

**Measuring online and offline participation:  
problems and solutions from the Australian case**

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The study of political participation is a fraught exercise: definitions are contested, behaviours change in advance of measurement practices and the potential for non-sampling error in surveys is high. Added to these ongoing issues is the ‘problem’ of e-participation. Early studies on politics and the internet delineated online and offline participation, internet diffusion, social media and advances in interactivity present new problems. This paper provides examples from the measurement of participation in Australia: advantages and disadvantages of longitudinal and comparative measures, recent attempts at navigating the flows between offline and online activity, and minimising endogeneity in statistical analyses.

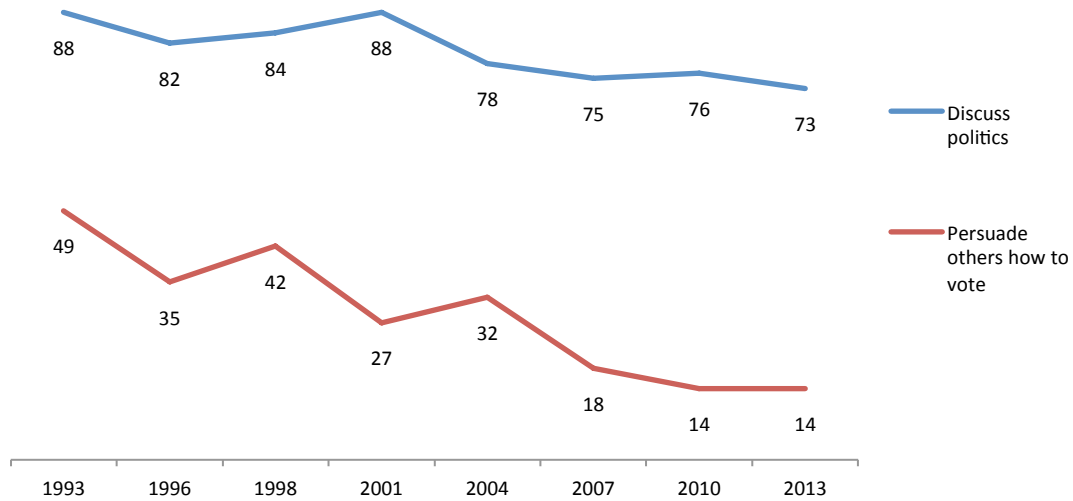
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## **Measuring online and offline participation: problems and solutions from the Australian case**

Measurement of political participation (by political scientists) has followed a reasonably linear trajectory over time. The earliest studies, beginning with the work of Downs (1957) focused largely on voter turnout as the outcome variable of interest. Certainly, voting is at the heart of citizens' political life in a democracy. Concurrent to the first mass, empirical voting studies emerged a literature on broader forms of political participation, centred on citizens' community life: church attendance, volunteerism, and other (contemporaneous) norms of citizenship.

The 1970s saw the publication of one of the most influential studies of voting and other forms of community-based, state-affirming political participation (Verba and Nie 1972). Elsewhere, academic attention turned to less well-studied, state-subverting forms of political participation, typified by political protest. Gurr's (1970) study of political violence and Barnes and Kaase's (1979) edited book on 'unconventional' political action shone a light on behaviours that were hitherto ignored by researchers. Unfortunately, the political study of protest and political violence (particularly when compared to sociologists' persisting interest in the topic) faded during the 1980s. Recently, it has been revived in the study of non-traditional forms of participation such as ethical consumerism, boycotts, divestments and sanctions, and membership of – and support for – social movements (Tarrow 1994; Dalton 2008a).

The contemporary study of participation has largely accepted that to focus on voting is to omit an array of other things *that citizens actually do*. Dalton (2008b) argues normative concerns over the apparent decline in participation, (voter turnout, party membership and community volunteering among others) between the 1960s and 1990s is misplaced. Rather, traditional measurement of participation became obsolete over that period, in Dalton's view. Putnam (2001) documented the decline of community engagement, participation and consequently social capital in American society since the post-war 'golden era'. Similarly, data from Australia (Figure 1) show steep declines in the rates of



**Figure 1: Percentage of Australians discussing politics and persuading others how to vote**

Source: Australian Election Study 1993-2013

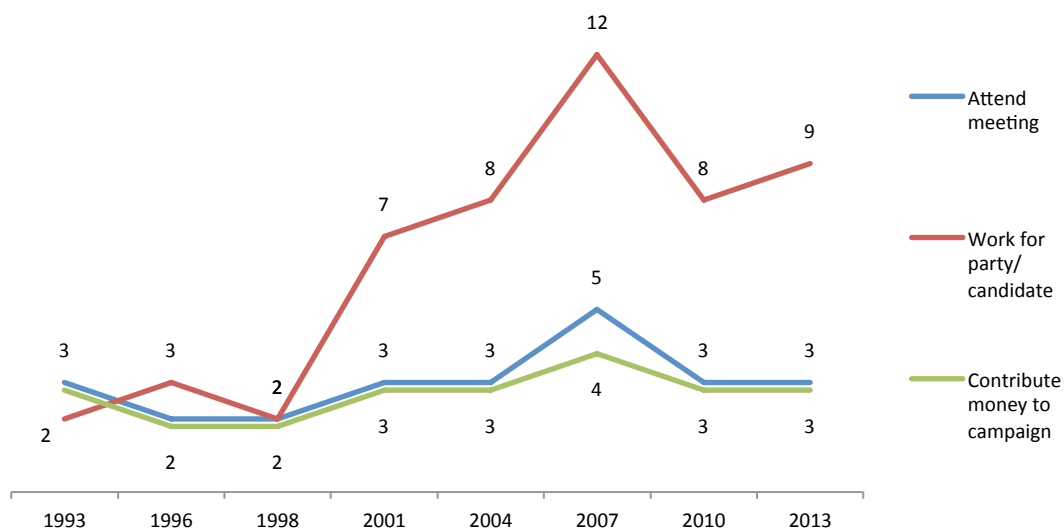
people discussing politics and trying to persuade others how to vote.

In Dalton's (2008b; 2008a) view, those declines – though ostensibly worrying – result from measurement error, operationalising 'participation' in outdated measures. While rates of turnout, party membership and community volunteering have declined across Western democracies, concurrently new forms of participation have emerged. These include ethical consumerism (e.g. boycotts, divestments and sanctions) and social movements (for example Fox 2014). Putnam et al.'s measures of participation *vis a vis* Dalton's suggested measures are variously described as 'old' and 'new' (Koopmans 1996), 'conservative' and 'progressive' (Sabucedo and Arce 1991). Regardless of the nomenclature, these newer additions to the measurement of participation are increasingly mainstream.

Underpinning observable changes in behaviour are generational changes in citizenship norms (Dalton 2008a; Inglehart 2008). Dalton (2008a) identifies two dimensions of citizenship norms among American survey respondents: duty-based citizenship and engaged citizenship. Duty-based citizenship norms include a battery of attitudes representing a generally 'state-positive' orientation: the commitment to reporting crimes, law abidance, voting as a civic

duty and performing military and jury duty as requested. Norms of engaged citizenship are not based in state affirmation; rather they include understanding others, helping the worse off, making ethical purchases, and forming your own opinions. Over time – concurrent to increased in population rates of educational attainment and social changes crystallising in the civil rights movement in the United States – the mean age of citizens who demonstrate duty-based norms is getting older (Dalton 2008b). Subsequent generations demonstrate fewer signs of duty-based citizenship, instead adopting and demonstrating engaged citizenship norms.

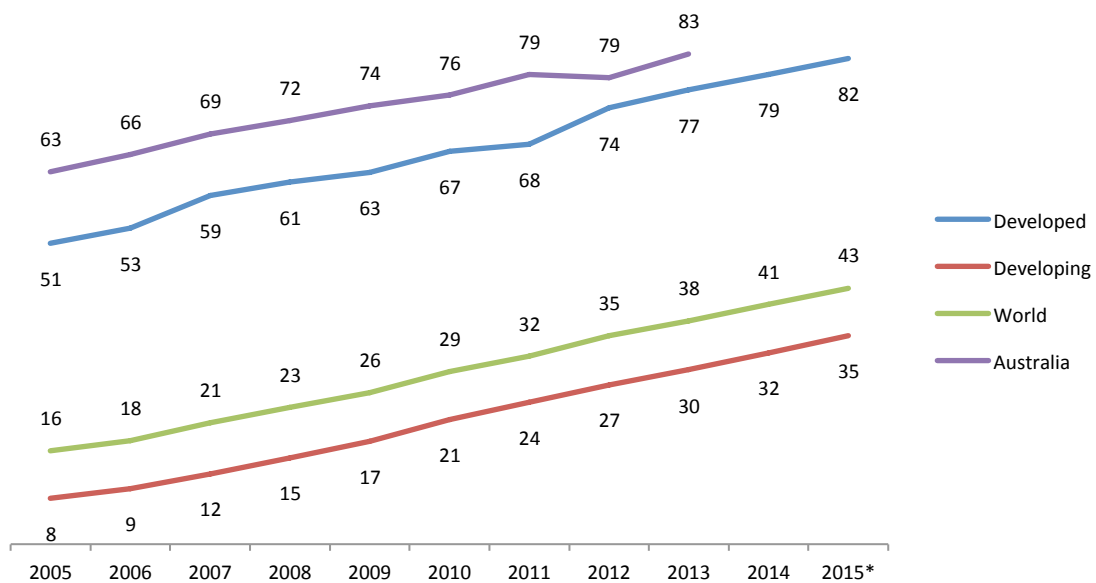
Large-scale survey investigators face ongoing decisions about what to measure, and what to omit, from their studies. Many of the most widely-cited and easily accessed political science surveys (e.g. the American National Election Study, World Values Survey, and other national election studies) have incorporated measures of non-traditional forms of participation into ongoing modules. Some behaviours, such as participation in consumer boycotts remain understudied (Stolle, Hooghe, and Micheletti 2005). Retaining the measurement of traditional forms of participation has also proved fruitful, as activities such as donating money to campaigns have experienced resurgent (though transient) popularity in recent years (Figure 2).



**Figure 2: Percentage of Australians participating in traditional activities**  
 Source: Australian Election Study 1993-2013

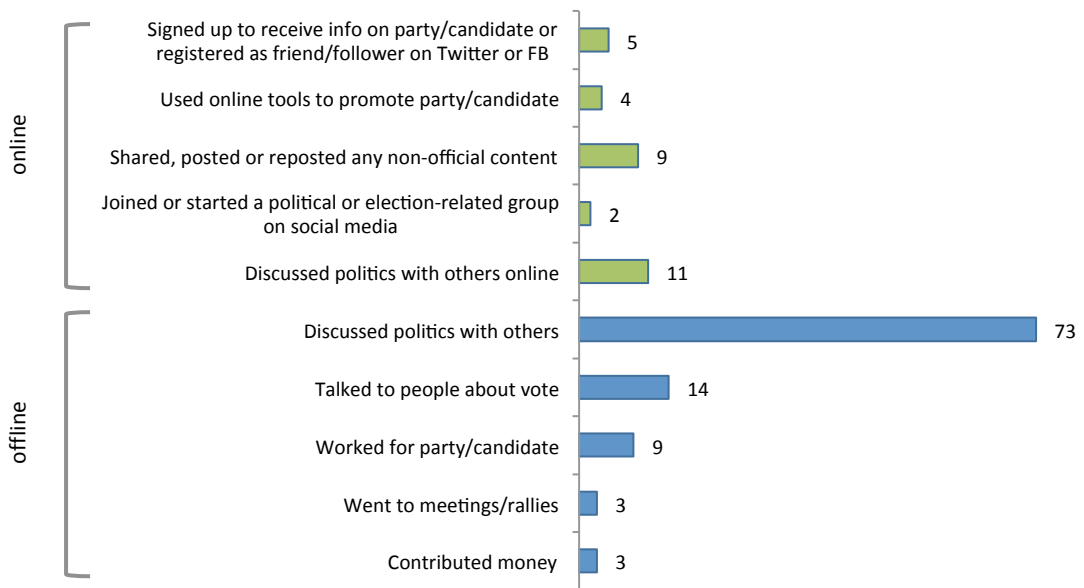
## A second dimension: online and offline behaviours

The diffusion of internet access and expansion of opportunities to participate online creates additional pressure for survey investigators. Moreover, internet adoption has been uniformly rapid – and linear – across developed and developing nations (see Figure 3). Australia has experienced relatively high rates of early adoption, and diffusion has demonstrably slowed since 2010. At this time, at least 85 per cent of Australians have access to the internet, in some mode (Australian Bureau of Statistics 2014). However, the use of the internet for most forms of political activity – including news consumption, online discussion about politics and current affairs, and working with other activists, for example – remains only nascent. Data from the 2013 Australian Election Study (AES) show that more Australians participated offline than online during the 2013 federal election campaign period (Figure 4), in spite of the generally lower transaction costs of online modes. Figure 5 shows a similar breakdown between online and offline participation for the five year period to 2013, with offline activities (including marching, and working with like others to achieve a political outcome) slightly more popular.



**Figure 3: Percentage of individuals using the internet, by region**

Source: International Telecommunications Union, 2015

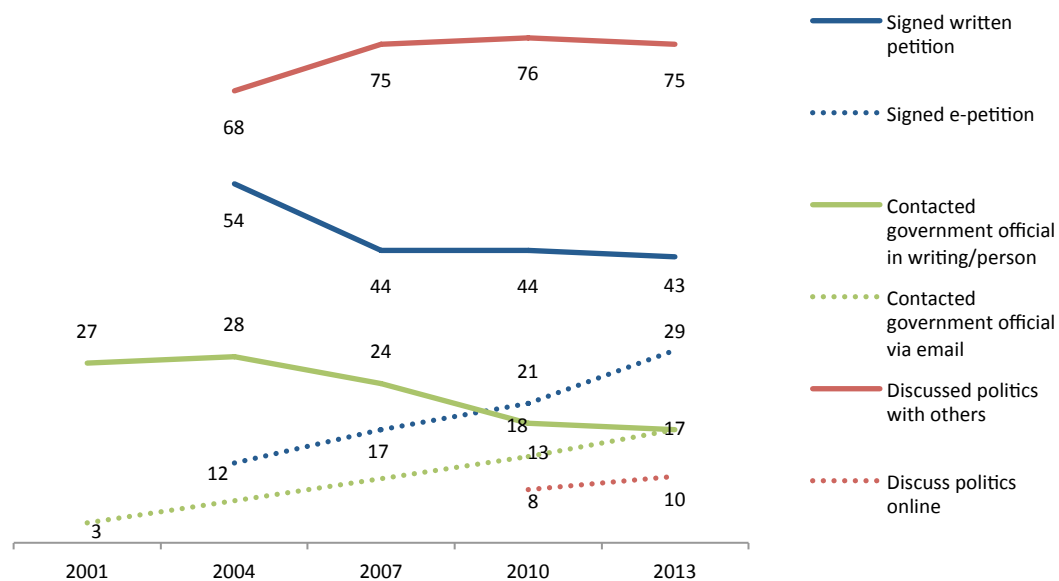


**Figure 4: participation in online and offline activities (either 'frequently' or 'occasionally' during 2013 campaign period, as percentage of population**  
 Source: 2013 Australian Election Study



**Figure 5: participation in online and offline activities ('yes' c.f 'no') in five years to 2013, as percentage of population**  
 Source: 2013 Australian Election Study

Cross-sectional time series data from the AES demonstrates the slow, steady march away from offline activities in favour of online alternatives. Among the AES batteries of participation measures, three behaviours have direct online/offline equivalents: petition signing, contacting a government official, and discussing politics. Figure 6 shows the percentage of Australians who have participated in these three acts online and offline, with data from mail-back questionnaires following the 2001, 2004, 2007, 2010 and 2013 federal elections. While trends in offline discussion and petition signing are relatively stable over a nine year period (with discussion trending upward at the 2007 election and remaining high), there are apparent increases in the percentage of Australians performing these acts online. Signing of ‘e-petitions’ has increased from among 12 per cent to 29 per cent of Australians. While online discussion trends are difficult to extrapolate from two points, 10 per cent of respondents in 2013 represents a substantial number.



**Figure 6: participation in online and offline activities between 2001 and 2013, as percentage of population**

Source: 2001, 2004, 2007, 2010 and 2013 Australian Election Study

Data on mode selection for contacting a government official or representative show a more obvious trend towards online activity. Since 2001, the percentage of respondents that signed a written petition has fallen from 27 to 17. In the same period, the percentage that signed an e-petition increased from three to 17. Given this variable measures activity 'in the past five years', it may be expected there is some lag in reporting current trends and that the percentage of e-petition signers has by now overtaken written petition signers. As observed elsewhere (Sheppard, 2015), increased circulation of petitions via the internet will likely result in greater numbers of citizens – in Australia but also in like countries – signing petitions to convey their political views. One particular phenomenon in Australian society is that women traditionally vastly outnumber men in rates of petition signing; this scenario could be reversed as e-petitions proliferate.

In summary, Australia – and similar liberal democracies – have experienced two trends in political behaviour in the post-war period and beyond. First, citizens have expanded their repertoires of participation into new domains, resulting in (slow) changes in the types of activities widely accepted (and measured) as constituting 'political participation'. From the earliest studies in the 1960s, participation was conceived as traditional, state-affirming activities such as voting, community organising, and political party membership. Since the 1970s, an alternate literature has focused on 'unconventional' forms of participation including protest, marches, boycotts and violent demonstration. That literature has expanded to include less confrontational activities such as petition-signing, letter-writing, membership of voluntary organisation and ethical consumerism. At the current time, the study of participation has largely consolidated 'old' and 'new' forms of participation, although the major longitudinal studies have been constrained by various incentives and been slow to update measurement accordingly.

While the changes in *forms* of participation have occurred over more than 50 years, in the 15 years since the turn of the century citizens the internet has provided new *channels* of participation. Although large numbers of politically active citizens have continued to participate via more traditional channels (i.e.



offline), online channels are increasingly popular. With high rates of internet diffusion across developed and developing nations, it can be expected that online political activity will increase in popularity as a direct substitute for offline activity. In some cases, the lower transaction costs of online participation may induce some citizens to participate who would not otherwise do so. As the study of political participation wrestles with the ongoing changes in the forms and channels of political activity, one particular question faces researchers: can the internet increase aggregate rates of political participation? And if so, how do effects vary across different forms of participation?

### **Online and offline participation: measurement and modelling problems**

Employing surveys to establish whether the internet can increase aggregate rates of participation – in other words, mobilise people to participate who would not participate *without* the internet – incurs several fundamental problems. They can be broadly categorised as: non-response bias; model endogeneity; and isolating time-order effects. Currently, the measurement of political participation in large-scale political science surveys tends to incur at least one of these problems. Studies that have overcome, for instance, the problem of determining time-order effects have still been hamstrung by non-response bias and endogeneity problems. This section discusses each problem, provides examples and suggests solutions.

First, most social science surveys administered experience some form of non-response bias, regardless of the reliability of the sampling frame. Non-response bias is particularly problematic for participation researchers, as respondents tend to report substantially higher rates of participation than the population. This is evident in studies of voter turnout, where Burden argues that “as more peripheral voters have eluded interviewers in recent years, the sample became more saturated with self-reported voters, thus inflating reported turnout” (2000, 389). In Australia, where voting is compulsory, the effects of non-response bias are evident in respondents’ answers to survey questions on whether they would vote in the absence of compulsion (Jackman 1999).

Social desirability biases likely compound the differences between reported and observed rates of participation, but can be minimised through survey design and mode of administration, among other devices (e.g. Kreuter, Presser, and Tourangeau 2008). Non-response bias is increasing as response rates decline among all survey modes and across all disciplines, and has proven difficult to negate. Workable solutions lie in auxiliary data, and techniques such as multilevel regression and post-stratification (Wang et al. 2015). It is worth noting that valid and reliable auxiliary data rarely exist for non-electoral forms of participation. Beyond the ballot box, there are no obvious and ready remedies for non-response bias in participation research.

The second common problem is related, but likely more acute among secondary researchers than survey investigators: model endogeneity. In attempting to isolate the effects of internet use from political participation – both online and offline modes – researchers make several contestable assumptions. One is that respondents make a decision to use the internet in isolation from their decision to engage in political activity. This is particularly acute when studying the effects of internet access and use on online participation; in other words, asking whether the capacity to participate online has increased individuals' propensity to participate. The assumption that internet use, however measured, is exogenous – or external – to online participation is theoretically and statistically fraught. For one, an individual can't participate online if they don't use the internet; there is effectively no variation on the independent variable. This can be solved by measuring frequency of internet use, what respondents do online, and how proficiently they use the internet, but some endogeneity remains.

Possible solutions to the endogeneity problem exist but are constrained by resource availability, including appropriate data. First, 'gold standard' research in the area would comprise field experiments that captured the periods before, during, and following the diffusion of internet access across a population and, most importantly, could assume randomisation of the treatment (i.e. internet access). Studies that have used diffusion as a treatment among late adopters have found little to no effects (Richey and Zhu 2015). Studies among

less homogenous populations may have found otherwise, but the opportunities to study the diffusion are vanishing. Without experimental conditions, it is not possible to compare participants with counterfactual scenarios. The ideal study design – in which someone otherwise indifferent to the internet and its applications receives internet as part of a random assignment, and whose propensity to engage in online and offline participation is measured at later time periods – is arguably impossible. Any survey conducted in developed democracies are by now unable to capture any of that randomised treatment effect.

A third problem facing participation research concerns time order effects and widely-held assumptions that citizens take a uni-directional path from online participation (with its relatively low costs) to offline participation (with its higher barriers to entry but perceived higher benefits). One particular research question that remains elusive is whether activists tend to participate online first before participating offline, offline before online, or whether they are viewed as complementary (or exclusive) modes of participation. These questions are almost impossible to answer using cross-sectional surveys.

However, cross-sectional surveys have revealed several fundamental similarities between online and offline participation. First, participation in offline activities and online activities is integrated. Citizens who participate online are more likely to participate offline, and vice versa (Gibson and Cantijoch 2013). Data from the 2013 support this claim (Table 1). The battery of campaign and five-year period participation in the AES series, including both offline and online forms, can be reduced (with principal component analysis using a varimax rotation) to reveal three distinct categories of participation, cutting across the online/offline divide. The first category (Factor A) includes forms of political agitation: writing to members of parliament, protesting, and signing petitions. These activities tend to focus on policy issues, rather than partisan motivations or election outcomes. The second category (Factor B) comprises partisan acts, all conducted during the election campaign period and all motivated toward electoral outcomes. The third category (Factor C) includes political discussion only, whether offline or via the internet. Respondents

	Factor A	Factor B	Factor C
Contacted official in person or in writing	0.58	0.23	-0.02
Protested/marched	0.60	0.17	0.07
Worked with like others	0.62	0.24	0.10
Signed written petition	0.66	-0.09	0.15
Signed e-petition	0.60	-0.13	0.39
Contacted official via email	0.65	0.12	0.15
Discussed politics with others	0.17	0.04	0.70
Talked to people about vote	0.02	0.34	0.69
Discussed politics with others online	0.19	0.16	0.69
Worked for party or candidate	0.15	0.74	0.29
Went to meetings/rallies	0.17	0.80	0.14
Contributed money to party/candidate	0.08	0.79	0.07

**Table 1: factor loadings (principal component analysis with varimax rotation) of participation in online and offline activities, 2013**

Source: 2013 Australian Election Study

engaged in these behaviours discuss politics and voting, but do not appear to convey that talk into action.

In a similar finding to Gibson and Cantijoch (2013), 2013 AES data also show that online participation has distinct conceptual factors. Following Gibson and Cantijoch, this paper includes a broad range of online activities in testing for latent factors: in the 2013 AES, the relevant measures are whether respondents followed election news online, which political and electoral-related websites they visited during the campaign period, their participation in online acts during the previous five years and their participation in online acts during the campaign period. Website visitation is not generally included in broader conceptualisations of political participation, which – despite recent moves to broaden the definition – is still commonly defined as “those legal acts by private citizens that are more or less directly aimed at influencing the selection of governmental personnel and/or the actions they take” (Verba et al., 1978, p. 1). Table 2 reveals the result of principal component analysis (with varimax rotation) of online acts, not just online participation.

	Factor A	Factor B	Factor C	Factor B
Followed election news on the internet	.819	-.089	-.154	.223
Use internet to get news on 2013 election	.869	.148	-.168	.213
Website: Mainstream news media	.849	.056	-.103	.120
Website: Australian Electoral Commission	.489	.469	-.113	-.016
Website: Party or candidate campaign sites	.352	.479	-.082	.415
Website: Federal parliament	.011	.834	-.073	.019
5 yrs done to express views-contact official via email	-.086	-.151	.832	-.103
5 yrs done to express views-signed e-petition	-.251	-.002	.752	-.165
Website: Unofficial online videos	-.410	.037	.108	.495
During election: discussed politics with others online	-.355	-.055	.248	.594
Activities online - Signed up to receive information from a party or candidate and/or registered as a follower/friend/supporter on Twitter or Facebook	.133	.310	.021	.561
Activities online - Used online tools to promote parties and candidates	.062	.119	-.052	.724
Activities online - Shared, posted or reposted any non-official content	.311	-.078	-.203	.672
Activities online - Joined or started a political or election related group on a social networking site	-.031	-.039	-.058	.614

**Table 1: factor loadings (principal component analysis with varimax rotation) of participation in online activities, 2013**

Source: 2013 Australian Election Study

Mirroring results from the UK, this analysis reveals that online acts cluster on similar dimensions to political participation more broadly. Factor A represents those acts not usually considered political participation: website visits and online news consumption. Similarly, Factor B includes website visits, but is oriented more strongly towards election information seeking: visits to the Australian Electoral Commissions (the federal electoral management body in Australia), party or candidate websites, and federal parliament all loading reasonably strongly on this factor. In terms of participation, Factor C resembles Factor A in Table 1: specific contacting and petition-signing, reflecting concerns

with issues and policies that do not necessarily involve partisanship or electoral outcomes.

By contrast, Factor D in Table 2 has a strongly partisan element, similar to Factor B in Table 1. Respondents scoring highly along this factor demonstrate partisan tendencies and appear strongly motivated by electoral outcomes. Where Gibson and Cantijoch (2013) find four distinct modes of online participation - e-targeted, e-expressive, e-party, and e-news – the Australian data reveal four slightly different modes: e-news (Factor A), e-information (Factor B), e-targeted (Factor C), and e-party (Factor D). The addition of the ‘e-information’ dimension is likely a factor of compulsory voting in Australia, and the requirement of even disengaged citizens to vote, and to seek information accordingly.

These findings present further difficulties in the quest to establish whether activists tend to participate online first and then offline, as participation across the modes is conceptually intertwined. One solution to this problem is to isolate and identify time-order effects of online participation on offline participation. Since the two modes are conceptually related, it falls to researchers to unearth evidence that one precedes the other. Recent research has identified a ‘spillover’ effect from online to offline participation, within the constraints of short-term panel surveys: information-seeking online, as in Factors A and B from Table 2, appear to have significant, but small, effects on later participation in offline activities and general political engagement (Boulianne 2015; Cantijoch, Cutts, and Gibson 2015). An alternative approach applies propensity score matching, or other difference-in-difference, techniques to observational data sets in order to simulate non-internet user counterfactuals; applying these methods in aid of these questions has so far proved elusive, however.

In the absence of comprehensive, long-term panel data that could aid in identifying time order effects, one recent approach to this problem has been simple but seemingly effective. As part of their comparative project on young people, social media and political engagement, Vromen, Loader and Xenos (2014; 2015) have asked online survey respondents which forms of political

participation they have engaged in during the previous year, and which modes they have used for each act: online, offline, or both. With the resulting data, they have been able to map young people's patterns of social media use and political participation, isolating respondents' preferences for online *versus* offline modes.

A solution to the problem of conceptualising and measuring political participation, both online and offline, may stem from Vromen et al.'s approach: asking survey respondents what they do, where they do it (online or offline), and *which they did first*. In attempting to wrangle existing longitudinal data to suit their needs, secondary researchers (this author included) have arguably missed at least one practicable solution. This is particularly timely as researchers find it increasingly difficult to conceptualise and measure political participation generally: van Deth's (2014) relatively concise conceptual map of participation in the 21<sup>st</sup> century nonetheless requires a seven-step algorithm and four distinct dimensions of participation.

There is both temptation and folly in 'throwing the baby out with the bathwater' when researching political participation in this era. Following van Deth's approach would involve a general rewrite of existing measurement of participation, and the valuable resource of more than fifty years of survey data. However, retaining those existing measures while also asking respondents *where* they participate and asking them to recall how they *first* participated. While conscious of the problems inherent to recall questions in particularly self-administered surveys, the relative recent diffusion of internet technology requires respondents to recall only the past ten to 15 years of activity.

## **Conclusion**

Political participation has changed in both form (from political party membership to consumer boycotts and sharing political material via social media, for example) and mode (from offline to online; the streets to the tweets). The discipline requires a comprehensive stocktake of how participation is conceptualised and measured, with a view to maximising reliability and external validity. There is little doubt that, alongside increases in educational attainment,

social structures including family dynamics, value changes and norms of citizenship, forms of participation have altered vastly since the post-war period. The current population of western democracies now comprise distinct generations displaying distinct behaviours: baby boomers demonstrate the strongest sense of duty as a norm of citizenship, but are increasingly replaced by members of generations X and Y who place greater importance on engagement, tolerance and expression.

Researchers of political participation have been slow to respond to these changes, largely retaining long-standing measures of participation as the numbers of participants steadily declined. Since the 1990s, political scientists have urged their colleagues to broaden their conceptualisations of participation; since the 2000s, this has begun in earnest. However, the major publicly-funded and publicly-available political science surveys – the American National Election Study, the British Election Study, and the Australian Election Study among a large number – have faced the dilemma of retaining longitudinal measures, including new, yet-to-be validated measures that may or not accurately measure emerging behaviours, and maintaining adequate response rates through short, easily comprehensible surveys.

Researchers studying the impact of internet access on rates of participation are faced with model endogeneity problems unless internet usage is disaggregated into two or more components. Data from existing surveys in political science show few differences between offline and online forms of participation, requiring survey investigators to include measures on equivalent behaviours across two modes (or more, if social media modes are specified). Online participation itself occurs along four dimensions in both the UK and Australia, although the dimensions take slightly different conceptual forms. One of the most fundamental and elusive questions in participation research – whether the internet's lower barriers to entry mobilises citizens into online and then offline participation – requires the isolation of time order effects that only experimental or panel studies can provide. One simple answer, based on a comparative project of young people, social media and participation, is worth trialling: using validated measures of 'old' and 'new' participation, and asking



respondents which activities they undertake, which modes they use, and which activities (and which modes) they participated in first.

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