carpini and Keeter 1996; Franklin 2004; Smets and Van Ham 2013). As Blais (2007, p. 723) puts it, "those who have developed a taste for politics are likely to vote and those who have no taste are inclined to abstain." Even advocates of the resource model, who emphasize the importance of economic status, education, income and skills, acknowledge that "political interest is much more important than resources if our main project is to explain voting turnout" (Brady et al. 1995: 283), and "what matters most for going to the polls is not the resources at voters' disposal but, rather, their civic orientations, especially their interest in politics" (Verba et al. 1995, p. 361).

According to Smets and van Ham's (2013) comprehensive review of 90 empirical studies of individual-level voter turnout in national elections published during the

¹ Political interest is also key to research on political sophistication. As the foundation of citizens' willingness to collect political information it forms, together with the ability to process information (i.e., cognitive skills), the main source of individuals' political sophistication (Converse 1975; Delli Carpini and Keeter 1996; Luskin 1990).



years 2000 to 2010, political interest is one of the eight most often used variables. Moreover, their meta-analysis shows that political interest belongs to the small set of variables (together with age, education, party identification or vote in previous election) with the strongest and most consistent effect: political interest has a significant influence on voter turnout in 85% of the reviewed studies and its average effect size, which behaves like a correlation, amounts to 0.85. A recent comparative study covering five countries and twenty-four elections on both the national and regional level confirms that political interest is strongly correlated with turnout (Blais and Daoust 2020, p. 37): Even when controlling for possible confounders such as education and age, “the propensity to vote increases substantially and systematically as one’s political interest increases.”

The conventional view that political interest has a strong influence on turnout is certainly valid, but it lacks nuances. True, many citizens who are strongly interested in politics do participate frequently. Yet, some of them do not. Blais and Daoust (2020, p. 36) acknowledge that “while the relationship (between political interest and turnout) is strong, it is far from perfect.” In their study, a quarter of respondents with no interest at all vote and a quarter of those with high interest abstain. This means first that other factors than political interest also account for participation, and second that high interest does not necessarily translate into participation.

Electoral research has highlighted some factors accounting for the fact that people who do not feel politically interested nevertheless vote, the most obvious one being civic duty. By contrast, so far the literature did not pay much attention to the intriguing group of “outliers” who self-report a high political interest, but do in fact not vote frequently. Political interest is an attitude, and it is inherently subjective. To the same extent that survey respondents may overreport their vote, they may also overstate their political interest (Achen 1986, p. 84).

Unlike political interest, a citizen’s voting record is behavioral in nature. According to many studies, past participation is a powerful predictor of participation in current vote. In Smets and van Ham’s (2013) meta-analysis, vote in previous election is a significant predictor in nearly all reviewed studies, and its average effect size is close to 1. Citizens’ tendency to replicate their usual behavior (i.e., vote or abstention) across ballots is crux to the habituation thesis, which argues that voting is habit forming (Denny and Doyle 2009; Fowler 2006; Green and Schachar 2000; Plutzer 2002). Once citizens have established themselves as voters or abstainers, they do not decide anew at each election whether to participate. As a result, a person’s voting history is a strong determinant of voter turnout (Gerber et al. 2003; Green and Schachar 2000). In this view, voters who have been once to the polls subsequently face lower information barriers and can benefit from their experience and knowledge. Moreover, voting increases positive attitudes towards voting, e.g., by reinforcing peoples’ belief that they are civic-minded and politically engaged (Cutts et al. 2009).

In sum, for both conceptual and empirical reasons political interest must be distinguished from the likelihood of voting, as defined by one’s voting record. This does, however, not mean that both concepts are independent from one another. Quite to the contrary, as should be clear from the literature review, they are embedded in a causal chain that begins with political interest (a stable predisposition), goes through the likelihood of voting (a behavioral status), and ends with participation in a given vote.



Overreporting and the analysis of turnout

Voting is part of a citizen's duty according to norms of civil engagement, and is thus widely perceived as a socially desirable goal. Therefore, respondents wish to portray themselves as good citizens, and feel pressured to report participation if they abstained (e.g., Belli et al. 2001; Cassel 2003; Hill and Hurley 1984; Karp and Brockington 2005; Stocké and Stark 2007). If the propensity to overreport one's vote were evenly distributed among citizens, the overestimation of voter turnout taken from surveys would not be a concern, since it would affect all respondents to the same extent. However, vote validation studies demonstrate that vote overreporting is not evenly distributed. In particular, it is higher among citizens who are likely to vote, i.e., who are interested in politics, feel politically efficacious or have a strong partisan attachment (e.g., Achen & Blais, 2016; Belli et al. 2001; Silver et al. 1986). Especially aware of the "correct" or socially desirable answers, those people tend to overreport to avoid the shame of admitting their abstention (see also Presser and Traugott 1992; Stocké and Stark 2007).

By pointing indifferently to political interest and likelihood of voting as sources of overreporting, the overreporting literature fails to recognize the conceptual difference between an attitude and a behavior as discussed above. Consequently, it is unable to separate the two pathways through which overreporting may bias the association between political interest and turnout. According to the argument above regarding the relationships between political interest, likelihood of voting, and participation in a given vote, there are two distinct groups of interested people. The first group is that of interested people who do frequently vote, whereas the second—and admittedly smaller—group is that of people who say they are interested in politics, but do in fact not vote frequently. In the latter group, interested people feel the pressure to overreport regardless of how frequently they usually vote. Among them, the propensity to overreport is disconnected from their likelihood of voting. In the former group, by contrast, political interest matches the likelihood of voting. While in this group respondents have few opportunities to overreport, since they usually vote, they are prone to overreport if they for once abstain.

In sum, be it because citizens say they are interested in politics although they are in fact not particularly active politically or because they say they are interested and do often participate, they are prone to falsely report voting if they abstained in the vote of interest. Either way, the propensity of politically interested citizens to overreport their vote is likely to exaggerate the difference in turnout between them and uninterested citizens. Relying on a causal mediation approach will enable us to separate the (indirect) effect of citizens' political interest on overreporting that is associated with their likelihood of voting, from the (direct) effect that is disconnected from their likelihood of voting. Figure 1 summarizes the mediation approach. From that we derive our hypothesis that *overreporting inflates the influence of political interest on self-reported vote both directly and indirectly, i.e., through respondents' actual likelihood of voting.*



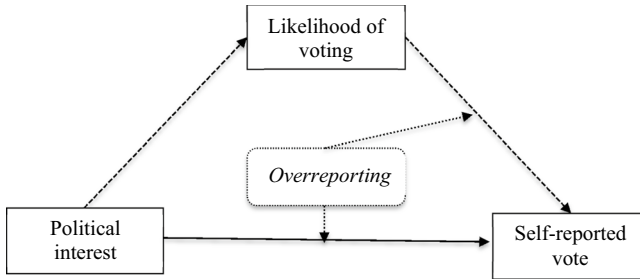


Fig. 1 The direct and indirect pathways through which overreporting biases the influence of political interest on self-reported vote

Data

We exploit a pooled set of vote validation data from three post-election surveys conducted in the canton of Geneva, Switzerland.² Pooling the data helps to analyze overreporting on a greater number of observations and to avoid being dependent on the results of a specific, possibly idiosyncratic, ballot or survey. The first survey took place after the 2011 national parliamentary elections, the second in 2012 after a compulsory referendum on the new cantonal Constitution, and the third after the 2015 national parliamentary elections. All three surveys used the same sampling frame. The initial samples were randomly drawn from the official vote register of the Geneva canton (including all of the more than 220,000 citizens eligible to vote) and comprised 1500 persons in 2011, 2500 in 2012, and 1250 in 2015. These initial samples served as the basis for the post-election survey carried out by a private company. Since the official vote register equals our target population and since in Geneva—as in the rest of Switzerland—citizens do not need to register to vote, we achieve a 100% coverage of all eligible voters in our sampling frame. Last, but not least, vote validation occurred through an electronic reading of the voting card that each voter had to sign and send back by postal mail or put in the ballot box, and is thus highly reliable.

The three surveys nevertheless differ from one another in terms of mode and, relatedly, of response rate: The 2011 survey was a telephone survey (CATI), the 2012 survey was predominantly a telephone survey (87% of respondents) complemented with an online survey for those who could not be contacted by phone (13%), and the 2015 survey was primarily an online survey (83%) complemented with telephone interviews for those who did not take the internet survey (17%). The three surveys were announced with a letter sent to all sampled citizens one week prior to the Election Day. While the letter was signed by university professors, it mentioned that the Geneva state government sponsored the survey. The two most recent, mixed

² We thank the Statistical Office of the canton Geneva (OCSTAT) for providing us with the validated and registered vote data.



mode surveys display a higher response rate (AAPOR RR1 of 49% and 45%, respectively) than the 2011 CATI survey (AAPOR RR1 of 26%), which was partly due to the single mode design of the 2011 survey. Excluding respondents who did not answer the turnout question ($n=27$), we are left with 2159 survey respondents in the pooled data-set.

The total overestimation of turnout amounts to 18.5 percentage points in the pooled data-set (the turnout rate amount to 58.4% according to self-reported participation, against 39.9% according to validated data). This is a rather high bias in comparative perspective (Selb and Munzert 2013), but one that is close to records in the American National Election Studies (ANES) (Deufel and Kedar 2010; McDonald 2003). As Table A1 in the appendix shows, the main source of turnout bias does not stem from respondents' vote overreporting, but from the overrepresentation of voters among survey respondents (i.e., of respondents who indeed participated in the vote of interest), which is in line with the findings of the previous studies (Berent et al. 2011; Burden 2000; Goldberg and Sciarini 2019; Lahtinen et al. 2019; Sciarini and Goldberg 2016, 2017). Overreporting is nevertheless sizeable: Every sixth non-voter overreported his/her vote. This number is sufficiently large to potentially bias the estimation of turnout determinants. It is thus crucial to examine the source and consequences of overreporting.

Operationalization and empirical strategy

Political interest is the “treatment” in our mediation model. It is measured on a four-point scale (not interested, rather not interested, rather interested, very interested). Table A2 in the appendix shows descriptive statistics for this and all other independent variables.

The measure of citizens' *likelihood of voting*, which is the “mediator,” does not directly follow extant research, as virtually no study considered such a measure. Our measure is based on a larger set of registered vote data, which provides official information about respondents' participation (or abstention) in previous ballots held in the canton of Geneva. Of the possible measures in extant studies, vote in the previous election may be closest to our ideal of an objective measure. However, the reliance on a single previous vote is too crude for a valid measure of a person's (general) likelihood of voting. To get a finer-grained measure of this, we calculate individuals' frequency of participation during the last four years prior to the ballot of interest (i.e., in about 20 referendums or elections on the national or cantonal level, excluding the current ballot of interest). For this, we divide the number of votes a respondent participated in by the total number of votes this person could participate in (resulting linear variable with values between 0–1).³ Considering the

³ Four years correspond to the duration of the election cycle. To avoid excluding first-time voters (i.e., people who reached 18 years and those who established in Geneva or naturalized just before the vote



Table 1 Relationship between political interest and participation frequency (%)

<i>Participation frequency</i>	Interest in politics			
	Not interested	Rather not interested	Rather interested	Very interested
Low (first quartile)	65.9	43.9	17.8	8.8
Rather low (second quartile)	20.4	31.5	26.6	17.5
Rather high (third quartile)	9.0	15.8	29.5	27.5
High (fourth quartile)	4.8	8.8	26.1	46.3
(<i>N</i>)	100 (167)	100 (524)	100 (1088)	100 (320)

voting patterns over the last four years is comprehensive enough to detect the usual level of political participation, but still close enough to the vote of interest to have an immediate effect on overreporting and turnout as outlined in our hypotheses.⁴

The Spearman's correlation between citizens' degree of interest in politics and their past participation frequency (likelihood of voting) amounts to 0.43 ($N=2098$). This shows that citizens' self-estimated political interest only partly taps their actual frequency of participation. Table 1 provides more detailed information on the relationships between both variables. For presentation purposes, we recoded the frequency of participation into four quartiles.

Table 1 confirms that the correlation between citizens' political interest and likelihood of voting is strong, but far from perfect. In particular, significant proportions of "very interested" respondents are found in the first and second lowest participation quartiles (8.8% and 17.5%, respectively). Moreover, 17.8% of "rather interested" people are in the lowest participation quartile, and 26.6% in the second lowest.⁵

The larger data-set of registered participation further entails a handful of socio-demographic variables (sex, age, marital status, and residence duration). We include age in seven categories to account for the possible non-linear effect of age. Marital status distinguishes between singles, married persons, and divorced/widowed persons. Residence duration distinguishes citizens living in Geneva for less than 10 years, or more. Further, we add measures taken from the surveys to control for possible confounders of overreporting and political participation: Education (in four categories); a recoded dummy for party identification ("yes" or "no"), a five-point

Footnote 3 (continued)

under study), we impute them the average participation frequency of their respective group, as defined by sex and age (decade of birth).

⁴ To get a valid measure of the likelihood of voting based on multiple voting occasions, it is necessary to use past votes. Therefore, the measure of the likelihood of voting has temporal precedence over the measure of political interest, which contradicts the theoretical conception that political interest comes first. Given the highly stable character of political interest mentioned above, this is a minor drawback.

⁵ There is also a non-negligible share of mismatches between interest and participation frequency on the opposite end of the table: 8.8% of "rather not" and 4.8% of "not interested" respondents belong to the highest participation quartile, and an additional 9% of "not interested" people belong to the second highest participation quartile.



scale of citizens' degree of political competence, as measured by four factual knowledge questions about Swiss politics, and the time of the interview, as measured by the number of days elapsed between the Election day and the interview day.⁶ Finally, given the differences in modes and response rates across surveys, we include survey and mode dummies in our estimations.

Empirically, we proceed in two steps. In a first step, we consider overreporting as the dependent variable. To assess the direct and indirect effect of political interest, i.e., the effect that operates through the actual likelihood of voting, we fit a causal mediation model (Imai et al. 2010) using the “mediation package” in R (Tingley et al. 2013). For this analysis, we obviously focus on non-voters, for only they can overreport. In a second step, we turn to the analysis of turnout, and we compare the influence of political interest on self-reported vote and on validated vote. More specifically, we first estimate binomial probit models including only political interest (and controls), and we then fit mediation models assessing the direct and indirect effect of political interest.

Results

Table 2 shows the effects of political interest on overreporting (controls are included, but are not shown for space reasons; see Table A3 in the appendix for the full results). Model 1 focuses on our (subjective) measure of political interest, whereas model 2 adds the respondents' likelihood of voting. Since the regression model accounting for overreporting is part of the causal mediation analysis, we also report in the second column the intermediate model accounting for the mediation variable (likelihood of voting).⁷

In model 1, political interest has a positive influence on overreporting. The size of the effect slightly decreases in model 2, but remains significant. Generally, model 2 shows both a higher R^2 and a lower AIC than model 1, which indicates that the effects of political interest and likelihood of voting add to each other, i.e., respondents' likelihood of voting also significantly contributes to overreporting. The predicted probability to overreport—calculated from model 2, with other predictors set at their mean or reference value—increases by 0.08 between the lowest and highest level of political interest, and by 0.13 between citizens who never vote and citizens who always vote (see Table A4 in the appendix for a summary of the predicted probabilities). Therefore, our results back the finding of previous studies that overreporting is higher among politically interested people. On top of that, the likelihood of voting also has a significant influence on overreporting.

The graphical display of the causal mediation analysis in Fig. 2 shows that the influence of political interest on overreporting operates mainly directly. Yet the

⁶ Memory failure prompts vote overreporting and it is said to increase with the time elapsed between election day and the interview date (e.g., Belli et al. 1999).

⁷ In the intermediate model, political interest unsurprisingly has a significant and positive effect on the actual frequency of participation.



Table 2 Determinants of overreporting

	Model 1	Model 2 (causal mediation)	
	DV: Overreporting	DV: Overreporting	DV: Likelihood of voting
<i>Political interest (ref.: Not interested)</i>			
Rather not interested	0.093 (0.196)	- 0.007 (0.202)	0.082** (0.028)
Rather interested	0.381* (0.191)	0.173 (0.199)	0.199** (0.028)
Very interested	0.791** (0.239)	0.544* (0.250)	0.248** (0.041)
Likelihood of voting		1.094** (0.189)	
<i>Control variables</i>			
Constant	✓ - 1.891** (0.470)	✓ - 2.387** (0.491)	✓ 0.373** (0.074)
Observations	1007	1007	1007
Pseudo/adjusted R^2	0.097	0.137	0.214
AIC	841.9	809.4	212.6

Standard errors in parentheses

** $p < 0.01$, * $p < 0.05$

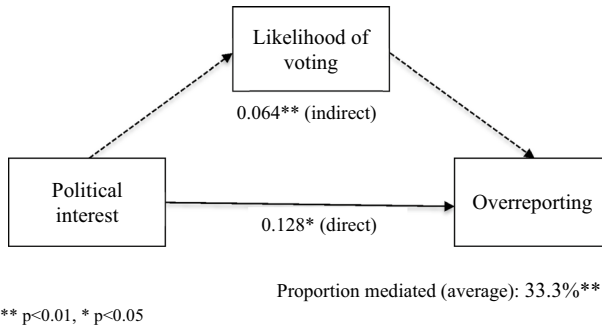


Fig. 2 Direct and indirect effects of political interest on overreporting (causal mediation analysis, $N=1007$) (Given that Fig. 2 analyzes overreporting (and not self-reported vote), it differs from Fig. 1 above, but it follows the same logic, i.e., it assesses both the direct and indirect paths.). ** $p < 0.01$, * $p < 0.05$. Note: The causal mediation analysis is based on the regression models 2 of Table 2 including all controls. Non-parametric bootstrap for variance estimation; confidence intervals (95%, 10,000 simulations) do not include zero for the indirect path (CI [0.034, 0.10]), which is thus statistically significant



indirect effect running through citizens' likelihood of voting is also statistically significant, and accounts for a third of the total effect. This hints at the two faces of overreporting. A portion of politically interested people overreport although they are not necessarily active politically. Another portion of politically interested people do vote frequently, and tend to overreport if they failed to vote in the ballot of interest. However, the former path contributes more to overreporting than the latter.

As recommended by Imai et al. (2010, pp. 310–315; see also Tingley et al. 2013), we conduct a sensitivity analysis to evaluate the risk of violation of the sequential ignorability assumption (see Figure A1 in the Appendix). The correlation between the error terms (ρ) of the mediation and outcome model at which the mediation effects are 0 amounts to 0.22. We can thus be confident that our model is not sensitive to unobserved confounders: As the overreporting model includes the main determinants of overreporting identified in earlier studies, it is hard to think of an omitted confounder that might induce such a correlation between the error terms for the mediator and the outcome. We also checked the causal ordering of our mediation model, by considering likelihood of voting as the treatment and political interest as the mediation variable. Almost 100% of the effect of participation frequency on overreporting is direct. Less than 1% of the effect is mediated by citizens' political interest. This backs our theoretical conception.

Moving on to the actual outcome of interest of many electoral studies, namely turnout, Table 3 shows the results of our mediation approach for self-reported vote (models 1 and 2) and for validated vote (models 3 and 4)—see Table A5 in the appendix for the full results. Models 1 and 3 focus on the effect of political interest (and omit the likelihood of voting), whereas models 2 and 4 help to assess the direct and indirect paths of influence.

According to model 1, political interest has a significant and strongly positive influence on *self-reported* vote. The predicted probability to self-report voting increases by 0.45 between politically uninterested and very interested people (see Table A4 in the appendix). The effect of political interest remains significant in the corresponding model accounting for *validated* vote (model 3), but gets smaller (0.37 difference in predicted probability between the lowest and highest category of political interest). Including respondents' likelihood of voting (models 2 and 4) reduces the effect of political interest more severely. For self-reported vote, the difference in the predicted probability to vote between the lowest and highest category of political interest calculated from model 2 amounts to 0.18; that difference shrinks further to 0.08 in model 4 for validated vote—and is no longer significant according to first differences.⁸

Thus, the pairwise comparison of models for self-reported and for validated vote (i.e., comparing models 1 and 3, and models 2 and 4) demonstrates that self-reported vote exaggerates the difference in electoral participation between interested

⁸ Important to mention is that the inclusion of the likelihood of voting does not only reduce the effect of political interest, but also of various other turnout determinants (see Table A5). For instance, the coefficients for age, political competence, and party identification are strongly reduced in size in Model 3 and partly in significance in Model 4. This confirms that the likelihood of voting measure does not simply pick up some measurement error in the reported political interest, but represents a distinct concept that impacts on other determinants.



Table 3 Determinants of self-reported vote and validated vote

	Model 1		Model 2		Model 3		Model 4	
	DV: Self-reported vote	DV: Self-reported vote	DV: Self-reported vote	DV: Likelihood of voting	DV: Validated vote	DV: Validated vote	DV: Validated vote	DV: Likelihood of voting
<i>Political interest (ref.: Not interested)</i>								
Rather not interested	0.336** (0.128)	0.146 (0.144)	0.105** (0.025)	0.282* (0.132)	0.055 (0.155)	0.105** (0.025)	0.055 (0.155)	0.105** (0.025)
Rather interested	0.780** (0.124)	0.320* (0.141)	0.249** (0.025)	0.715** (0.128)	0.185 (0.152)	0.249** (0.025)	0.185 (0.152)	0.249** (0.025)
Very interested	1.183** (0.151)	0.626** (0.172)	0.318** (0.029)	0.968** (0.149)	0.276 (0.176)	0.318** (0.029)	0.276 (0.176)	0.318** (0.029)
Likelihood of voting		2.498** (0.122)			2.840** (0.131)		2.840** (0.131)	
<i>Control variables</i>	✓	✓	✓	✓	✓	✓	✓	✓
Constant	-0.450 (0.269)	-1.840** (0.308)	0.489** (0.054)	-0.287 (0.267)	-1.823** (0.313)	0.489** (0.054)	-1.823** (0.313)	0.489** (0.054)
Observations	2098	2098	2098	2098	2098	2098	2098	2098
Pseudo/Adjusted R ²	0.187	0.357	0.352	0.183	0.382	0.352	0.382	0.352
AIC	2366.8	1885.8	616.2	2426.7	1849.0	616.2	1849.0	616.2

Standard errors in parentheses

** $p < 0.01$, * $p < 0.05$ 

and uninterested people, this owing to the propensity of the former to overreport their vote. By contrast, but not unexpectedly, overreporting does not affect the effects of respondents' likelihood of voting, which has a similarly strong influence on both self-reported and validated vote: In both models 2 and 4, the probability to vote increases by about 0.7 between usual abstainers and permanent voters (see Table A4 in the appendix). The reason for this is that most citizens who frequently vote did also participate in the vote of interest—and could thus not overreport.

The graphical display of the causal mediation analysis of self-reported vote (Fig. 3) shows that the direct effect of citizens' political interest is significant and sizable: Almost half of the influence of political interest on self-reported vote is direct; the other half is indirect, it operates through their actual participation frequency. The direct effect of political interest is, however, much smaller and no longer significant with respect to validated vote: It accounts for less than one-fourth of total effect according to Fig. 4. This means that the strong direct influence of political interest

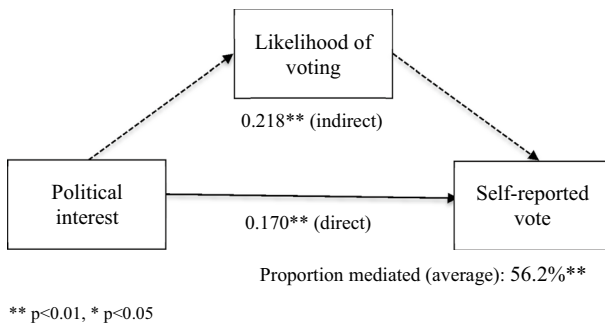


Fig. 3 Direct and indirect effects of political interest on self-reported vote (causal mediation analysis, $N=2098$). ** $p<0.01$, * $p<0.05$. Note: The causal mediation analysis is based on the regression models 2 of Table 3 including all controls. Non-parametric bootstrap for variance estimation; confidence intervals (95%, 10,000 simulations) do not include zero for the indirect path (CI [0.176, 0.27]), which is thus statistically significant

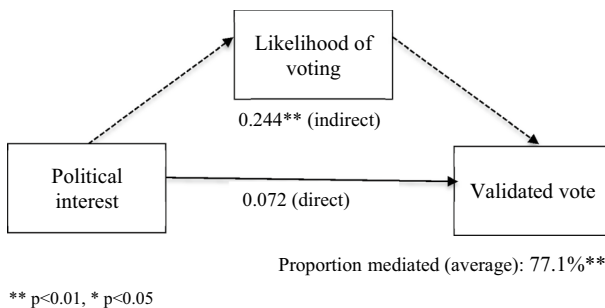


Fig. 4 Direct and indirect effects of political interest on validated vote (causal mediation analysis, $N=2098$). ** $p<0.01$, * $p<0.05$. Note: The causal mediation analysis is based on the regression models 4 of Table 3 including all controls. Non-parametric bootstrap for variance estimation; confidence intervals (95%, 10,000 simulations) do not include zero for the indirect path (CI [0.194, 0.29]), which is thus statistically significant



on self-reported vote is to a large extent an artifact of overreporting. Once cleaned from overreporting, the influence of political interest on electoral participation gets mainly indirect: Many politically interested people do vote frequently, and they also participated in the election in question. We know from the analysis of overreporting above that frequent voters who abstain in current vote are also prone to overreport. Yet, this bias gets unnoticed once we include both voters and non-voters in the analysis, since frequent voters who overreported are overwhelmed by frequent voters who participated in current vote—the so-called “true voters.”

For both self-reported and validated vote, the results of the sensitivity analysis are straightforward: In both cases, the correlation between the error terms of the mediation and outcome model at which the mediation effects are 0 amounts to ca. 0.4. According to Figure A1 in the appendix, for both self-reported vote and validated vote the 95% confidence interval for the mediation effects includes 0 at 0.39. We can thus safely conclude that the sequential ignorability hypothesis is not violated. We also tested an alternative model with the opposite causal ordering, i.e., with likelihood of voting as treatment and political interest as mediator. For both the self-reported vote and the validated vote, the share of indirect effect is lower than 1%, which again backs our theoretical conception.

Robustness tests

In the Appendix, we report the results of several robustness tests. First, we replicate the analyses appearing in Tables 2 and 3 with an index of political involvement that, in addition to political interest, also includes party identification and respondents' ideology (for a similar measure, see Stocké and Stark 2007). The resulting index ranges from 0 (no involvement) to 3 (high involvement). The rationale for this test is that political interest constitutes only one dimension of the broad concept of political involvement. Therefore, the question arises whether taking into account additional dimensions of political involvement lead to similar results. Table A6 and Figures A2 to A4 in the appendix show that the influence of the subjective political involvement index on overreporting is stronger than the single measure of political interest we use in the main analysis: The predicted probability to overreport increases by 0.22 between the lowest and highest involvement level (against 0.08 for political interest). Accordingly, Figure A2 shows that the influence of political involvement on overreporting is predominantly direct.

As in our main models, the direct influence of political involvement on participation is (far) lower on validated vote than on self-reported vote with the proportion of the direct effect of the political involvement index on self-reported vote of similar size to that of political interest (about 45% in both Figure A3 and Fig. 3), but far smaller when considering validated vote (only 5% according to Figure A4, against 23% according to Fig. 4). Thus, almost the entire effect of political involvement on participation in current vote runs through one's likelihood of voting. As the three components of the involvement index are all conducive to overreporting, combining



them exaggerates even more the direct effect of involvement on participation, than when retaining political interest as sole indicator.

Second, in light of the high number of direct democratic votes taking place in Switzerland, we replicate Tables 2 and 3 with a measure of likelihood of voting based on participation in national elections only (we use information regarding participation in the last four national elections from 1999 to 2011; see Table A7). Despite being a less precise measure, since based on much fewer votes, we still observe the positive and significant effect of the likelihood of voting. More importantly, the effect of political interest also remains the same.

Finally, and again with respect to the measure of likelihood of voting, the longitudinal, registered data of participation on the individual level that we use are exceptional and not easily available elsewhere. The question arises whether the likelihood of voting variable could be replaced by a measure taken from a survey, so that electoral scholars could use it as proxy for the measure of likelihood of voting? Of course, such a measure would not be objective, but it would hopefully be close to the true value of voting habit. We are able to test such a replacement for the two post-election surveys (2011 and 2015), in which respondents were asked to self-estimate their usual frequency of participation. The question was as follows: "Assuming ten votes take place in a year, in how many do you participate"? Even in the Swiss context, that question is a bit unrealistic, since there are no more than four to five voting days a year. Yet it helps to differentiate voters according to their (perceived) participation frequency.

In our data, citizens' self-estimated frequency of participation correlates strongly with their *actual* frequency of participation (the Pearson's coefficient amounts to 0.71, $N=889$). Not surprisingly, then, replacing the objective measure of participation frequency with the self-estimated measure yields similar results. In the model accounting for overreporting, political interest no longer has a significant influence on overreporting, but this might be due to the much smaller number of observations (see Table A8). According to the mediation analysis, about half of the effect of political interest on overreporting operates indirectly, i.e., is mediated by the self-estimated frequency of participation (Figure A5). Further, the indirect effect of political interest accounts for half of the total effect with respect to self-reported vote (Figure A6), and to almost two-thirds with respect to validated vote (Figure A7). These shares are similar to those of the main analysis (Figs. 3 and 4). The self-estimated measure of participation frequency is hence a possible proxy for the actual measure of participation frequency, and it could be easily used in post-election surveys in other contexts.⁹

⁹ Depending on the country context, one would only need to adjust the survey question to ask for elections instead of popular votes and enlarge the time period in which a certain amount of elections take place.



Conclusion

Political interest is one of the most consistent predictors of voter turnout according to electoral research. At the same time, political interest is also one of the main drivers of vote overreporting according to vote validation studies. Bringing together these two streams of research, our study sheds new light on the paths through which overreporting biases the influence of political interest on voter turnout. Our mediation analysis first confirms that overreporting increases with citizens' political interest. Adding to extant research, it shows that the effect of political interest on overreporting is mainly direct. Regardless of citizens' actual likelihood of voting, the higher their political interest, the higher their propensity to overreport. The indirect effect operating through citizens' likelihood of voting is smaller, but still significant: People who are politically interested tend to vote frequently, which induces them to overreport.¹⁰

Second, our results also confirm that overreporting exaggerates the difference in electoral participation between interested and uninterested people. It again adds to existing studies, by showing that the strong direct influence of political interest on self-reported vote is mainly an artifact of overreporting. Once "purged" from overreporting, i.e., once considering validated instead of self-reported vote, the difference in turnout between politically interested and uninterested people reduces, and the effect of political interest on electoral participation gets mainly indirect. Many politically interested people do vote frequently, and they also participated in the election in question. In other words, political interest does not matter per se. It mainly matters because it influences citizens' voting habit, which then influences their propensity to participate in current vote. While this result makes perfectly sense, it could not be shown in previous studies owing to the absence of information about citizens' participation frequency, and thus constitutes a novel finding.

Although our study focuses on data from the canton Geneva, Switzerland, we believe it has broader validity. First, from the perspective of electoral participation the canton Geneva is fairly representative of Switzerland (Tawfik et al. 2012). Second, turnout bias is a widespread phenomenon, whose sources and mechanisms are not country or context dependent (Selb and Munzert 2013). Since the relationships between political interest and overreporting—and relatedly on electoral participation—that we identified are also not Swiss-specific but of rather universal nature, they should also be at work in other contexts. In fact, it is remarkable that we find so strong effects of political interest on overreporting in a context where the share of overreporting is smaller than in many other vote validation studies. We may assume that these effects are even stronger in countries with a higher share of overreporting. Of course, it may be that the relative size of the direct and indirect paths through which overreporting operates varies across contexts, e.g., owing to the higher frequency of votes in Switzerland. However, the underlying logic should remain the same across contexts.

¹⁰ This finding is in line with the recent study by Tsai (2020), who qualifies the conception of overreporters as people who almost never vote from previous research.



Our findings provide both good and bad news for electoral participation research. On the negative side, they confirm that participation taken from surveys is plagued by overreporting. Focusing on self-reported vote, as most studies do, is likely to overestimate the difference in participation between interested and uninterested citizens. As one of our robustness tests demonstrates, using an index that combines various indicators of subjective political involvement instead of the single measure of political interest does not solve the problem. Quite to the contrary, this tends to worsen it, by cumulating the measurement errors associated with each variable.

On the more positive side, while overreporting exaggerates the difference in turnout between interested and uninterested citizens, the influence of political interest on electoral participation nevertheless has the same sign and remains significant in the model for validated vote—as long as we do not include the person's likelihood of voting. This is in line with Achen and Blais' (2016) conclusion that self-reported vote overestimates the effects of political interest and other variables such as age, education, or civic duty, but does not lead to inaccurate estimates in terms of sign or statistical significance.

Importantly, our results show that respondents' self-estimated measure of participation frequency constitutes a valid proxy of their actual frequency of political participation. Such an easy to implement survey measure could help to overcome the non-availability of a registered measure of citizens' likelihood of voting as the one we use. This would help to reduce the overestimation of the (direct) effect of political interest on turnout—and maybe also of other determinants of turnout such as civic duty or political efficacy—in studies relying on data from post-election surveys.

A limitation of our study is the missing identification of the psychological mechanisms that underlie overreporting. Indeed, the results regarding the direct and indirect effects of political interest arguably point to two different forms of social desirability pressure. For a first (and large) group of overreporters, political interest and participation record do not accord, meaning that this group includes both frequent and seldom voters; as interested people, they feel the pressure to overreport, regardless of how frequently they actually participate in elections. For a second group of overreporters, by contrast, political interest fits with their actual participation record, meaning that interested people do usually vote. These people may feel the social desirability pressure to overreport, too, but they may also feel legitimate to falsely report voting if they for once abstained. Therefore, among both groups the psychological mechanisms underlying overreporting fall under the label of social desirability, but it presumably stems from sheer social desirability in the first case, and from a combination of social desirability and legitimacy in the second. As Tittle and Hill (1967, p. 105) suggested some time ago, if habitual voters deviate from their usual behavior, “perhaps their reported voting indicated that they normally do vote and that their failure to vote in a particular election was due to peculiar circumstances.” That is, they are prone to “draw on their usual behavior to infer what they ‘must have’ done” (Schwarz 2007, p. 283). In any case, the identification of the psychological mechanisms underlying overreporting among political involved citizens is a promising avenue for future research.



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Declarations

Conflict of interest On behalf of both authors, the corresponding author states that there is no conflict of interest.

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