Performance Measures and Democracy: Information Effects on Citizens in Field and Laboratory Experiments

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ABSTRACT

There has been a massive expansion in published information about the performance of bodies delivering public services but little research about the effects on citizens. Research on information and political participation suggests that information cues allow citizens to economize on the need for full information, influencing their perceptions and attitudes and helping them hold democratic governments to account. This article uses field and laboratory experiments with random allocation to citizens of information cues about local government performance to evaluate their effects. It finds that a cue about relatively good performance raises citizens’ perceived performance and satisfaction and a cue about relatively bad performance lowers perceived performance and satisfaction. Direct effects on citizens’ intention to vote for the local incumbent are not evident and the cue about good performance is more influential on the perceptions and satisfaction of citizens who already supported the incumbent. However, overall, the findings suggest that public performance information systems can be credible to citizens. Future research should assess the effects of different forms of performance information in different service contexts coming from different information sources, with the sources potentially varying in credibility to citizens.

INTRODUCTION

There has been a massive expansion in published information about the performance of public services in many countries (Andrews et al. 2005; Behn 2003; Boyne et al. 2003; Hienrich 2003; Hood 2006; Hood, Dixon, and Beeston 2009; Pollitt and Bouckaert 2004; Radin 2000). Public management research has largely concentrated on the internal uses of information within public organizations, especially its use by public managers (Andrews et al. 2005; Boyne et al. 2003; Hienrich 2003; Hood 2006; Hood et al. 2009; Pollitt and Bouckaert 2004). Much less attention has been paid to the use of performance information by citizens (James 2004; Pollitt 2006). However, at the same time, the role of information in enabling citizens to exercise democratic control of government has been increasingly noted in political science. In particular, information shortcuts or cues have been identified as a means for citizens to economize on information and overcome the
overly demanding requirement of having full information about politics. The cues enable citizens to improve their political knowledge, facilitate their political judgement, and inform their political behavior, contributing to effective democratic control of government (Downs 1957; Lupia 1994; Lupia and McCubbins 1998; Popkin 1991).

This article finds that published summary measures of local public bodies’ performance of services are important information cues for citizens. The cues influence citizens’ perceptions of service performance and inform their satisfaction with services, although citizens’ previous partisan support for the local government incumbent moderates some of these effects. Citizens’ intentions to vote for incumbents turns out to be more resistant to the direct effects of the information cues. However, citizens’ perceptions and attitudes potentially underpin a range of other political participation activities including complaining about services and lobbying, and more research on the broader effects of performance information on voting is also warranted (Boyne et al. 2009; Brannan, John, and Stoker 2006; Dowding and John 2008; Lyons, Lowery, and DeHoog 1992). Overall, the research suggests that public performance reporting using summary cues can provide the information necessary to facilitate informed citizen participation in systems of democratic control over local public services.

The first section of this article develops theory about the effects of performance information cues about local public service performance on citizens. It derives hypotheses for evaluating their empirical implications for citizens’ perceptions about the performance of services, satisfaction with services, and political participation in terms of intention to vote for local incumbents running bodies responsible for services. The second section sets out field and laboratory experiments to evaluate the hypotheses in the context of English local government. Experiments are relatively uncommon in public management research (Bozeman and Scott 1992; Moynihan 2009). This under-use is surprising because properly conducted experiments using random allocation of treatment/intervention variants to different units offers a good way to obtain unbiased estimates of causal effects. The third section presents the findings and the concluding section sets out the implications of these findings for performance information and democratic control over public services and suggests priorities for future research on these issues.

CITIZENS AND PUBLIC SERVICE PERFORMANCE MEASURES

The big increase in publicly available information about the performance of public services, and about bodies providing those services, is sometimes described as part of the “new public management” wave of reform that has swept across a large set of countries. The information concerns a range of aspects of performance, especially the inputs, processes, outputs, and outcomes of public services and organizations providing them and their value for money, efficiency, and effectiveness (Andrews et al. 2005; Behn 2003; Boyne et al. 2003; Henrich 2003; Hood 2006; Hood and Margetts 2007; Hood et al. 2009; James 2004; Moynihan 2006; Pollitt and Bouckaert 2004; Radin 2000). As part of these trends, summary assessments or scorecards of the overall performance of organizations have become common, with some systems providing publicly reported measures of individual bodies’ performance relative to other similar bodies (Andrews et al. 2005; Behn 2003; Boyne et al. 2003; Henrich 2003; Hood 2006; Hood et al. 2009; James and Wilson 2010; Pollitt and Bouckaert 2004). There have been many studies examining performance information and public managers, politicians, and other professionals, and there are have
been some studies examining the effect of information on choice by service users (Hienrich 2003; James 2004; Moynihan 2009; Pollitt 2006; Propper and Wilson 2003; Smith 1995). However, there are very few studies of the effect of performance information on citizens.

The relative lack of research on performance information’s use by citizens is surprising because political science suggests that it is likely to be very important. The role of information in general democratic political life has long been of a topic of extensive research, particularly its role in voting, but public service performance information has not been examined directly. Information is central to the classic model of responsible democratic government in which electors evaluate the performance of incumbents and hold them to account. In assessing incumbents, retrospective or prospective assessments, and combinations of the two, are typically suggested (Jones and McDermott 2004; Key 1966). The “responsibility” or “reward/punish” model suggests that if governments are seen as performing badly relative to alternatives or if voters shift their position without a corresponding change in government policy, voters may vote for different people to form a new administration.

It has long been recognized that most voters do not have the detailed information necessary fully to judge the performance of incumbent governments or to assess alternative administrations when they seek to exercise democratic control (Delli Carpini and Keeter 1996, 79–82). Some researchers suggest that low information is such a big problem that it prevents governments from properly being held to account by the people (Iyengar 1987). However, a tradition of research going back at least to Downs (1957) suggests that voters economize on information by looking for information cues rather than using full information. Research on citizen learning about politics similarly suggests that citizens use shortcuts in developing their views. These mechanisms allow “reasoned choices” by citizens without the need for full information (Lupia and McCubbins 1998). The role of information cues in voting has been most extensively discussed in the context of economic voting. Voters have been found to lack knowledge about the detail of changes in particular variables in the economy but they are still able to make informed judgments about the behavior of office holders to judge incumbents on economic performance (Aidt 2000; Kramer 1971; Lewis-Beck and Paldam 2000). Lupia (1994) notes how relatively poorly informed citizens can use signals from sources they see as credible to imitate the voting choices of informed people. Yardstick measures have also been shown to be useful to voters in the context of economic voting on taxes in US states by allowing comparisons across different jurisdictions (Besley and Case 1995).

This article suggests that published information providing a summary assessment about the relative overall performance of bodies responsible for public services offers a potential information cue for citizens. The simple summary information cue avoids the need to put together complex information from multiple sources. Information about relative performance is particularly useful because it is grounded in a comparison of what has been achieved by other similar units rather than in abstract notions of “good” or “bad” performance. The information is likely to be particularly useful in the context of local bodies responsible for public services responsible for public services where there are often many similar bodies that can be compared. In many jurisdictions, these bodies include local governments that are primarily responsible for delivering a specific set of local public services rather than the even more complex range of services that are provided at other levels of government. Citizens may use this information to inform their knowledge and attitudes about local services and may use it
in decisions to lobby service providers or for informing their local voting decision, for example, where performance of local government is perceived to have fallen below acceptable levels triggering removal of support for local incumbents (Boyne et al. 2009; James and John 2007). Introducing performance information systems may, in this way, help facilitate local democratic control over services. The general theories of the role of information in a democracy suggest several hypotheses about the effects of performance information cues on citizens that are assessed by this article in the context of local government.

First, performance information cues can influence citizens’ perceptions of local service performance. In a democratic system of public service provision, this belief is important in its own right if citizens are truly to know what those acting on their behalf are doing in their name. Subjective assessments by citizens and managerial “objective” assessments have often been found to differ, for example, in studies comparing results from citizen surveys and managerial performance information (Parks 1984; Stipak 1980; Van Ryzin 2006, 2008). Citizens may not have much of an idea about the overall performance of a local public body only interacting with it on a case-by-case basis for a subset of services. Providing citizens with a credible objective information cue about relative overall performance will alter their beliefs about performance. This line of research suggests the following hypothesis:

H1 (a) providing information about relatively good performance will raise citizens’ assessments of performance, and, H1 (b) providing information about relatively bad performance will lower citizens’ assessments of performance.

Second, the influence of information cues extends to informing evaluative beliefs or attitudes toward public services, particularly citizen satisfaction with services. Satisfaction is often valued as an end in itself by showing that public services are bringing benefits to a community but also because it influences the use of services and political behavior toward services (Appleby and Alvarez-Rosete 2003; Bouckaert, Van de Walle, and Kampen 2005; Lyons and Lowery 1989; Lyons et al. 1992; Stipak 1980; Van Ryzin 2006). Many determinants of satisfaction have been noted, including personal experience with services, word of mouth information about performance, and a range of other attitudes including initial expectations about service quality (James 2009; Roch and Poister 2006; Van Ryzin 2006). Information cues about relative performance allow citizens to compare the performance of their local government with that being achieved elsewhere by similar units, providing a benchmark to help them assess quality, which is likely to impact on their satisfaction with local services.

H2 (a) information about relatively good performance will raise citizens’ satisfaction with services, and, H2 (b) information about relatively bad performance will lower citizens’ satisfaction with services.

Third, the cues provide information about how well those in control of local governments responsible for public services, including elected political incumbents, are conducting this activity. At the aggregate electoral level, the introduction of a new performance information regime has previously been found to be associated with a reduction in support for parties in control of local governments identified as having relatively poor performance. This relationship has been found in models controlling for actual performance to focus on the provision of new information (James and John 2007). Substantive performance of local government has also been shown to be directly related to electoral support, with incumbent
parties in poorly performing local governments being punished by a decline in subsequent electoral support (Boyne et al. 2009). Even in jurisdictions where parties are less evident in local elections, service performance has been found to matter for electoral politics. Oliver and Ha (2007) found that service performance influenced local voting in the United States in contexts where many candidates are independent of party affiliation. The direct effect of performance information on individual citizens as part of these processes has not previously been examined at the individual level. The provision of information cues is hypothesized to affect citizens’ vote intentions.

H3  (a) Information about relatively good performance will increase citizens’ intentions to vote for the local political incumbent, and, H3  (b) information about relatively bad performance will decrease citizens’ intentions to vote for the local political incumbent.

A substantial body of research suggests that information, including performance information cues, are unlikely simply to be neutrally received, processed, and acted on by citizens. Much research on political information examines the impact of different information sources and the characteristics of voters on the use of information (Gaines et al. 2007; Lau and Redlawsk 2006; Lau et al. 1999; Lodge, Steenbergen, and Brau 1995; Stevens et al. 2008). The literature on media effects similarly suggests that the source and presentation of information affect its reception and use by citizens (Jerit, Barabas, and Bolsen 2006; Kuklinski et al. 2001) and the effect of the editorial slant of the media during campaigns on voting outcomes has been noted (Druckman and Parkin 2005). These findings suggest that the source of the information is important. Performance information in the public sector is often produced by public audit bodies independent of local service providers as a source (Boyne et al. 2009; Hood et al. 1999). Audit bodies’ independent status makes their cues more likely to be trusted as a view about “genuine” performance of relevance to citizens’ real concerns than information produced by political parties, much of the mass media, or local government itself because these other sources have a more obvious interest in presenting performance to suit their own interests, which do not necessarily coincide with those of local citizens.

Despite the relative credibility of audit bodies as a source of information, there is a long-standing view that partisanship affects how events and other supposedly “neutral” information is viewed (Campbell et al. 1960). Citizens’ perceptions of general government performance have often been found to be influenced by their partisan position (Fiorina 1981; Gaines et al. 2007). Similarly, prior partisan preferences have been shown to influence the reception of expert opinion about policies (Darmofal 2005) and to influence responses to questions about facts (Bartles 2002). The strength and frequency of these findings suggest that partisan support for incumbents responsible for local government needs to be assessed as a moderator of the relationship between performance information cues and citizens’ attitudes and intentions in contexts where parties are important. The associated hypothesis is that supporters of the incumbent party react to information in a way that reflects more favorably on their party than do other citizens.

RESEARCH METHOD

The research used a field and two laboratory experiments. These methods are uncommon in public management and public administration research, which is surprising given their potential benefits. Experiments generally involve the manipulation of hypothesized causal
factors to examine their effects. Such manipulation is in many cases not feasible, but, where it can be done, researchers are able to describe the consequences attributable to this deliberate variation of intervention/treatment (Shadish, Cook, and Campbell 2002, 1–12). The distinguishing feature of a randomized experiment is that the alternative interventions/treatments (e.g., a simple dichotomy between treatment and nontreatment/control) are allocated to experimental units, such as people or organizations, by chance. Randomization creates groups that are probabilistically similar to each other on average so differences in outcomes between groups can be used to estimate the causal effect of the treatment (Shadish et al. 2002, 13). Systematic correlation between the treatment condition and the other known or unknown characteristics of participants is avoided; randomization avoids selection bias where those subject to treatment have particular characteristics that also themselves affect the outcome.

The method is incorporated in the term “randomized controlled trial” (RCT) and, in medical research, it has become widely recognized as an effective way of gathering evidence about the effects of treatments (Pocock 1983). However, researchers must pay careful attention to trial design and implementation, and the communication of results must enable the research community to make appropriate use of the findings. Boutron, John, and Torgerson (2010, 113) note that transparency in reporting is particularly important because an “RCT that produces a biased estimate of effect may be accepted uncritically if it is not possible to recognize the difference between a rigorous and a weakly designed RCT.” (Boutron et al. 2010, 113).

This section first outlines the common features of all three experiments’ design before describing features particular to each experiment. All three experiments entailed randomization of treatment and nontreatment allocation of information cues about the overall relatively good or bad performance of an English local government unit relative to other local governments in England. Citizens’ responses were examined by means of a survey that allowed the hypotheses about the effects on local citizens’ perceptions of performance, satisfaction, and intended behavior to be examined. Using both field and laboratory experiments enabled the effects of information on citizens to be assessed in contexts promoting strong internal and external validity of the findings. Several dimensions have been suggested to distinguish types of field and laboratory experiment (Green and Gerber 2003; Harrison and List 2004). In the context of the research outlined here, the field experiment was in a naturalistic setting using a subject pool of local citizens in an English council district. The field context provides good external validity of findings to citizens in contexts where locally elected providers are responsible for public services. The laboratory context entailed a university room with a student local citizen subject pool, promoting particularly good internal validity through strong control of information treatment delivered in an environment free of distractions with the possibility of directly observing participants reading the information cues and responding in the survey.

Although the participants in all the experiments were resident service users in the Exeter local area, the university students in the laboratory experiments were humanities and social science students with a narrower range of age, employment, and educational

1 To achieve this aim, the authors note the importance of clear descriptions of objectives and hypotheses, the nature of the empirical intervention, method of participant selection, characteristics of participants, measures of outcomes, sample size, randomization process, implementation of intervention, statistical analysis, experiences of adverse events, and interpretation of results and their generalizability (Boutron et al. 2010, 126–29).
The characteristics of participants in the different experiments are summarized in Table 1. Students have been found to respond differently to experimental stimuli compared with other groups (Sears 1986), so the participation of local residents in the field as well as students in the laboratory helps to establish the more general relevance of the findings. In the field experiment, the overall response rate for participation in the experiment was 43.9% of those initially approached, with response levels similar between the treatment group (42.6%) and the control group (45.2%). Differences in the measured characteristics of those responding in the treatment and nontreatment group were only slight on all the measures. For example, on a variable of partisan support, Labour Party voters formed 30% of the treatment group and 34% of the nontreatment group. However, the laboratory experiments were a vital cross-check on the field experiment, especially to guard against the theoretical risk of systematic differences on unobserved factors between the two groups responding in the field, which could occur because not everyone responded to the survey. All the responses from both treatment and nontreatment groups were returned in the laboratory and included in the analysis removing the risk of response bias in participants returning the survey in these experiments.

All participants were told that they were participating in research being conducted by the university about local public services and participation was voluntary. Each participant was provided with a document containing a questionnaire, information about local services provided by the council, and information cues about either relatively good or relatively poor performance depending on the experiment. The information cue was placed prior to the section of the document containing the questions about attitudes and intended behavior. The information cues were provided only in documents given to those in the treatment groups but not control groups, in other respects the documents were identical.

Describing the documentation in detail, the first section of the document contained some standard questions about age, gender, employment, and ethnicity, and a question about previous local voting behavior. The middle of the document contained information about the range of services provided by the local government as a “district council,” especially because several public services for the area, most notably schools and health care, are not provided by Exeter City Council. The services provided by the City Council are waste collection, local parks and cultural services, leisure services, local planning and environmental services, and council housing services. Those in the treatment groups were

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Field Experiment</th>
<th>Laboratory Experiments</th>
<th>Exeter</th>
<th>England and Wales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, mean</td>
<td>49</td>
<td>23.2</td>
<td>38.3</td>
<td>38.7</td>
</tr>
<tr>
<td>Gender, percent female (%)</td>
<td>53</td>
<td>45</td>
<td>51.3</td>
<td>51.3</td>
</tr>
<tr>
<td>Nonwhite percent (%)</td>
<td>2</td>
<td>15</td>
<td>2.4</td>
<td>9.1</td>
</tr>
<tr>
<td>Unemployed percent (%)</td>
<td>5</td>
<td>0</td>
<td>3.9</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Source: 2001 Census (Office of National Statistics); surveys conducted as part of this research.

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The research was conducted in accordance with the ethics guidelines of the university and the UK Economic and Social Research Council; the survey company conducting the survey in the field additionally complied with the code of conduct of the UK Market Research Society.
additionally presented with the information cues at this point in the document. For the information about relatively good performance, this cue consisted of a text description and graphical representation of Exeter City Council’s overall performance in providing public services relative to other local governments in England, reporting it as being in the top fifth of local governments. The performance information cue drew on information produced by auditors in early 2008 for every local government in England under a regime of ongoing Comprehensive Performance Assessment. The cue for relatively good performance is presented in Appendix 1; all the cues followed this standard format. The cue for relatively bad performance was constructed as a mock up of the real information to report relatively bad performance. Participants were not aware that there were other experiments or two versions of the documents in each experiment (one with an information cue and one without this cue).

The dependent, outcome variables of citizens’ perceptions of performance, satisfaction with services, and vote intention in the next local election were surveyed by a series of questions in a section of the document following the information section. The survey asked respondents how they judged the performance of the local government compared with other local governments of the same type (on a scale with five levels given text descriptions, ranging from 5 = a lot above average to 1 = a lot below average with 3 = average); how satisfied they were with the local government services (on a scale with five levels given text descriptions, ranging from 5 = very satisfied to 1 = very dissatisfied with 3 = neither satisfied nor dissatisfied); and which party they would vote for if there were a local election the next day (with the main local parties listed and an option for specifying other parties). Each question also contained a “don’t know” response option.

Within the overall shared features of the design outlined above, each experiment had specific characteristics, which are now described in turn. The field experiment information cue was about the relatively good performance of the local government unit. In the field, participants were recruited using postal delivery of the documents to local resident participants with a request to complete and return the questionnaire in postage pre-paid envelopes. The local residents were identified using the Postal Address File that is the most up-to-date and complete address database in the United Kingdom and is maintained by the Royal Mail. A random sample of 1,000 cases was selected from the file list for the Exeter area and randomization to treatment (500 cases) or nontreatment (500 cases) group was achieved using the random sample procedure on the SPSS computer program. The sample size was determined by a rule of thumb power calculation using the sampsi command in STATA with an estimated difference in means between those receiving and not receiving the information treatment of 0.25 on a survey response scale with power set at 0.8 and the level of significance set at 0.05. The effect size was based on the previously estimated small association between information provision and political behavior at the aggregate level in localities (James and John 2007). These calculations suggested that a sample size of 200 with a higher total number of surveys sent out (500 to each group) because of anticipated 40 response rate, which is typical for such surveys. The researchers did not examine the effect of a cue about bad performance in the field context because it was not appropriate to leave any participant with incorrect information. Participants might have used such incorrect information to form their beliefs about service performance, other attitudes, and behavior, possibly even complaining or exiting services in response to dissatisfaction (Dowding and John 2008), which would be unjustified in this case. Instead, both
information about relatively good and relatively bad performance was examined in the laboratory.

The first laboratory experiment provided an information cue about the relatively good performance of Exeter City Council using the same materials as those provided to participants in the field. In the second laboratory experiment, which provided an information cue about relatively bad performance, the information was made symmetric to the information about good performance to suggest that the council was in the bottom fifth of performers. For each laboratory experiment, 100 student participants were recruited using a message after a seminar; participation was voluntary and not for credit or payment. The sample size was set by the ability to recruit participants and is typical for studies carried out in a laboratory setting in political psychology research. In each experiment, participants were randomized to either the treatment group (containing 50 participants) or control group (containing 50 participants) using the SPSS random sample procedure. The smaller sample sizes make it more difficult for differences to be detected as statistically significant in both these experiments, making the laboratory experiments a tougher test of the hypotheses in this respect. In the laboratory, strong experimental control was possible, in particular, engagement with the information cue and careful completion of the survey could be encouraged in an environment free of distraction. The documents were distributed to participants who were instructed to complete the first part of the survey in the document, then to read the information, then to complete the final part of the survey. Participants were not aware of differences between treatment and control documents, were instructed not communicate with each other, and were spaced apart to avoid being able to see the documents of other people. The participants given information about relatively bad performance were fully informed about the correct performance of the local government immediately after their participation ended.

To examine the moderating effect of citizens’ partisan support for the incumbent on outcomes, as hypothesized by the theory that information is not neutrally received, the surveys contained a measure of participants’ support for local political parties as reflected in their vote choice in the most recent local election. During the period for which the performance assessments contained in the information cues related, the local incumbent in Exeter was the Labour Party. The partisan support variable was interacted with a dummy treatment variable and was examined in the field context to ensure a sample of sufficient size to detect interaction effects. This part of the analysis was not based fully on an experimental approach using manipulation of intervention because of the difficulty of manipulating the partisan support variable. The interest in nonexperimental analysis of this particular interaction is justified by the prior theory and evidence about partisan effects in other areas of political information previously discussed in the section on citizens and performance measures. In this way, the need for such an analysis was clearly established prior to conducting the experiments.

**RESEARCH FINDINGS**

Analysis of the results of the experiments provides support for hypotheses about information cues’ effects on citizens’ perceived performance and satisfaction but not for effects on intended voting for local incumbents as summarized in table 2. Calculation of mean scores on outcome measures for the groups receiving and not receiving the information cues and calculation of the difference in means was undertaken. Initial statistical analysis entailed
independent samples t-tests of the difference in group means with each t-test score reported alongside the conventional threshold level of significance met by the associated p value. To provide an indication about whether or not the findings were also substantively important, an effect size measure was adopted. The Cohen’s d measure of effect sizes was used, calculated by dividing the difference in means by an estimate of the population standard deviation. Although it is common to analyze perceptual and attitude measures at the interval level, the findings using this level of measurement were cross-checked using a more conservative approach with tests examining the dependent variables as ordered categories for perceived performance and satisfaction. The outcome of citizens’ intention to vote for the incumbent was examined as a binary outcome variable using binary probit models with the treatments as independent variables. The results of this analysis are also shown in table 2 which shows that, for hypotheses where both types of test are used, the more conservative tests demonstrate the same pattern of support for the hypotheses across the experiments as the interval level data tests. The n differs between some of the analyses reflecting different numbers of participants in the field and other experiments and variation in the level of performance.

Table 2
Performance Information Cue and Noncue Group Differences in Perceived Performance, Satisfaction, and Intention to Vote for the Local Elected Incumbent

<table>
<thead>
<tr>
<th>Hypotheses about Dependent Variables</th>
<th>Statistical Analysis</th>
<th>Field: Information about Relatively Good Performance</th>
<th>Laboratory: Information about Relatively Good Performance</th>
<th>Laboratory: Information about Relatively Bad Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 (a) and (b) Perceived performance</td>
<td>One tailed t-test (df statistic)</td>
<td>t(349) = 4.372*** t(98) = 5.599*** t(98) = -5.862***</td>
<td>Wilcoxon rank sum/Mann–Whitney test statistic</td>
<td>z = 4.367*** n = 351</td>
</tr>
<tr>
<td>H2 (a) and (b) Satisfaction</td>
<td>One tailed t-test (df statistic)</td>
<td>t(411) = 2.694** t(98) = 3.309** t(98) = -3.644***</td>
<td>Wilcoxon rank sum/Mann–Whitney test statistic</td>
<td>z = 2.782** n = 413</td>
</tr>
<tr>
<td>H3 (a) and (b) Intention to vote for incumbent</td>
<td>Binary probit model: information cue coefficient (standard error), model pseudo R^2</td>
<td>-0.192 (0.285), 0.337 n = 427</td>
<td>0.741 (0.408)*, 0.180 n = 100</td>
<td>-0.431 (0.544), 0.424 n = 100</td>
</tr>
</tbody>
</table>

*p < .1, **p < .01, and ***p < .001. The variance ratio test of equality of variance assumption of t-test, null of ratio = 1 not rejected in any case: For field experiment: performance (f = 1.038, df = 171, 178, p = .806), satisfaction (f = 1.167, df = 209, 202, p = .268), and local incumbent vote intention (f = 0.825, df = 220, 205, p = .162). For lab experiment (good performance): performance (f = 0.629, df = 49, 49, p = .113), satisfaction (f = 1.587, df = 49, 49, p = .108), and local incumbent vote intention (f = 0.987, df = 49, 49, p = .967). For lab experiment (bad performance): performance (f = 0.570, df = 49, 49, p = .055), satisfaction (f = 1.063, df = 49, 49, p = .831), and local incumbent vote intention (f = 1.422, df = 49, 49, p = .217).
response across questions measuring the outcome variables in the field experiment. The detailed findings for each hypothesis are discussed in turn.

The hypothesis that information about relatively good performance raises citizens’ assessments of performance (H1 a) is supported. Consistent with this hypothesis, in the field, the mean perception of performance of citizens with information was 3.693 (standard deviation = 0.779) which was higher than those without information who had a mean of 3.326 (standard deviation = 0.794), with similar results in the laboratory. In both these experiments, the associated t-test of difference in mean performance assessment produced positive values of t with p < .001 as shown in table 2. As well as being statistically significant at a conventionally strong level, the effects of information about good performance were revealed by the effect size measure to be of a size that can be considered substantively meaningful for both the field and laboratory results. The Cohen’s d measure shows that information about good performance raised citizens’ assessments by 0.468 (in the field) and 0.985 (in the laboratory) standard deviations of the performance assessment variable.

The hypothesized effect of information about relatively poor performance lowering citizens’ perceptions of performance (H1 b) is also supported. In the laboratory, the only context where this hypothesis could be examined, the mean perception of performance of citizens with information was 2.231 (standard deviation = 0.731), which was lower than those without information who had a mean of 3 (standard deviation = 0.552). The t-test score was negative with p < .001 as shown in table 2. The effect size points toward the substantive importance of the effect with information about poor performance lowering citizens’ assessments by 1.019 standard deviations of this outcome variable.

The hypothesis that information about relatively good performance raises satisfaction (H2 a) is supported. In the field, the mean satisfaction of citizens who had information was 3.921 (standard deviation = 0.852), which was higher than those without information of 3.686 (standard deviation = 0.921) with similar results in the laboratory. In both these experiments, the associated t-test of difference in mean performance assessment produced positive values of t with p < .01 as shown in table 2. The Cohen’s d effect sizes of 0.455 in the field and 0.631 in the laboratory suggest the substantive importance of these effects. Hypothesis (H2 b) that information about relatively bad performance lowers satisfaction was supported in the laboratory. The mean satisfaction of citizens who had information was 2.529 (standard deviation = 0.857), which was lower than those without information who had a mean of 3.166 (standard deviation = 0.883). The difference in means t-test score was negative with p < .001 as shown in table 2. This experiment produced a Cohen’s d effect size of −0.690.

There was, overall, little evidence consistent with hypotheses ([H3 a] and [H3 b]) about effects of information cues on citizens’ intentions to vote for the local incumbent. The exception was an increase in intention to vote for the incumbent administration from information about good performance in the laboratory experiment. However, the coefficient was only significant at the p < .1 level and was associated with only a very small change in predicted probability of intent to vote for the incumbent. The findings from the field did not suggest an effect of information about good performance on intention to vote, and no evidence was found for an effect of information about bad performance reducing intention to vote in the laboratory experiment.

Evaluation of the hypothesis for the interaction of partisan support and information was undertaken using the field data, which had a sufficiently large sample size potentially to
detect such an interaction. The size of the field sample also enabled the dependent variables to be examined as ordered categories, enabling an analysis of the effects of the information cues on the predicted probabilities of particular levels of assessed performance (H1 a) and satisfaction (H2 a). None of the variables for treatment or its interaction were statistically significant in the binary probit model for intention to vote for the incumbent (H3 a) reported in table 2. However, ordered probit models for perceived performance and satisfaction as dependent variables do provide evidence in support of an interaction effect and they are presented in table 3. Both information cue treatment and prior voting for the incumbent (the local Labour Party) variables were included in these models, with the variables interacted to reflect the hypothesized moderating effect of partisan support. In order to obtain the overall treatment effect of information provision, both the treatment on its own and the interaction effect with voting for the incumbent is taken into account because treatment enters twice in the models on its own and in interaction with voting for the incumbent. The parallel regression assumption of ordered probit models, that coefficients are the same across categories of the dependent variable, was examined as part of the analysis and the null of no difference was not rejected for both models (see note to table 3).

The models reported in table 3 are nonlinear so the effects on predicted probabilities of citizens having particular responses are a useful way of interpreting the results. The predicted probabilities of citizens’ levels of perceived performance from model 1 of the provision of an information cue about the relatively good performance of the local government are presented in figure 1. Consistent with (H1 a), the differences in predicted probability scores for participants overall show that treatment with the information cue is associated with having lower predicted probabilities of perceived performance as “a lot below average” and “below average” and higher predicted probabilities of perceived performance as being “above average” and “a lot above average” (with these differences shown in this figure significant at the .05 level).

The predicted probability of each level of perceived performance for citizens receiving information and those not receiving information, and the difference between them, are summarized in table 4. This table also presents the 95% confidence interval bounds for each
difference. Taking citizens overall in the field as an example, the positive information cue raised the predicted probability of perceiving performance as a lot above average from 0.055 to 0.143, a difference of 0.088, with the 95% confidence bound for this difference being 0.046 (lower bound) and 0.130 (upper bound). The hypothesis that support for the local incumbent moderates the information effects of positive information on perceived performance was partially supported as reflected in the interaction coefficient and associated \( p \) value in model 1 (significant at the .1 level) in table 3. The interaction is reflected in

**Table 4**

Predicted Probabilities of Citizens' Perceived Performance in Field Experiment with Information Cue about Relatively Good Performance

<table>
<thead>
<tr>
<th>Perceived Performance</th>
<th>Type of Citizen</th>
<th>Without Information Cue</th>
<th>With Information Cue</th>
<th>Difference (with 95% confidence interval, lower bound, upper bound)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lot below average</td>
<td>Overall</td>
<td>0.022</td>
<td>0.006</td>
<td>−0.017 (−0.031, −0.002)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.018</td>
<td>0.002</td>
<td>−0.016 (−0.034, 0.001)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.025</td>
<td>0.009</td>
<td>−0.015 (−0.032, 0.001)</td>
</tr>
<tr>
<td>Below average</td>
<td>Overall</td>
<td>0.077</td>
<td>0.029</td>
<td>−0.048 (−0.080, −0.017)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.068</td>
<td>0.012</td>
<td>−0.055 (−0.094, −0.017)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.083</td>
<td>0.042</td>
<td>−0.041 (−0.066, −0.015)</td>
</tr>
<tr>
<td>Average</td>
<td>Overall</td>
<td>0.512</td>
<td>0.367</td>
<td>−0.145 (−0.146, −0.145)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.494</td>
<td>0.251</td>
<td>−0.243 (−0.257, −0.229)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.521</td>
<td>0.422</td>
<td>−0.099 (−0.103, −0.094)</td>
</tr>
<tr>
<td>Above average</td>
<td>Overall</td>
<td>0.334</td>
<td>0.456</td>
<td>0.122 (0.100, 0.144)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.356</td>
<td>0.490</td>
<td>0.134 (0.098, 0.170)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.322</td>
<td>0.421</td>
<td>0.100 (0.084, 0.115)</td>
</tr>
<tr>
<td>A lot above average</td>
<td>Overall</td>
<td>0.055</td>
<td>0.143</td>
<td>0.088 (0.046, 0.130)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.064</td>
<td>0.245</td>
<td>0.181 (0.083, 0.278)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.050</td>
<td>0.105</td>
<td>0.055 (0.014, 0.097)</td>
</tr>
</tbody>
</table>
generally stronger information effects for Labour voters than for non-Labour voters, especially in the increases in predicted probabilities of reporting performance as being a lot above average.

Turning to the hypothesis about levels of citizens’ satisfaction (H2 a), the results of model 2 reported in table 3 are partially consistent with this hypothesis. The overall information cue treatment effect is calculated both by its direct effect and through the interaction with prior vote for the Labour incumbent. An overall effect is evident despite the narrow failure of the coefficient on the information cue treatment variable to meet the .1 threshold for statistical significance in table 3. As shown in figure 2 for citizens overall, the effect of information reduced the predicted probabilities of being “very dissatisfied,” “fairly dissatisfied” and raised the predicted probabilities of being “fairly satisfied” and “very satisfied” (with these differences shown in this figure significant at the .05 level).

The predicted probabilities across levels of satisfaction for citizens with and without information are shown in table 5 with 95% level confidence interval bounds for the differences in predicted probabilities. For citizens overall, the differences in predicted probabilities are generally not large although the increase in being very satisfied is larger than the others. The moderating effect of being a prior Labour voter is partially evident, reflected particularly in an increase in being very satisfied for Labour voters that is larger and more clearly positive (reflected in the confidence interval not crossing zero) than that for non-Labour voters. The small decrease in fairly satisfied Labour voting citizens once they were in receipt of information is not as hypothesized. However, looking at the pattern of results for both perceived performance and satisfaction, a summary of the analysis is that the information cue about relatively good performance has the biggest impact on raising the predicted probabilities of partisans supporting the incumbent reporting extreme favorable responses. It appears that the effect on these citizens is an important contribution to the effect found for all citizens when taken together as a group.
CONCLUSION

The publication of information about the relative performance of local government matters to citizens, shifting their views about performance and influencing their satisfaction with local government services. An information cue about relatively good performance raises citizens’ assessments of performance and information about relatively bad performance has the opposite effect by lowering perceived performance. Information about relatively good performance raises satisfaction and information about relatively bad performance lowers satisfaction. These findings have implications for the often observed discrepancy between “objective” managerial and “subjective” citizen and user assessments and for analysis of how they are related (James 2009; Parks 1984; Shingler et al. 2008; Stipak 1980; Van Ryzin 2008).

Citizens often do not know much about the performance of public services or have much of an incentive to become informed. This is particularly likely in the context of the overall performance of local units providing services that citizens may only interact with in a limited and occasional manner. Giving citizens a simple summary information cue is a low cost way of improving their knowledge and helping to inform their attitudes. There are clear implications for policymakers from these results. Regimes of published comparative performance assessment like the Comprehensive Performance Assessment in England do appear accessible and effective. This experience is relevant to many jurisdictions that produce performance information across multiple units that is, or could be, made publicly available.

Citizens’ attitudes are important in their own right and there has been increased interest in citizen and user perspectives on services in recent years. However, the attitudes also have consequences for user choice between services and democratic control through elections and other means of local people expressing their views and influencing local public bodies (Boyne et al. 2009; James and John 2007; Lyons and Lowery 1989; Lyons et al. 1992). Information cues enable citizens to participate in these mechanisms at low cost and,

Table 5
Predicted Probabilities of Citizens’ Satisfaction for Field Experiment with Information Cue about Relatively Good Performance

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>Type of Citizen</th>
<th>Without Information Cue</th>
<th>With Information Cue</th>
<th>Difference (with 95% confidence intervals, lower bound, upper bound)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very dissatisfied</td>
<td>Overall</td>
<td>0.031</td>
<td>0.014</td>
<td>-0.017 (-0.032, -0.003)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.022</td>
<td>0.004</td>
<td>-0.018 (-0.034, -0.001)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.037</td>
<td>0.023</td>
<td>-0.014 (-0.033, 0.005)</td>
</tr>
<tr>
<td>Fairly dissatisfied</td>
<td>Overall</td>
<td>0.093</td>
<td>0.054</td>
<td>-0.039 (-0.056, -0.022)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.073</td>
<td>0.023</td>
<td>-0.050 (-0.075, -0.025)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.103</td>
<td>0.076</td>
<td>-0.027 (-0.039, -0.016)</td>
</tr>
<tr>
<td>Neither satisfied nor dissatisfied</td>
<td>Overall</td>
<td>0.161</td>
<td>0.115</td>
<td>-0.046 (-0.057, -0.036)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.140</td>
<td>0.064</td>
<td>-0.076 (-0.096, -0.056)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.171</td>
<td>0.143</td>
<td>-0.028 (-0.034, -0.022)</td>
</tr>
<tr>
<td>Fairly satisfied</td>
<td>Overall</td>
<td>0.591</td>
<td>0.610</td>
<td>0.020 (0.005, 0.034)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.606</td>
<td>0.559</td>
<td>-0.047 (-0.070, -0.024)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.579</td>
<td>0.605</td>
<td>0.025 (0.017, 0.034)</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>Overall</td>
<td>0.124</td>
<td>0.207</td>
<td>0.083 (0.030, 0.136)</td>
</tr>
<tr>
<td></td>
<td>Labour voter</td>
<td>0.159</td>
<td>0.350</td>
<td>0.191 (0.069, 0.313)</td>
</tr>
<tr>
<td></td>
<td>Non-Labour voter</td>
<td>0.109</td>
<td>0.153</td>
<td>0.044 (-0.011, 0.099)</td>
</tr>
</tbody>
</table>
in this way, are a contribution to the functioning of local democratic control over public services. The performance information is, however, not always neutrally received and there is evidence that partisan support moderates the effects. Supporters of the party in control of the local government during the period of assessed performance have bigger increases in predicted probabilities of reporting the most positive assessments of performance and satisfaction response on hearing positive information about performance than do other citizens. However, partisan support as a moderator of performance information cue effects does not appear to be as broad in scope or large in size as found by research on other types of information or in other areas of policy (Bartles 2002; Campbell et al. 1960; Darmofal 2005). Although moderation of effect size is evident, public performance information using independent auditors as a source appears to be influential on the perceptions and attitudes of both those who did and those who did not previously support the incumbent.

Establishing that information cues influence citizens’ perceptions and attitudes opens up a research program. Disaggregating information to examine the effects of information about different services and different aspects of performance is a priority for research. Citizens may be more greatly affected by performance information when contemplating the overall performance of a bundle of services than in the context of a specific service they regularly use themselves where alternative sources of information, particularly direct personal experience, may be more influential. It is important to establish whether relative performance, or absolute performance, without information about other units’ performance, or both absolute and relative performance drive the effects. If relative performance matters, then public organizations need to report performance against standard metrics for performance measures allowing comparisons with other similar units in order to be useful to citizens. The effect of increasing the intensity of information treatment should also be a subject for research with more prolonged, repeated, or deeper engagement, possibly involving active citizen interaction with information sources rather than them being in relatively passive receipt of information.

More investigation of possible difference in magnitude of effect between information about good and bad performance is merited because earlier research found negativity bias notably with electoral punishment for poor performance but no reward for good performance (Boyne et al. 2009; James and John 2007). The present study did not find clear evidence of negativity bias. However, the form of information about bad performance used in the study was not consistent with the actual performance of the local unit. This approach had the benefit that information about both good and bad performance was examined for the same unit. However, information effects may differ if information about bad performance is given to citizens for a local unit that is actually performing badly. In this context, it may crystallize and deepen an existing opinion because it is consistent with information from other sources including personal experience or word of mouth. Negative performance information of this kind may turn out to have larger effect than the form of negative information used in this study.

The impact of different sources of information should be examined. This research used public audit bodies as a source that was independent of politicians and local service providers. Future research should manipulate the source to see if, for example, information effects are contingent on the source being independent auditors rather than public bodies themselves. Research could also examine sources with different perceived partisan affiliations, such as newspapers associated with supporting particular parties.
Finally, the focus of information effects on citizens could be broadened to look at effects on other aspects of political behavior beyond intention to vote for the local incumbent. In particular, information about poor performance would be expected to have an impact on complaining or lobbying by citizens (Boyne et al. 2009; Dowding and John 2008; Lyons and Lowery 1989). More research on the effect on voting is also merited despite the finding of this study that a single shot piece of performance information did not have an effect. In this way, performance information may turn out to have effects on a range of political behavior as well as on citizens’ perceptions of performance and their satisfaction.

**FUNDING**

Research funded by the UK Economic and Social Research Programme (Grant RES 153 27 0014).

**APPENDIX 1**

Please look at the following independent assessment (i.e., not produced by the Council or politicians) of Exeter City Council’s performance:

**Overall performance: Exeter City Council** was rated **Excellent** overall, putting it in the top 17% of all district councils:

The Council’s achievements include action to improve the environment and reduce waste and completing an award-winning city center development scheme (Princesshay), although there is more to do in some areas.

**Value for money:** The council is **performing well** scoring **3 stars out of a possible 4**.

**Financial management and reporting:** The Council is **performing well** scoring **3 stars out of a possible 4**.

**Council tax levels:** Exeter sets the **fifth lowest district council tax in the country**. The City Council share is £114.98 for a band D property in 2007/2008 (the City Council also collects money on behalf of Devon County Council, the Police and the Fire Service).

(All the above information is publicly available and comes from an independent review of Exeter City Council, produced by independent auditors, in a system regulated by the Audit Commission—an independent watchdog promoting economy, efficiency, and effectiveness in local public services).
REFERENCES


