Local Government Size and Political Efficacy: Do Citizen Panels Make a Difference?

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ABSTRACT

Democratic theorists suggest that the size of local government is an important influence on citizens' political efficacy. Typically, it is argued that small is beautiful for efficacy, because residents in areas served by smaller local governments are more likely to feel empowered to engage with decision-making. Nonetheless, it is conceivable that large governments can impart a higher degree of political efficacy by introducing structures that involve citizens more closely in decision-making. This paper examines these arguments by analysing whether jurisdiction size influences political efficacy in Welsh local government, and whether the presence of a citizen panel makes a difference to the size-efficacy relationship. Multi-level analyses suggest that size is negatively associated with internal and external political efficacy, but that larger local governments can overcome the burden of bigness for external efficacy through the use of citizen panels. Theoretical and practical implications are discussed.

Introduction

Encouraging citizens to participate in the decision-making of local governments has become a key policy goal in countries across the world (Caparas & Agrawal, 2016; Michels, 2012; Ishii, 2017; Smith, 2009). Citizen participation has instrumental value in that it promises improvements in allocative efficiency – where local public services increasingly match the needs of citizens (Kernaghan, 2009) – but it also promises to perform a development function as well. Theorists describe participation as 'intrinsically beneficial' in that it 'develops many positive, democratic character traits, such as community-mindedness, political self-competence, and satisfaction with decision-making structures, institutions, and outputs' (Finkel, 1987, pp. 442-443; Tam, 1998; Yetano, Royo, & Acerete, 2010). In short, citizen participation is crucial for sound governance (Farazmand, 2004; 2017).

Participation levels have in turn been found to be a function of citizens' underlying sense of political efficacy (Finkel, 1985; Craig et al., 1990; Bowler & Donovan, 2002); the feeling – according to Campbell, Gurin and Miller (1954, p. 187) – 'that individual political action does have, or could have, an impact on the political process'. Simply put, citizens will be more likely to participate if they believe: they have something to say; they have an opportunity to say it; and they believe that it will make a difference (Caparas & Agrawal, 2016).

The optimum size of local government has long been seen as central to the feelings of political efficacy (Dahl & Tufte, 1973; John, 2010; Soul & Dollery, 2000; Newton, 1982). Since Aristotle argued that the civic friendship upon which the common good depended could not be achieved in cities with more than 100,000 citizens, theorists of participatory democracy have continually asserted that small is beautiful for efficacious engagement with politics and policy-making (Newton, 1982; Sharpe, 1970). At the same time, public choice theory suggests that due to the pressures posed by greater inter-jurisdictional competition and residential mobility small and numerous units of government are more responsive to citizen demands and perform better (Bish & Ostrom, 1973; Ostrom, Tiebout & Warren, 1961). The small is beautiful school has not however had it all its own way.

Again following Aristotle, the advocates of size point to the greater system capacity of larger governments which allow them to offer a broader range of services, perform their responsibilities to a higher standard and engage with weightier issues (Dahl & Tufte, 1973; Cheyne & Comrie, 2002; Denters et al., 2014). Contrary to public choice theory, civic reform proponents thus emphasize the positive performance pay-off from clearer accountability lines and stronger professional expertise in big local governments (Fox and Gurley, 2006; Lyons

and stronger professional expertise in big local governments (Fox and Gurley, 2006, Lyons, Lowery & DeHoog, 1992). But also, at a time when participation is realized more through a panoply of sophisticated techniques and technologies than physical attendance at a public meeting (Callahan, 2007; Dunleavy, Margetts, Bastow, & Tinkler, 2006; Gordon, Osgood & Boden, 2017), larger governments may have an engagement advantage over their smaller neighbours. While lacking the close ties of small communities, larger governments have a greater capacity to communicate policy and performance issues to citizens but also to provide them with better opportunities – like citizen panels – to engage with the decision making process.

Despite the salience of political efficacy, empirical evidence on its determinants remains sparse and mixed, in particular, little is known about the relationship between participatory structures and political efficacy. Does jurisdiction size influence political efficacy? Is the use of citizen panels associated with higher levels of efficacy? Can these panels enable large local governments to overcome the barriers size poses to political efficacy? Do these relationships matter more for internal or external political efficacy? To answer these questions, this paper presents multi-level quantitative analyses of the connections between size and political efficacy by drawing on a survey of over 5,000 residents in Welsh local governments.

The paper begins by exploring theoretical perspectives on the relationships between local government size, citizen panels and political efficacy. Thereafter, the data and methods used in the study are introduced, along with the measures capturing internal and external political efficacy, local government size, the use of a citizen panel and other relevant control variables. Results of multi-level statistical models of the determinants of political efficacy in Welsh local governments are then presented, before the findings are analysed and theoretical and practical implications discussed.

Political Efficacy

Researchers use the concept of political efficacy to understand political participation like voting and campaigning (Pollock, 1983). As Almond and Verba (1963, p. 188) put it: 'The more subjectively competent an individual considers himself, the more likely he is to be politically active'. The positive correlation between efficacy and participation – or subjective competence as Almond and Verba describe it – suggests that conditions which increase feelings of efficacy should, in turn, translate into increased participation.

Theorists traditionally distinguish between two dimensions of political efficacy. The first – internal efficacy – asks whether individual citizens feel they have the capacity, or competence, to engage with the sorts of issues considered in public debates. Niemi, Craig and Mattei (1991, p. 1407) define internal political efficacy as the belief in 'one's own competence to understand and participate effectively in politics'. Researchers treat internal political efficacy rather as a type of human capital – 'a stable psychological resource' as Valentino, Gregorowicz, & Groenendyk (2009) put it – that is developed over time and equips those who possess it with the resources to participate in public decision making. Researchers further assume that individual citizens can accurately perceive and report on the components parts of their own efficacy.

The second dimension – external political efficacy – recognises that participation reflects not only a citizen's sense of their own political competence but also a subjective assessment of the likely responsiveness of the political environment. Do citizens believe that the political system will listen to and act on their engagement (Craig, Niemi, & Silver, 1990, p. 291)? This question can, in turn, be further sub-divided. Because debates are rarely swayed by individual action, the notion of collective political efficacy – 'an emergent group level attribute' (Caprara et al., 2009, p. 1004; Anderson, 2010) – gauges perceptions of group level capacity to campaign for particular goals. Regime based efficacy captures the perceived responsiveness of political institutions, while incumbent based efficacy tests the perceived responsiveness of the incumbents of those institutions (Craig, Niemi, & Silver, 1990).

The internal and external dimensions of efficacy have been developed to understand traditional – very often state wide – forms of political participation like voting and campaigning (Niemi, Craig, & Mattei, 1991; Morrell, 2003). There are, however, two reasons to think that the type of efficacy needed to engage citizens in local administrative matters may be somewhat different to the state wide political variant. Firstly, local governments want citizens to engage with the administrative aspects of service planning, provision and performance in their capacity as taxpayers, consumers and clients rather than as voters and campaigners. Participation in these matters presumes a knowledge of, and interest in, what

campaigners. Participation in these matters presumes a knowledge of, and interest in, what might be regarded as mundane or technical aspects of sound governance. Participation in these administrative matters is not normally realised through the explicitly political acts of voting and campaigning but, rather less heroically, through attending and participating in meetings and consultations of one form or another. Without the parties, profile or passion of national issues, 'behavior in local compared to national politics', as Morlan (1984, p. 459) explains, 'is quite different'.

Secondly, unlike political participation – which is regarded as available to all – the opportunity to participate in the administrative decision making process is not uniformly provided to all communities. Without the statutory framework which makes voting in one place very similar to voting in another, different local governments will attach different degrees of priority to citizen engagement at the same time as they adopt different techniques or methods for its realisation. This will inevitably mean that some local governments will provide more opportunities to participate than do others, while some groups of citizens – within the same local government area – may be given more opportunities than others.

Accordingly, the sense of efficacy underwriting participation in the administrative processes of local governments needs to be assessed slightly differently to traditional approaches. Whereas researchers of traditional forms of political participation have tended to emphasise subjective judgements of political competence, it is citizen perceptions of both their knowledge of, and their opportunity to, participate in local decision making that is key to this context. Do citizens feel they have the knowledge and opportunity to participate in the management of local services?

Small is Beautiful?

The argument that small scale provides more opportunity for 'citizens to participate effectively in decisions' (Lowndes & Sullivan, 2008, p. 57) stands on four legs. The first is focussed on the relationship between citizens and a geographical place. 'The small-is-beautiful school', as it is dubbed by Kelleher and Lowery (2004), 'suggests that citizens are *locally orientated*' (Kelleher & Lowery, 2009, p. 66). Dahl (1967, p. 954) argues that the spatial dimensions of a *polis* need to be 'human, not colossal, the dimensions not of an empire but of a town'. Small scale promises a knowledge of, and connection with, a specific place so that citizens, as Dahl puts it, can know the 'town... [and] its countryside about' (1967, p. 954). Hidalgo and Hernandez (2001, p. 274) describe this as 'place attachment', defining it as 'an affective bond or link between people and specific places'. Advocates of small scale governance argue that citizens feel more efficacious in relation to the governance of the very local places to which they have an attachment simply by virtue of the greater stake they have in the future of those places. They further suggest that citizens will be more interested by, and knowledgeable of, the '*smaller issues*' which are determined at this level of governance (Kelleher & Lowery, 2009, p. 66; Oliver, 2000; Fischel, 2001).

Closely related to the attachment to a particular place and its issues, is the social attachment to the people associated with that place. Altman and Low (1992, p. 7) explain that 'places are repositories and contexts within which interpersonal, community and cultural relationships occur'. A small scale of governance promises improved knowledge of and empathy for fellow citizens. 'At its best', as Dahl (1967, p. 954) puts it, 'citizenship would be close to friend-ship, close even to a kind of extended family, where human relations are intense rather than bland'. In more theoretical terms, small numbers reduce heterogeneity and the associated 'costs of collective action and cooperation' (Rodriguez-Pose, Tijmstra, & Bwire, 2009, p. 2043) by making it easier to communicate, develop shared values, and foster the sense of reciprocity, which underpin political efficacy (Niemi, Craig, & Mattei, 1991), as well as sound governance (Farazmand, 2004).

Third, small scale governments offer a closer connection between citizens and their decision makers. 'The essential point', again according to Dahl (1967, p. 957), 'is that nothing can overcome the dismal fact that as the number of citizens increases the proportion who can participate directly in discussions with their top leaders must necessarily grow smaller and smaller'. Importantly, in emphasising access to 'top leaders', Dahl discounts the democratic benefits of increased elected representation; irrespective of the ratio of citizens to representatives, the relational distance between "top leaders" and citizens increases with population size. Hence, the smaller the scale, the better, according to Lowndes and Sullivan (2008), will be the accessibility, responsiveness and accountability of governments. Kelleher and Lowery (2009, p. 64) explain that the problem is a collective action one in which: 'Any

act of participation by a citizen is less likely to influence outcomes on local public goods as the number of citizens within a city grows.'

Fourth and finally, public choice theorists emphasize that in the interests of both public service efficiency and equity, small governments will be better able to offer bespoke policies and services to the local population (Boyne, 1998; Oates, 1999). Assuming there is considerable variance in individual and community preferences, the larger the scale, the greater the divergence between the nature of citizens' demands and the supply of standard or one-size-fits-all government services (Weisbrod, 1997; Wallis & Dollery, 2006). The smaller the population served by any one government, the closer the match between any one service and the preferences of its users/ recipients/ beneficiaries (Niskanen, 1971). As Rodriguez-Pose (2009, p. 2043) explains, smaller governments can provide a more fine-grained 'tailoring of policies to local preferences' and, therefore, perform better than their larger counterparts. Where services are more closely matched to the preferences of citizens, so the argument goes, they might well be more satisfied with their government's performance and more inclined to feel that they are able to influence decisions (Kelleher & Lowery, 2009).

Although superficially persuasive, the argument that small governments will necessarily be more conducive to political efficacy can be turned on its head. As Kelleher and Lowery (2009) suggest, it is just as plausible to argue: that citizens will feel attachment to larger areas and bigger issues; that larger and more diverse populations will provide more opportunities for collective action; that larger areas will attract better and more communicative leaders; and that with the benefits of scale, larger governments will provide better and broader range of services in such a way satisfying their citizens more. In other words, the arguments in favour of local government consolidation proposed by civic reformers seem at least as likely to be supported as those in favour of decentralization offered by public choice theorists (Lyons, Lowery and DeHoog, 1992), especially given the persistence of economic arguments regarding size and local government performance (Allers & Geertsma, 2016). From an efficacy perspective, the most dramatic demonstration of the 'large is lively' (Kelleher & Lowery, 2004) hypothesis is apparent in the considerably higher turnouts experienced in national as compared to local elections (Morlan, 1984).

Whatever the merits of these viewpoints and aside from variations in turn out noted by Morlan (1984), the available empirical evidence on the relationship between local government size and political efficacy tends to suggest that small is beautiful rather than that big is better. Within the European context, for example, Denters (2002) finds that trust in elected officials and satisfaction with services is higher in small local governments in Denmark, the Netherlands, Norway and the UK. Hansen (2015) identifies a negative relationship between local government size and citizen satisfaction in Denmark. Likewise, Mouritzen (1989) reports that citizen satisfaction and political participation is higher in small Danish municipalities, while Rose (2002) uncovers a negative relationship between municipality size and non-electoral political participation in Denmark, the Netherlands and Norway. In Australia, Drew and Dollery (2016), identify a negative relationship between council size and citizen satisfaction with advocacy and engagement opportunities, while Drew, Dollery & Kortt (2016) find that citizen satisfaction in general is lower in the very smallest and the very largest local governments.

Although recognising that national elections prompt more interest than local elections, Morlan (1984) finds that the smaller the local government, the higher the participation rate. Recent studies from Finland (Lapointe, Saarimaa, & Tukiainen, 2018), Portugal (Rodrigues & Meza, forthcoming) and Switzerland (Koch & Rochat, 2017), all suggest that the merger of small local governments into larger units is associated with a fall in electoral turnout. Furthermore, while Kelleher and Lowery (2009) furnish evidence of a positive relationship between size and voter registration and civic organization membership in the United States, a rigorous quasi-experimental study by Lassen and Serritzlew (2011) indicates that citizens in large Danish municipalities experience a sizeable loss of internal political efficacy. Thus, on the basis of established theory and the available evidence, the first hypothesis is that:

Hypothesis 1:   Local government size will be negatively related to political efficacy

Citizen Panels and Political Efficacy

Arguments about local government size and political efficacy are not though just a debate about the intrinsic qualities of different scales of government or their effects on the soundness of governance. Despite the persistence of the civic-republican appreciation of the virtues of smallness, it is clear that improvements in political efficacy are not always realised through

smallness, it is clear that improvements in political efficacy are not always realised through the kind of direct democracy envisaged by advocates of small government. Margolis (1979), for example, argues that traditional approaches to direct and representative democracy are fundamentally ill-suited to the challenge of governing the complex mass societies of the contemporary world, and that alternative approaches to citizen participation may be required (see also Farazmand, 2004).

Driven, as Fung (2006, p. 67) puts it, by a sense 'that the authorized set of decision makers – typically elected representatives or administrative officials – is somehow deficient', the last few decades have seen a huge growth in the range of engagement techniques which promise improved political efficacy without direct or representative democracy (Astrom, Jonsson, & Karlson, 2017; Michels, 2012). In their survey of public participation in local government, Lowndes, Pratchett and Stoker (2001) describe a range of new participatory techniques – embracing surveys, juries, web sites and focus groups – being developed and applied by UK local governments. Blomgren Bingham, Nabatchi and O'Leary (2005, pp. 552-554) similarly describe a range of 'new governance processes' – including deliberative democracy, e-democracy, public conversations, participatory budgeting, citizen juries, study circles – as used across different levels of government.

Citizen panels are one of the most widely adopted of these new forms of engagement. They typically take the form of a representative sample (usually of 1000 citizens) of the local population which is maintained to respond to a series of survey and consultation activities over a period of time (Van Ryzin, 2008; Stewart, 1996). During the 1990s and 2000s representative panels of this sort were adopted widely across UK local government (Martin, 2009). Although a panel, of itself, provides an opportunity to participate, the decision to establish and maintain a panel may be indicative of the priority and resource attached to citizen engagement within a particular government. Local governments with panels tend to make a number of other efforts to extend participation opportunities to their citizens (Andrews et al., 2008), which will positively impact their sense of political efficacy.

Although the evidence on the effectiveness of citizen panels as tools for promoting public participation is sketchy and largely anecdotal, it does suggest that practitioners find the technique valuable for eliciting greater citizen engagement with decision-making (Andrews et al, 2008). In particular, feedback from the participants in citizen panels indicates that they gain a sense of empowerment from being involved in local decision-making. Indeed, Brown (2006, p. 205) goes so far as to suggest that institutions of this sort may 'hold more promise for realizing radical democratic ideals than the direct democratic procedures idealized by many democratic theorists.' Hence the second hypothesis is that:

Hypothesis 2:   The use of a citizen panel is positively related to political efficacy

The introduction of new structures for public participation requires considerable resources both for their administration in the narrow sense of the word, but also for the locally differentiated services and extended time lines that they are likely to demand (Irvin & Stansbury, 2004). It seems reasonable to hypothesise, therefore, that large governments will have greater capacity to resource and deliver these kinds of participatory opportunities than small governments. Yang and Callaghan (2005), for example, find that large US municipalities are more committed to citizen involvement efforts than their smaller counterparts. Aside from the argument that the intrinsic qualities of large or small governments will be conducive, or not, to political efficacy, there is a possibility that larger governments can generate higher levels of efficacy through the provision of citizen panels and other engagement opportunities.

By introducing new participatory structures that reach out to citizens, local governments can potentially lessen the relational distance between elected officials and their voters (Dahl, 1967) and overcome the social dislocation effects associated with community size (Coffe & Geys, 2006). Citizen panels may therefore represent a civic investment particularly appropriate to larger governments in that they might bring government closer to citizens in a way that can make them feel more informed about, and empowered to influence, decision-making. Thus, the final hypothesis is:

Hypothesis 3:   The use of a citizen panel will moderate the negative relationship between local government size and political efficacy

Data and Methods

Data and Methods

The context for the research is local government in Wales, one of the four constituent nations of the United Kingdom. Wales is composed of 22 local governments with populations ranging from 56,000 to 305,000 inhabitants, and is a particularly suitable setting for testing our hypotheses about political efficacy. The Welsh Government (WG) has promoted a distinctive public service improvement agenda based around collaboration and co-operation (WAG, 2009), which has been embodied in a commitment to making local authorities more 'citizen-centred' (Martin and Webb 2009). At the same time, the optimal size and number of Welsh local governments has been constantly debated by politicians and policy-makers (Williams, 2014).

Dependent variables

Data on citizens' attitudes about political efficacy are drawn from the Living in Wales Survey conducted in all local government areas across Wales during 2006. These data were collected by IPSOS-MORI and GfK NOP using a standard questionnaire template, and independently verified by the WG's Statistical Directorate. The survey data were weighted by age, gender, ethnicity and household size to provide as representative a sample as possible. The survey asks residents about their quality of life, including their attitudes towards participation in the service delivery decisions made by the local government. Two of these survey items are of especial relevance to our study. The first asks respondents to indicate on a four-point scale (ranging from 'nothing at all' - coded 1 to 'a great deal' - coded 4) the amount they 'know about participating in making decisions about the running of your local authority services'. Answers to this question are used as a measure of *internal political efficacy*. A second survey item asks respondents to assess on a five-point scale (from 'strongly disagree' – coded 1 to 'strongly agree' – coded 5) the extent to which they would agree about their actually having 'an opportunity to participate in making decisions about the running of my local authority services'. Answers to this question are used as a measure of *external political efficacy*. Table 1 presents the descriptive statistics for these measures of political efficacy.

TABLE 1 ABOUT HERE

Independent variables

The main independent variables are captured at the local government level. To assess scale effects on political efficacy local government size *is measured using population figures for each local government, because this provides a clear and transparent proxy for the size of the political community in question. These figures are drawn from the 2001 UK national census. Similar results to those presented below were achieved when the number of electors and the 'representative ratio' (the number of locally elected politicians per elector), were substituted for population.*

To investigate whether efforts to promote participatory initiatives within the area served by each local government influence the size-efficacy relationship, a measure of whether or not a local government was operating a *citizen panel* in 2006 is used. The measure of panels was constructed through a search of local government cabinet minutes (which local authorities are obliged to make public) available on each of the council websites in 2012. An initiative as important and costly as a citizen panel is extraordinarily unlikely to be authorised and operated without reports to cabinet. It is therefore reasonable to conclude that where there is no mention in the minutes, there was no active panel.

Individual level control variables

The regression models also include individual level controls shown to influence political efficacy in previous studies (e.g. Caparas & Agrawal, 2016; Lassen & Serritzlew, 2011). Ethnic origin, gender, working status, social class and levels of neighbhourhood trust, amongst respondents to the Living in Wales survey, are all measured using dichotomous variables. The reference category for ethnic origin is non-white as opposed to white; for gender it is female as opposed to male; for working status it is unemployed as opposed to employed; for social class it is other lower occupations as opposed to managerial/professional or intermediate occupations; and, for trust in neighbourhood, it is trust in few or no people as opposed to most or many people in the neighbourhood. Based on prior research, a positive relationship is anticipated between the coded characteristics (i.e. white, male, employed, upper middle class and trusting) and

characteristics (i.e. white, male, employed, upper-middle class and trusting) and political efficacy. In addition, the age of respondents is controlled using the self-reported figure from the survey and rural/urban residence based on the Office of National Statistics' Rural and Urban Area Classification of 2004, which classifies where people in Wales live from 1 = urban, less sparse to 4 = rural, sparse. Observations with missing data for our survey items were deleted prior to the analysis, leaving a sample of 5523 respondents.

Local government level control variables

For the level 2 component of our multilevel analysis, the approach of Kelleher and Lowery (2009) is followed and a set of control variables measured at the local government level are included. A measure of *electoral marginality* is used to control for the influence of political culture on political efficacy. The percentage point difference between the vote share of the political party attaining the largest number of votes and that of the party gaining the second largest number of votes in the previous local election controlled for the link between electoral marginality and greater citizen engagement (Pattie & Johnston, 2005). To measure marginality the direction of this variable was reversed.

The relative *socio-economic disadvantage* of citizens was measured using the average ward score on the indices of deprivation in 2004. This is the population-weighted measure used by WG to gauge levels of deprivation amongst the population. It is constructed from seven different dimensions of deprivation (income, employment, health, education, housing, crime, living environment). Deprived communities lack the resources with which to solve collective action problems, and so tend to experience lower rates of political efficacy (Gibbs, 1977).

The multiplication of social identities in socially heterogeneous areas may affect levels of political efficacy. For example, ethnically diverse areas may suffer from low levels of social trust, while areas with a wide spread of social classes can experience the multiplication of sectional interests, and a reduction in the potential for collective action (Costa & Kahn, 2003). To measure *demographic diversity*, the proportions of the ethnic and social class sub-groups identified in the 2001 UK national census (such as ages 0-4, Black African and Lower Managerial and Professional Occupations) for each local government area were squared, summed and subtracted from 10,000, with high scores reflecting high diversity. These scores are equivalent to the Hehrfindahl indices used by economists to measure relative market fragmentation.

TABLE 2 ABOUT HERE

Table 2 presents the descriptive statistics for all the independent variables used in the statistical modelling. Skewness tests revealed that ethnic diversity was not normally distributed (Kolmogorov-Smirnov .215 $p \leq 0.01$). To correct for positive skew this variable was logged.

Method

A series of hierarchical linear regression models are estimated, with individuals (level 1) being nested in local governments (level 2). This captures clustering effects for individuals from the same local area. It can also accommodate unobserved heterogeneity between local governments via random intercepts (Bryan & Jenkins, 2016). By using a multilevel approach, it is possible to introduce and estimate local government-level variables that may explain citizens' political efficacy, whereas an approach using jurisdiction dummies can only control for unobserved local government-level effects. A sample size of 22 (local governments) at level 2, as in the case for this study, is considered sufficient for random intercept models to produce unbiased estimates (Stegmueller, 2013).

Statistical Results

The results of two-level linear regression models estimating the determinants of internal political efficacy are presented in Table 3. First, the null model was estimated to evaluate how much variation in respondents' internal political efficacy could be attributed to differences across local governments, and whether multilevel modelling is actually needed (model 0).

Next, the relationships between the individual-level control variables and internal political efficacy are estimated using a random intercept model (model 1). A model adding all the local government-level variables, including population size and use of a citizen panel is then estimated (model 2). Finally, a measure interacting the population size and citizen panel variables is included to test whether the use of a citizen panel moderates the size-efficacy relationship (model 3). Models of external political efficacy are shown in the same sequence in Table 4. Multicollinearity is not a problem – the average Variance Inflation Factor score is 2.2. Robust estimation of the standard errors was used to deal with potential heteroscedasticity and outliers within the dataset. All estimations were undertaken using Stata 12.0's 'xtmixed' routine.

The intercept only model shown in Table 3 displays an intraclass correlation of .012, which means that about 1.2% of the total variation in the survey respondents' internal political efficacy can be attributed to local government differences. Although this is a comparatively small proportion of the variation in efficacy, it is typical for the majority of the variance in hierarchical models to be found at the individual level rather than the second level (see, for example, Kelleher and Lowery, 2009). Furthermore, a comparison of model 0 to a non-hierarchical (Ordinary Least Squares) linear model revealed that it has a superior fit with the data ($\chi2(1) = 34.40$, p<.001). This highlights that the survey respondents are not completely independent from each other, and that multilevel modelling techniques are needed to accommodate the nested structure of the data.

TABLE 3 ABOUT HERE

When using a multilevel modelling approach, R^2 figures provide ambiguous information on model fit. As such, comparisons of the log likelihood function, can reveal whether each new model specification improves the overall model fit, with smaller log-likelihoods indicating a better fit with the data (Robson & Pevalin, 2016). For each of the models shown in table 3, there is a decrease in the log likelihood function, indicating that the model fit continually improves as more variables are added, though with only a slight improvement for the final model.

In models 1-3, five individual level control variables are significant at explaining knowledge of participation: age, gender, work status, social class and levels of trust in the neighbourhood. Thus, it seems that older people, men, individuals employed, people in managerial jobs and those that trust more people in their neighbourhoods tend to be more aware of participation opportunities. At the same time, only one local government level control variable contributes to the explanatory power of the knowledge of participation model. In particular, (and unexpectedly) social class diversity is positively associated with knowledge of participation opportunities.

The key explanatory variables used to test the hypotheses are introduced in models 2 and 3. In model 2, the coefficient for population is negative and statistically significant. This finding provides strong support for the first 'small is beautiful' hypothesis that the smaller the population size the higher citizens' internal political efficacy. The coefficient for the dichotomous variable that captures whether or not a local government was operating a citizen panel during the study period exhibits the anticipated positive sign. However, it is not statistically significant, suggesting that the presence of a citizen panel has no relationship with citizens' internal political efficacy. The second hypothesis is therefore not confirmed by the model predicting internal efficacy.

To test the third hypothesis regarding the moderating effects of a citizen panel on the size-efficacy relationship a variable multiplying the population and citizen panel variables is included in model 3. The coefficient for this interaction term is positive, however, it does not achieve statistically significance, which implies that large local governments are unable to mitigate the negative internal efficacy effects associated with bigness by introducing a citizen panel. Thus, it can be concluded that for internal political efficacy only one out of three of the hypotheses receive confirmation. To explore the validity of those arguments in more detail, the estimates of external political efficacy will be examined.

TABLE 4 ABOUT HERE

In Table 4, the intercept only model has an intraclass correlation of .034, which means

In Table 4, the intercept-only model has an intraclass correlation of .034, which means that about 3.4% of the variation in external political efficacy is attributable to local government-level influences. Model 0 has a superior fit with the data than a non-hierarchical linear model ($\chi2(1)= 135.39$, p<.001), underlining that multilevel modelling techniques are again necessary. These tests also indicate that the application of such techniques may be more important for the analysis of external than internal political efficacy, since it appears that local government-level factors are more salient in this case. The results presented in Table 4 highlight that the log likelihood function decreases for each new model specification, indicating continuous improvements in the fit of the model. The improvement in the fit of the external efficacy model is greater than for the internal efficacy model when the interaction term is included, implying again that local government-level effects may be more important for this dimension of political efficacy.

The estimates for models 1-3 indicate that there are similarities between the results for the control variables in the opportunity to participate models and the knowledge about participation models. In this case, four of the individual level variables turned out to be statistically significant. However, for external political efficacy, employment status no longer plays a part, and the coefficient for age has switched from positive to negative. The findings here imply that the younger the respondent, the more likely they feel there to be opportunities to participate. Interestingly, for the second efficacy variable, more local government level variables were statistically significant than for knowledge of participation. Ethnic diversity shows a negative association with the dependent variable, and social class diversity a positive one. In addition, socio-economic deprivation is, perhaps surprisingly, positively associated with the perceived opportunity to participate. Although it is notable that the Welsh Government devoted considerable resource to engaging deprived communities through this period (Adamson 2010).

Turning to the coefficients for the key explanatory variables used to examine the determinants of external political efficacy, the results in model 2 indicate that, as for internal political efficacy, population size has a negative and statistically significant relationship with the dependent variable. In addition, the results highlight that the use of a citizen panel has a positive relationship with citizens' perceptions of opportunities to participate in decision-making: the coefficient for citizen panel is positive and statistically significant, albeit weakly. Thus, the first and second hypotheses receive support from the first set of estimates of external political efficacy. The third hypothesis is again tested by including a variable interacting the population and citizen panel variables in model 3. In this case, the interaction term is positive and statistically significant. The results for this final model therefore suggest that large local governments operating panels are able to mitigate the disempowering effects of size.

To better understand the nature of the interactions, moderated multiple regression was undertaken (see Aiken & West, 1991). The citizen panel-population relationships were plotted for local governments whose scores on the moderator (i.e. citizen panel) were one standard deviation below the mean and one standard deviation above the mean (see Figure 1). The figure highlights that the negative slope for big local governments with citizen panels was much shallower than for those without a citizen panel. Thus, in further support of hypothesis 3, the negative relationship between size and external political efficacy is mitigated in local governments with a citizen panel.

FIGURE 1 ABOUT HERE

In sum, the first hypothesis on the benefits of smallness for political efficacy is supported using measures of both internal and external efficacy. The second hypothesis on the benefits of citizen panels for political efficacy receives mixed support, being confirmed for the measure of external efficacy but remaining unconfirmed for internal efficacy. Finally, the third hypothesis on the moderating effects of citizen panels on the size-efficacy relationship is also supported only for the measure of external political efficacy. This finding offers important new evidence on the actions that large local governments can take to address the participatory problems posed by their sheer size.

Conclusions

This paper has added to the literature on political efficacy by exploring the effects of local government size and the use of a citizen panel on the internal and external political efficacy

of citizens in Wales. Theories of participatory democracy suggest that while increased population size promises enhanced political information and wider and more diverse opportunities for social interaction, it also underlines the need for larger governments to offset the disadvantages of their size (Dahl & Tufte, 1973; Verba & Nie, 1972). The statistical results show that the use of citizen panels can make a difference to the way citizens perceive their opportunity to participate in the decision-making of large local governments, however, it seems unlikely to influence how much they know about participating. These findings have important theoretical and practical implications.

The analysis presented here expands on existing empirical work on the negative relationship between local government size and political efficacy by establishing a connection between size, citizen panels and citizens' opportunity to participate in local public service delivery decisions. To date, quantitative research has largely neglected this important and timely dimension of political efficacy, preferring to focus on issues of trust, satisfaction and political activism rather than attitudes towards direct involvement in public policy-making. At the same time, a specific strategy is identified that large units of government can adopt in order to overcome the gap in perceived efficacy caused by the kind of negative scale effects pinpointed by theories of participatory democracy and public choice. Citizen panels may have many purposes for local governments, but everything else being equal, the findings of this study highlight the vital role they can potentially play in empowering citizens in large local communities.

Despite the strength of the findings, the analysis has a number of limitations. Although the study draws upon a large number of respondents, there are comparatively few units of government within Wales. To draw firmer conclusions on the determinants of local citizens' internal and external political efficacy it would be necessary to identify whether these relationships hold in settings elsewhere. Likewise, the study relies on a single cross-sectional survey to establish a connection between the independent variables and political efficacy. Although the statistical analysis has affirmed the plausibility of the theoretical arguments on the determinants of external efficacy, longitudinal and comparative studies are required to reveal the precise dynamics of the relationship that is observed, especially in cases where changes in the size of local governments occur.

At the same time, in-depth case studies could also be utilised in this study setting and others to examine the effects of size on political efficacy in more fine-grained detail. Qualitative (and quantitative) investigation in those big councils successfully reaping the benefits of citizen panels for public participation is required to fully explore the ways in which such activity can be best directed to mitigate the negative impact of size. This qualitative approach could be supplemented with the collection of administrative data from local governments and primary survey data to develop context-sensitive profiles of the perceived legitimacy of efforts to promote public participation, especially if the views of all key stakeholders (e.g. local government officers, elected members, central government officials and local citizens) were incorporated. For the present though, this study has provided an important piece of the mosaic of evidence that is required before general and firm conclusions can be drawn on the consequences of local government actions to address the implications of size for political efficacy.

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Table 1. Measures of political efficacy

Dependent variable	N	Mean	Min	Max	s.d.
Internal political efficacy					
Amount you feel you know about participating in making decisions about running of local authority services	7077	1.71	1	4	.79

External political efficacy

I have an opportunity to participate in making decision about the running of my local authority services	6287	2.53	1	5	1.21

Table 2. Descriptive statistics for independent variables

	N	Mean	Minimum	Maximum	s.d.
Age	5523	52.82	17	85	16.28
Male	5523	.44	0	1	.50
Employed	5523	.54	0	1	.50
Middle class	5523	.49	0	1	.50
White ethnic origin	5523	.99	0	1	.09
Rural resident (1-4)	5523	1.76	1	4	1.03
Trust neighbourhood	5523	.77	0	1	.42
Population	22	129143.10	55981	305353	55707.53
Citizen panel	22	.44	0	1	.50
Electoral marginality	22	84.94	52.5	99.5	13.11
Deprivation	22	22.71	9.08	43.29	8.05
Social class diversity	22	8707.05	8550.70	8815.38	63.94
Ethnic diversity	22	656.95	353.27	2185.92	366.81

Data sources:

Age, gender, work status, social class, ethnic origin, urban/rural residence, trust in neighbourhood	*Welsh Assembly Government. Statistical Directorate*, Living in Wales: Household Survey, 2006 [computer file]. *2nd Edition. Colchester, Essex: UK Data Archive [distributor], December 2009. SN: 6131.*
Population, ethnic diversity, social class diversity	Office for National Statistics (2003). *Census 2001: Key Statistics for Local Authorities*. London: TSO. Ethnic diversity comprised 16 groups: White British, Irish, Other White, White and Black Caribbean, White and Black African, White and Asian, Other Mixed, Indian, Pakistani, Bangladeshi, Other Asian, Caribbean, African, Other Black, Chinese, Other Ethnic Group. Social class diversity comprised 12 Socio-Economic Classifications: Large Employers and Higher Managerial Occupations, Higher Professional Occupations, Lower Managerial and Professional Occupations, Intermediate Occupations, Small Employers and Own Account Workers, Lower Supervisory and Technical Occupations, Semi-Routine Occupations, Routine Occupations, Never Worked, Long-Term Unemployed, Full-time Students, Non-Classifiable.
Electoral marginality,	Rallings, C. and M.Thrasher. (2006). *Local Elections Handbook 2005*. Plymouth: LGC Elections Centre.

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Table 3. Local government size, use of citizen panel and internal political efficacy

	Model 0	Model 1	Model 2	Model 3
Population			-1.26E-06**	-1.55E-06**
			(3.09E-07)	(4.14E-07)
Citizen panel			.004	-.071
			(.044)	(.075)
Population x panel				6.19E-07
				(5.82E-07)
Individual level variables				
Age		.001+	.001+	.001+
		(.0008)	(.008)	(.008)
Male		.102**	.100**	.100**

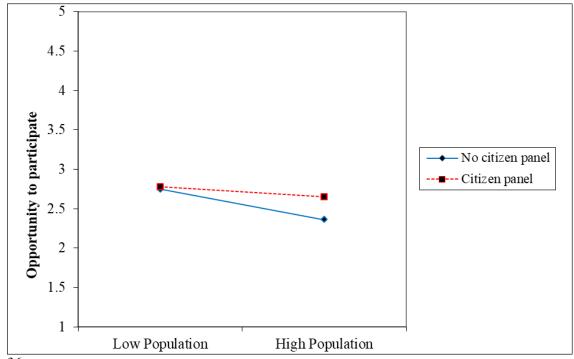|	Model 0	Model 1	Model 2	Model 3
		(.021)	(.021)	(.021)
Employed		.092**	.091**	.092**
		(.030)	(.031)	(.031)
Middle class		.195**	.197**	.197**
		(.027)	(.027)	(.027)
White		.046	.038	.037
		(.098)	(.099)	(.099)
Rural resident		.021	.016	.016
		(.014)	(.012)	(.012)
Neighbourhood trust		.065**	.062**	.062**
		(.026)	(.026)	(.026)
Local government level variables				
Electoral marginality			.002	.002
			(.001)	(.001)
Deprivation			.006+	.006
			(.004)	(.004)
Social class diversity			.001+	.001+
			(.0006)	(.0006)
Ethnic diversity			-.126	-.191
			(.147)	(.189)
(Constant)	1.784**	1.394**	-8.378	-8.687
	(.022)	(.077)	(5.336)	(5.516)
-2Log Likelihood	-6645.01	-6574.23	-6566.35	-6565.88
Intra Class Correlation	.012	.010	.003	.003

N=5523, local governments = 22. +p<0.10, *p<0.05, **p<0.01 (one-tailed tests for hypotheses)

Table 4. Local government size, use of citizen panel and external political efficacy

	Model 0	Model 1	Model 2	Model 3
Population			-2.41E-06**	-3.46E-06**
			(6.96E-07)	(7.65E-07)
Citizen panel			.149+	-.136
			(.108)	(.200)
Population x panel				2.31E-06**
				(1.33E-06)
Individual level variables				
Age		-.003*	-.003*	-.003*
		(.002)	(.002)	(.002)
Male		.051+	.050+	.050+
		(.029)	(.029)	(.029)
Employed		.088	.086	.086
		(.057)	(.057)	(.058)
Middle class		.143**	.143**	.143**
		(.026)	(.026)	(.026)
White		-.026	-.030	-.031
		(.170)	(.170)	(.171)
Rural resident		-.003	-.008	-.008
		(.033)	(.031)	(.031)
Neighbourhood trust		.150**	.148**	.148**
		(.049)	(.049)	(.049)
Local government level variables				
Electoral marginality			.003	.003
			(.003)	(.003)
Deprivation			.021**	.020*
			(.008)	(.008)

Social class diversity			.005** (.001)	.005** (.001)
Ethnic diversity			-.590* (.304)	-.833* (.394)
(Constant)	2.535** (.052)	2.477** (.151)	-37.456** (10.952)	-38.559** (11.202)
-2Log Likelihood	-8860.41	-8828.61	-8822.64	-8821.70
Intra Class Correlation	.034	.034	.019	.017

N=5523, local governments = 22. +p<0.10, *p<0.05, **p<0.01 (one-tailed tests for hypotheses)

Figure 1. Moderating effect of a citizen panel on the size–external political efficacy relationship