

How and When Democratic Values Matter: Challenging the Effectiveness Centric Framework in Program Evaluation

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Abstract

Performance information is overwhelmingly used in program evaluation by both public managers and external stakeholders. In the market-based New Public Management movement, effectiveness is public programs' major selling point. However, this approach may marginalize the role of democratic values in governance. In the current complex society with antigovernment sentiments, we embrace the idea of New Public Service to reiterate the importance of democratic values. Using a conjoint experiment, we compare the effects of effectiveness and democratic values in predicting public program adoption support, conditioned on citizens' trust in government. Our results show that effectiveness and democratic values contribute similar effects in explaining policy preferences; distrust in government strengthens the effect of democratic values but reduces the effect of effectiveness. Our findings challenge the prevalent effectiveness centric framework in public management. We suggest that citizen-state interaction should not rely only on performance merits, but also on inclusiveness and openness values.

Keywords: New public service, Democratic values, Conjoint experiment, Sustainability programs

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We thank Gregory Porumbescu and Chengxin Xu for feedbacks during different stages of this project. We thank technical advice from Ivan Lee and Chien-shih Huang. We are also grateful to insightful comments from participants at the 2019 Annual Conference of the Association of Public Policy Analysis & Management (APPAM).

Evidence for Practice

1. This article tests the assumptions behind new public management that citizen preferences are oriented to program efficiency and effectiveness, and focuses on the new public service perspective that citizens respond positively to democratic values in choosing government programs.
2. Managers can test citizen preferences for government programs and program design by using surveys with experimental designs to structure relevant options.
3. Citizens cued to have lower trust in local government are more likely to choose democratic values in program implementation than program effectiveness.
4. Public managers and local governments should make available measures on inclusiveness of diverse citizens and program information transparency as well as program effectiveness when implementing public programs and communicating program information to citizens.
5. The program measures managers use to tell the outcome and implementation of programs can make residents feel more like consumers (efficiency and effectiveness) or citizens (democratic values and effectiveness).

When evaluating a public program, do citizens act like “customers” who only pay attention to service effectiveness? Or, do citizens view themselves as the “owners” of the government and care not only about effectiveness but also about the democratic values behind the program? Further, do citizens have different priorities between democratic values and effectiveness in different situations? These questions are associated with the debate between two impactful governance approaches: New Public Management (NPM) and New Public Service (NPS), which discuss the role of citizenship, and how citizens and the government should interact with each other in achieving public interests ([Bryson et al. 2014](#); [Denhardt and Denhardt 2007](#); [Frederickson 1996](#); [Wichowsky and Moynihan 2008](#)).

In NPM, citizens are customers and public interest is often presented as the aggregation of individual interests (Dagger 1997; Walzer 1995). Under this approach, government's core goal is to implement market-oriented policies and programs, which achieves "outcomes desired by broad groups of citizens seen as customers" (Bryson et al. 2014, 447). The NPM movement in the last three decades may have marginalized public managers' attention on democratic "non-mission-based" values when effectiveness and efficiency have become central to gain citizens' support for public programs (Moore 2014; Rosenbloom 2007). The major problem of NPM is its oversimplification of citizen-state interaction, which overlooks citizens' shared values but emphasizes customers' aggregated individual interests (Denhardt and Denhardt 2007). This approach may raise social conflicts when the performance information on the aggregated program effectiveness is not universally effective and unbiasedly delivering the same message for every social subgroup (James and Van Ryzin 2017; Moynihan et al. 2011; Wichowsky and Moynihan 2008). In addition, the current American society is cynical about the motivation of politicians and distrusts government's performance information. Public programs therefore face greater difficulties to gain legitimacy only through "managing for results" (Denhardt and Denhardt 2007, 26). These challenges reflect Waldo's classical critique: "One major obstacle in the way of further development of democratic theory is the idea that efficiency is a value-neutral concept or, still worse, that it is antithetical to democracy" (Waldo 1952, 97).

Different from NPM, NPS defines public interests as "the result of a dialogue about shared values rather than the aggregation of individual interests" (Denhardt and Denhardt 2007, 45). So, communication among citizens, communities, and the government is prominent. Rather than only reporting a public program's effectiveness information, government should enable citizens to access a program's implementation information (openness) and actively participate in a program's decision-making process (inclusiveness) (Grimmelikhuijsen and Feeney 2017; Rossmann and Shanahan 2012). So, NPS moves beyond the consumerism performance management and integrates democratic values, effectiveness and efficiency to reduce social frictions (Bryson et al. 2014). Enlightened by these thoughts, we extend our research questions: (1) Do citizens care pri-

marily only about public programs' effectiveness, or do they consider both democratic values and effectiveness in their evaluation of a program?; and (2) How does distrust in government affect citizens' perceptions towards both democratic values and program effectiveness information?

Regarding the drawbacks of NPM to face complex social problems in the current "era of low trust", we adopt the NPS approach from [Denhardt and Denhardt \(2007\)](#) to examine the importance of democratic values in citizen-state interactions. We attempt to answer both research questions above by simultaneously involving multi-dimensional public program information in a conjoint design experiment. We compare the impacts of democratic values and effectiveness on citizens' preferences for a school sustainability program, conditional on citizens' trust levels in government. In our vignette, democratic values are represented by decision-making inclusiveness and information openness; program effectiveness is operationalized through environmental and economic dimensions. We find that democratic values and effectiveness are equally important in affecting citizens' support for adopting school sustainability programs. Randomized narrative cues suggesting low trust in government lead individuals to attribute more priority to democratic values. Meanwhile, the importance of effectiveness is negatively moderated by individuals' low trust in government.

Our findings make three contributions to public administration theory. First, democratic values can be viewed not only as normative considerations but also as practical tools and results in program implementation and environmental management. This finding corresponds with [Denhardt and Denhardt's \(2015, 669\)](#) idea of public serving, which argues that "an increasingly important role of the public servant is to serve citizens and communities by helping them articulate and meet their shared goals rather than attempting to control or steer society in new directions." Second, democratic values become central to public administration, when neither the efficiency-based traditional public administration or the market-oriented NPM is helpful to alleviate the current complex tensions between citizens and government ([Bryson et al. 2014](#)). Especially, opening the implementation information to the public and including diverse communities in the decision-making process may be helpful to prevent cynical views on public programs. Finally, since effective-

ness and democratic values are both important in citizens' eyes, public managers, should therefore ideally combine performance management tools and deliberative problem-solving techniques in public program governance.

Theory

Democratic Values and Effectiveness

Government should uphold democratic values through citizens' participation in decision-making and active engagement in the political life (DeLeon 1995; Denhardt and Denhardt 2007). In a public program, if democratic values are the principles to follow in the implementation process (Rossmann and Shanahan 2012), effectiveness is the achievement of the program with quantifiable measures (Boyne et al. 2005). Democratic values and program effectiveness are both important for citizens to understand public programs (Rossmann and Shanahan 2012). On the one side, citizens have "public spirit" that concerns broader public interests than their own individual interests, so they care about democratic values in the process of public programs; on the other side, performance information on effectiveness often serves as an evidence-based reference for citizens to evaluate public programs (Denhardt and Denhardt 2007; Frederickson 1982). However, the NPM approach and current academia put more emphasis on studying effectiveness than democratic values to understand citizens' public program perceptions (Bryson et al. 2014; Hood 2012). Even though this approach provides managerial efficiency and technical development for improving the expression of performance information, NPM fails to consider its impact on citizenship.

One can argue two related but different strands of the impact of information availability regarding democratic values on program evaluation. One strand is instrumental that asserts citizens will be more positive towards a program framed by democratic values. A second strand argues that normatively, government should promote the visibility of democratic values as a goal in building citizenship and not just impacting a citizen's perception of one program's evaluation. Several policy theories support the normative view of democratic values' importance in messages within a

democracy to its citizens. Central to policy feedback theory, public opinion is not only the aggregation of individual policy preferences, but also the result of constitutional interactions between citizens and government (Moynihan and Soss 2014; Wichowsky and Moynihan 2008). Pierson (1992) argues that public policies incentivize citizens and change their policy preferences and views of themselves within the public sector. Schneider and Ingram (1997) argue that the social construction of public policies' outcomes and influence on groups in society affects citizens by conveying messages regarding their civic identity within the political community. So, if the government overwhelmingly publishes performance information related to effectiveness but overlooks information about democratic values, citizens are more likely to identify themselves as customers. The information imbalance between effectiveness and democratic values may contribute to the alienation of citizens from their civic obligations as citizens (Wichowsky and Moynihan 2008). This problem calls for an awareness within scholars and practitioners to systematically consider democratic values as well as effectiveness as attributes for program evaluation and the development of democratic citizenship.

Democratic Values: Openness and Inclusiveness

Denhardt and Denhardt (2007) suggest that open and inclusive public programs provide the possibility to activate authentic citizen involvement in the policy process. Likewise, open government advocates argue that policy information and decision-making processes should be accessible and transparent to citizens (Grimmelikhuijsen and Feeney 2017). Therefore, this article keeps in alignment with Rossmann and Shanahan's (2012, 57) argument that "openness and inclusiveness are two democratic values espoused as key components of a legitimate, democratic government."

Openness of Implementation Information. We define openness as the government delivering information for citizens and guaranteeing transparency of process (Denhardt and Denhardt 2007; Grimmelikhuijsen and Feeney 2017; Meijer et al. 2012; Piotrowski and Rosenbloom 2002; Rossmann and Shanahan 2012).

An open implementation of a public program provides information on how the program is

going to be executed and the expected consequences. On the government side, the government achieves legitimacy by being transparent on its operation. It sidesteps government's black-box operation by revealing process information to the public (James 2011; Walker et al. 2018). When government information is disclosed and citizens have access to it, administrative behaviors are likely to be more ethical and follow the public's expectations rather than running against the public's interests (Piotrowski and Rosenbloom 2002). On the citizens' side, decision-making and procedural information disclosure builds public trust toward the government, which reduces information asymmetry and facilitates citizen-state interaction (De Fine Licht et al. 2014; Grimmelikhuijsen et al. 2013). Openness enables citizens to be a part of political life and it is the prerequisite of authentic civic engagement (Denhardt and Denhardt 2007). With accessible and transparent government information, citizens will have clearer and more accurate understandings from which to provide their opinions on policies (Meijer et al. 2012). Therefore, we expect:

H1a Individuals are more likely to prefer that the program implementation information be available to the public instead of available to the government's internal review.

Inclusiveness of Program. Inclusive programs enable citizens to actively engage in the overall policy making process through dialogue and discourse (Denhardt and Denhardt 2007; Rossmann and Shanahan 2012). Inclusive programs offer opportunities to reflect diverse interests which helps resemble ideal democracy and broad citizenship. Inclusive governance provides legitimacy to a policy or program (Irvin and Stansbury 2004), represents the diverse interests of citizens, and finally enhances the value of representative democracy (Fung 2015). One example of inclusive governance is representative bureaucracy, which reflects citizens' interests in decisions made by bureaucrats whose demographics represent the population. Through this representation of citizens within management, we expect that decisions are more likely to take into account the needs of a wide range of citizens (Meier 2019; Riccucci and Van Ryzin 2017). At the same time, organized interest groups around a policy are likely to champion their own goals in policy decisions (Golden 1998). The co-existence of numerous interest groups performs checks and balances as well as

letting stakeholders voice their interests (Reenock and Gerber 2008), and is a core strength of a pluralist and republican democracy (Dahl 1956; Golden 1998; Hamilton et al. 2008). More direct forms of citizen participation in policy making complement the electoral representative system of policy making across the three branches of government (Fung 2015). Citizens have the right and duty to be involved in policy design and implementation, and their participation ensures representativeness in the policy making process (Berry 2009; Nabatchi 2010; Nabatchi and Leighninger 2015).

Empirically, civic engagement and public understanding not only shape the legitimacy of the policy (Wallner 2008), but also affect how the public perceives government (Ingrams et al. 2020). Most relevant to our study, Herian et al. (2012) test the relationship between perceived fairness and the information about public participation in governance. When this information is available, citizens perceive the government to be fairer and they are more likely to support government actions. Based on the above theories and evidence, we construct our hypothesis of inclusiveness.

H1b Individuals are more likely to prefer government programs that involve diverse local communities to only having government agencies in the decision-making process.

Program Effectiveness

Performance information of program effectiveness affects citizens' perceptions towards government, and this argument is heavily driven from recent empirical evidence (James et al. 2020). Performance information of effectiveness affects citizens by comparing it with different reference points (Olsen 2017), the positive or negative expression of the same outcome (Olsen 2015), and third, even the information source of performance (Walker et al. 2018). A summary of these studies generally shows that the linkage between effectiveness information and public support is straightforward: individuals are more likely to support a program with strong effectiveness outcomes (Hypothesis 2a).

Scant research confirms the equal importance of democratic values and program effectiveness; and, in some cases outcome favorability outweighs values in citizens' policy evaluation. For example, [Esaïasson et al. \(2019\)](#) compare the role of decision-making arrangements and outcome favorability on people's policy acceptance in diverse contexts and report that outcome favorability is the stronger factor than the decision-making arrangements. Similarly, [Graham and Svolic \(2020\)](#) demonstrate that Americans are willing to trade-off democratic principles to achieve favorable policies. In addition, [Ruder and Woods \(2020\)](#) find that people do not increase their favorability toward an agency based on procedural fairness information. Combining the above evidence, we assume that program effectiveness will contribute a stronger effect than democratic values in impacting citizens' evaluation process (Hypothesis 2b).

H2a Strong program effectiveness has a positive effect on citizen's public program adoption support.

H2b Program effectiveness will have larger effect sizes than democratic values for explaining individuals' policy preferences.

Trust

Although democratic values and program effectiveness can both affect citizens' public program perceptions, different levels of trust in government moderate the effects of these two factors in different directions. We argue that low trust citizens will discredit the accountability of a public program's effectiveness information, so the positive effect of effectiveness on program evaluation will be reduced. In contrast, low trust citizens will increase their preference for democratic values, to assert the values of democracy. Thus, low trust citizens will view democratic values as more important to evaluate programs.

We follow [Rousseau et al. \(1998, 395\)](#) to define trust as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another." This cross-disciplinary definition is widely used by social scientists ([Grimmelikhuijsen](#)

et al. 2013; Ostrom and Walker 2003). The current study focuses on institutional trust, which is based on citizens' expectations of government's intentions and behaviors. Specifically, trust in government derives from three dimensions: competency, commitment, and honesty (Mayer et al. 1995). Accordingly, a trustworthy government should be able to deliver effective services, have commitment to the public interest, and have the integrity to tell the truth to citizens (Berg and Johansson 2020; Grimmelikhuijsen et al. 2013).

Our study involves trust in government as an important explanatory and moderating variable to disentangle the theoretical complexity among democratic values, program effectiveness, and citizens' public program perception. The existing literature often treats trust as a dependent variable, but fewer studies construct trust as an explanatory variable to test how it affect citizens' policy opinion (Peyton 2020; Van de Walle and Bouckaert 2003). Evidence from the real world indicates that government is falling short of citizens' expectations. According to the Pew Center (2019), only 17 percent of Americans today say they trust the U.S. government. The prevalent public distrust leads citizens to question the government's means and motivation, and this phenomenon further challenges the effectiveness centric NPM approach as the best way to manage citizen-state interaction (Denhardt and Denhardt 2007). Therefore, we theoretically explain why public administration should move beyond NPM and embrace democratic values in public program management in the current "era of low trust".

Low Trust and Program Effectiveness. When Citizens have low trust in government, they may doubt whether the performance information of effectiveness is reliable to evaluate programs. One criticism about NPM is directed to its argument that strong program performance creates high levels of trust in government (Im et al. 2014; Vigoda-Gadot and Yuval 2003). In fact, the causality between performance and trust can be the reverse. Citizens' trust levels affect their perception of the actual performance, and this so-called perceived performance does not always accurately reflect reality (Im et al. 2014). Therefore, strong program effectiveness may not always lead to a positive evaluation from the public. Moreover, if public distrust does not result from program ineffectiveness but from other reasons such as government's unethical behaviors and dishonesty, citizens are

not likely to use program effectiveness information to judge government's programs. Therefore, we expect that cynical views of government will lead citizens to discredit the accountability of public programs' effectiveness information.

H3a Citizens will be less likely to support the public program adoption as a result of strong program effectiveness when they have low trust in government.

*Low Trust and Democratic Value*¹. Normatively, low trust citizens will have stronger motivation to hold the government accountable. Democratic values such as openness and inclusiveness encourage nongovernmental actors to be involved in program decisions and implementation processes. The involvement of nongovernmental actors improves legitimacy and accountability of public programs. Therefore, low trust citizens are likely to increase their attribution on democratic values to hold public programs accountable.

With information accessible, citizens and external actors can monitor implementation processes and hold the governments accountable ([Grimmelikhuijsen and Welch 2012](#)). Citizens prefer trustworthy political entities to implement public programs; if not, citizens may require government actions to be overseen by entities outside of government ([Jacobs and Matthews 2017](#)). Since government's capacity to monitor the policy implementation process is already in doubt, citizens may be even more skeptical when they have low trust in government ([Conrad and Daoust 2008](#)). Similarly, [Mabillard and Pasquier \(2015\)](#) argue that the recent negative trend of public trust drives the development of open government. Combining these ideas, we ask, does the decline of trust in government generate demands for openness (Hypothesis 3b)?

Moreover, low trust in government may increase citizens' demands for government inclusiveness, through which citizens hope to have their voices heard in policy implementation processes ([Meijer et al. 2012](#)). Studies empirically test the relationship between trust and inclusiveness. [Cooper et al. \(2008\)](#) discover that citizens prefer engaging other entities in zoning decisions with low trust, and with high trust they support local governments' discretion. Scholars also have repeatedly tested the relationships between trust and inclusiveness in tax policy and welfare programs

(Chanley et al. 2000; Hetherington and Husser 2012). These studies reveal that if citizens have low trust in their government, they are more willing to reduce government’s discretion and allow more social organizations to be involved in policy implementation. Based on the normative liberal theory and the above evidence, we construct our Hypothesis 3c.

H3b Citizens will be more likely to support the public program adoption as a result of program information openness when they have low trust in government.

H3c Citizens will be more likely to support the public program adoption as a result of decision-making inclusiveness when they have low trust in government.

Experimental Design

This study tests public support of local sustainability programs conditional on democratic values and program effectiveness (pre-registration at: [Appendix A](#)). We set our vignette in a local sustainability effort scenario: a solar panel installment project in public schools (see detail description of the program context in [Appendix B](#)). After exogenously separating participants into either a control or low trust (LT) condition, we first assessed whether democratic values or program effectiveness had stronger effects on citizens to support a solar school project adoption. Second, we compared project adoption support between the two experimental groups to explore whether individuals were more likely to give priority to democratic values if they had low trust in government.

Constructing the Low Trust (LT) Instrument

To construct low trust in government as an explanatory variable and causally link it to democratic values, program effectiveness and program adoption support, we randomized our participants into either the control or LT treatment group. The use of self-reported trust as a covariate in regression models may produce common source bias and reverse causality issues, which can weaken the causal inference between trust and the dependent variable of interest ([Meier and O’Toole 2012](#); [Peyton 2020](#); [Van de Walle and Bouckaert 2003](#)). To overcome this issue, we employed a novel

identification strategy to measure trust. Participants in the LT treatment group received negative information cues about the local government, while participants in the control group received no information about the local government (see [Peyton 2020](#)). We then asked all participants to rate their trust toward American local governments by staking out a position on a 0 – 100 slide bar (0 = “definitely not”, 100 = “definitely yes”) that corresponds to their level of trust in government.

The negative information cues correspond to the 3-factors theoretical concepts of trust: competency, commitment, and honesty ([Grimmelikhuijsen et al. 2013](#); [Mayer et al. 1995](#)). Accordingly, we define low competency as government’s inability to delivery services, low commitment as public nonconfidence in government’s intention, and dishonesty as the government’s unethical behaviors. We try to avoid potential ethical issues by drawing on real world reports to construct information cues (summary in table 1 and details in [Appendix C](#)) and we did not use deception. Moreover, we included a debriefing at the end of the survey to clarify the purpose of this study to the participants. In addition, such priming manipulation often raise issues related to experimenter demand effects. We discuss our solutions of this issue in [Appendix D](#).

Table 1: Negative Information Cues of American Local Governments

Factors of low trust	Information delivered	Source
Low competency:	local government employees have low engagement rates in their work	Gallup (2017)
Low commitment:	American citizens perceive little confidence for elected officials to act in the public’s interests	Pew Center (2018)
Dishonesty:	Local governments’ corruption statistics	Harvard Political Review (2018)

Conjoint Analysis

We combined the LT instrument with a conjoint experiment. After asking the trust question, we presented four pairs of hypothetical local sustainability project profiles and asked our participants in each pair to indicate their support for the projects’ adoption by choosing their preferred profile out of the two profiles offered and moving two 0 – 100 slide bars (0 = “totally dislike”,

100 = “totally favor”). To display the two dependent variables in a consistent binary variable measurement format, we rescaled the continuous rating answer into 1 if the rating was above 50 and 0 otherwise. Combining choice and rating measurements is the standard practice in conjoint studies, and it has two advantages (Hainmueller et al. 2014). First, it allows us to dichotomize project adoption support into either a positive or negative attitude, which simplifies the interpretation of the marginal effects. Second, the forced choice and rating tasks are complementary to each other. Forced choice compels participants to think carefully before making decisions, while rating tasks allow participants to approve or disapprove of each project profile without constraints (Bansak et al. 2019). Through comparing results from both variables, we can have a more comprehensive idea about policy preferences.

Table 2: Attributes for Project Profile in Conjoint Experiment

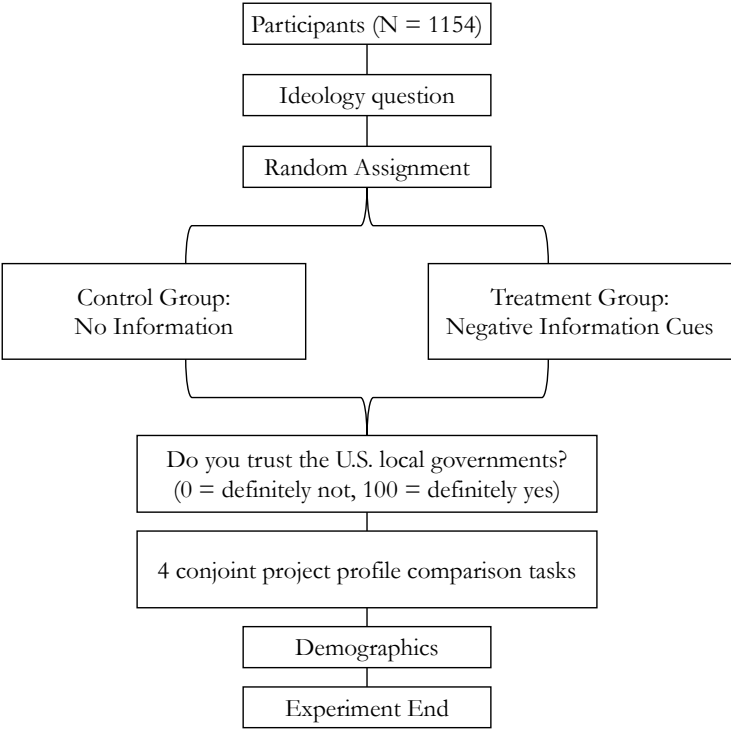
Attributes	Components
Democratic values	
Openness (Implementation information is available to)	(1) Government internal review (2) The public
Inclusiveness (Decision-making involves)	(1) Government agencies (2) Diverse local communities
Program effectiveness	
Environmental indicator (Reduce annual CO2 emission)	(1) 715 tons (2) 320 tons
Economic indicator (Save schools’ annual expenses)	(1) \$720k (2) \$359k

Project profiles of democratic values and effectiveness adapted information from the Solar Energy Industries Association (2017) national solar school report. Democratic value attributes are composed of inclusiveness and openness; effectiveness attributes contained economic and environmental dimensions. Table 2 shows our conjoint attributes and possible components (Appendix C gives an example of the conjoint task interface). We used decision-making involvement and implementation transparency to separately reflect the concepts of inclusiveness and openness. High inclusiveness meant that diverse local communities could voice their interests in project decisions;

high openness reflected that the implementation information is accessible to the public. Effectiveness attributes were presented through high and low performance outcomes.

All attributes were independently randomized in every profile comparison task, so every component in each attribute was an independent treatment in a between and within subject design; we also randomized the order of attributes across participants and fixed them within participants to avoid order effects and reduce confusion. According to (Hainmueller et al. 2014), the benefits of the conjoint design are threefold. First, it effectively identifies what project attributes individuals prioritize in profile evaluations. Second, it gains realism and reduces social desirability responses from the confronting information environment. Third, conjoint analysis helps researchers to compare effect sizes of different theories, so it fit with our research purpose to compare the explanation power between democratic values and effectiveness.

Figure 1: Experimental Procedure



After the project comparison tasks, we included a manipulation check question to test any non-compliance for the LT treatment, and an attention test to detect distraction or random selection

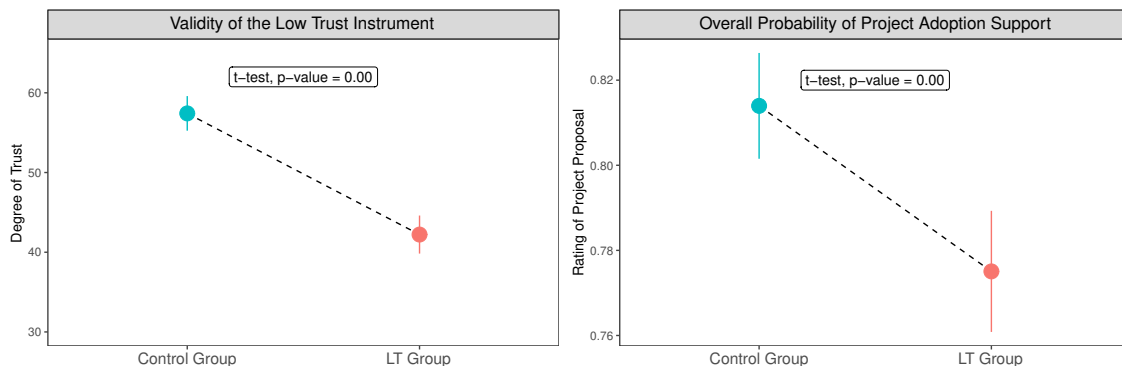
behaviors. Demographic questions were asked at the end of the survey. Figure 1 lays out a diagram of the experimental procedure (full survey protocol in Appendix C).

Empirical Analysis

Descriptive Summary

We recruited 1154 American participants from the Amazon Mechanical Turk (MTurk). After removing incomplete responses, and participants who failed the manipulation or attention tests, the final sample size was 885 (48% female, 76% whites, $Mage = 39$). In the conjoint comparison setting, the total observations were 7,080 project profiles ($885 \times 2 \times 4$). Appendix E summarizes the sample characteristics and the p -value (t-test) for the randomization check. Our sample was generally balanced across experimental groups.

Figure 2: Low Trust Instrument



Note: Bars are 95% confidence intervals.

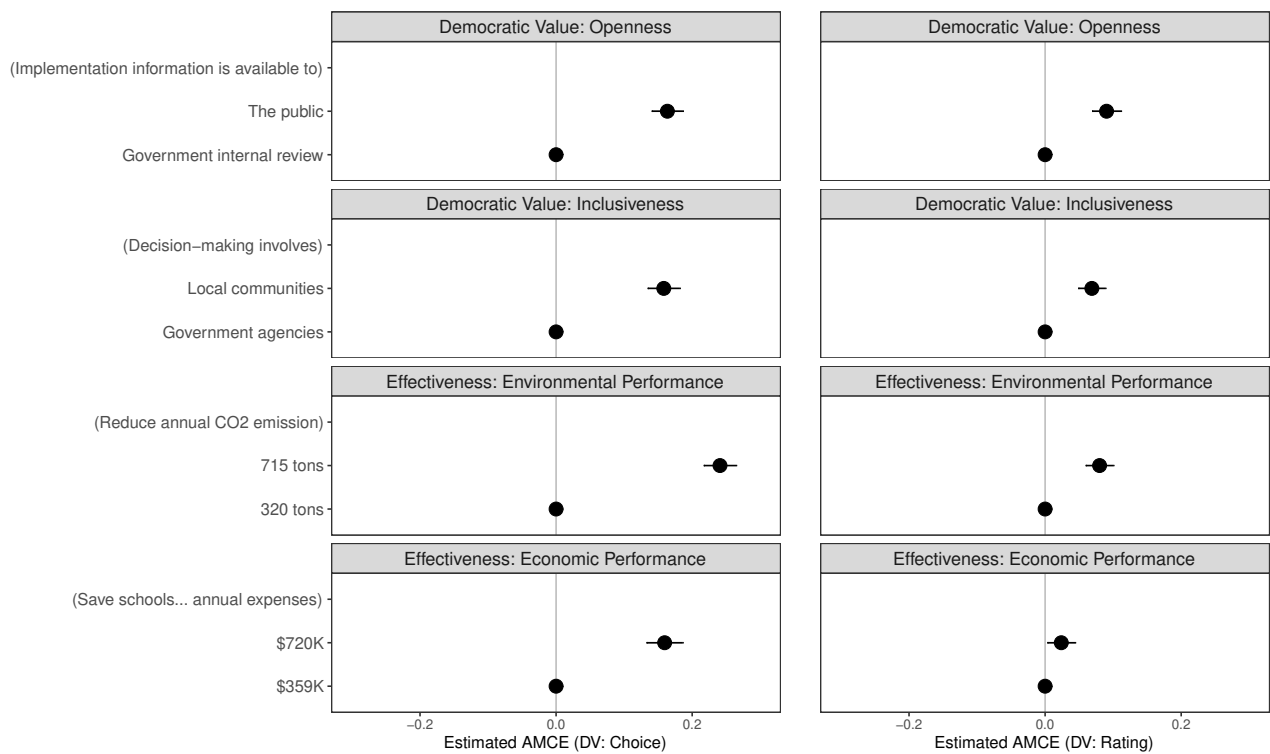
We begin with an initial analysis of the LT instrument. The left panel in figure 2 shows the stated trust differences for both experimental groups, and we also report the distribution difference between the two groups in Appendix F. The mean degree of trust of the control and LT groups are respectively 57.42 ($SD = 24.68$) and 42.22 ($SD = 23.97$). The negative information cues result in a reduction of 15.20 points ($SE = 1.64$, $p = 0.00$) in the participants' trust in U.S. local governments, which validate our LT instrument. Moreover, we assess the LT effect on overall project adoption support in the rating outcome². In the right panel in figure 2, the LT effect on

average reduces the probability of participants to approve the project adoption by 4% ($SE = 0.01$, $p = 0.00$), regardless of what attribute components a project contains.

Testing the Democratic Values and Effectiveness Hypotheses

For testing H1a, H1b, H2a and H2b, the Average Marginal Component Effect (AMCE) was our primary identification strategy, which predicted the change in average project support when switching one attribute component for another (Hainmueller et al. 2014). For example, we compared the marginal effect on project support between “government agencies” and “diverse local communities”, holding all other attribute components at average levels. Since our attribute components were fully randomized, the AMCEs were coefficients from a benchmark linear probability model. To control potential non-independence between profile evaluations from the same participant, we clustered standard errors by individuals.

Figure 3: Public Support Change for Project Adoption



Note: Bars are 95% confidence intervals.

Figure 3 displays the overall probability of supporting solar school projects in both the forced

choice and rating outcomes in the full sample. Results are similar in both outcomes, which generally support H1a, H1b, and H2a. We begin by assessing AMCEs for the choice dependent variable (the left panel of figure 3). Supporting H1a, openness matters in project proposal choice. Individuals are 16% ($SE = 0.01, p = 0.00$) more likely to choose the project proposal when its implementation information is available to the public rather than to the government's internal review. We also find a similar effect for H1b. With regard to inclusiveness, individuals are 16% ($SE = 0.01, p = 0.00$) more likely to choose the project proposal when it involves diverse local communities rather than government agencies in the decision-making process. Turning to program effectiveness, our participants have strong preferences for better effectiveness performance in both environmental and economic dimensions (supporting H2a). Improving the local annual carbon emission and saving schools' annual expenses respectively increase the probability of project proposal choice by 24% ($SE = 0.01, p = 0.00$) and 16% ($SE = 0.01, p = 0.00$).

Next, we evaluate AMCEs results of the rating outcome (right panel of figure 3). Participants are 9% ($SE = 0.01, p = 0.00$) more likely to support project adoption with implementation information openness, when compared to the government internal review. With regard to inclusiveness, participants are 7% ($SE = 0.01, p = 0.00$) more likely to support project adoption when the decision-making process include diverse local communities rather than government agencies. Participants express similar preferences on strong environmental performance (AMCE = 8%, $SE = 0.01, p = 0.00$), but they are less sensitive to the economic indicator, as saving more school expenses has a smaller effect (AMCE = 2%, $SE = 0.01, p = 0.02$) on project adoption support.

Given the above results, we cannot draw a conclusion that effectiveness variables are superior to democratic value variables in explaining policy preferences (rejecting H2b). Instead, their explanatory powers are similar. In the choice outcome, environmental performance is the strongest predictor for policy preference, but the effects of openness, inclusiveness, and economic performance are nearly identical. In the rating outcome, economic performance is weaker than the other three predictors, which have very similar effect sizes. These findings reveal that citizens do not

only consider effectiveness outcomes in their program evaluation; rather, both the values and outcomes of the program are equivalently important.

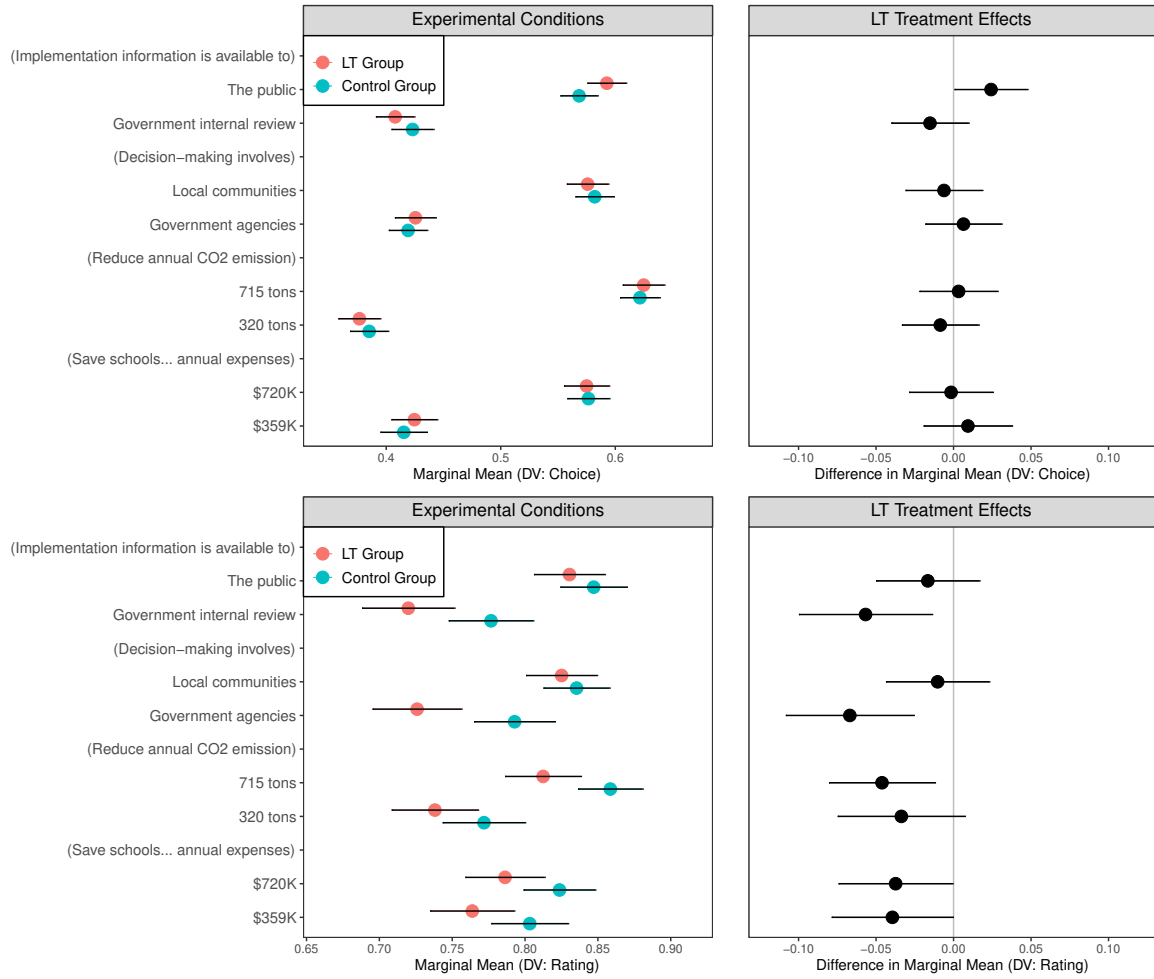
Testing the Trust Hypotheses

For testing H3a, H3b and H3c, we estimated the marginal means (MMs) of attribute components in both the LT and control conditions. MMs describe respondents' preferences of a project profile when it contains a certain attribute component (Leeper et al. 2020). For example, a MM of 0.58 for "local communities" indicates that 58% of participants choose or support project adoption when the decision-making process include diverse local communities. AMCEs are relative statements about preferences between attribute levels, while MMs are absolute preferences³ (Jankowski et al. 2020; Leeper et al. 2020). Difference-in-MM detects absolute preference differences between subgroups. For example, a difference-in-MM of 7% for "government agencies" means participants in the LT group are 7% less likely to approve a project compared to the control group when the decision-making only involves government agencies.

Figure 4 displays the MMs and difference-in-MMs for both the choice and rating outcomes. The control and LT groups have similar choice preferences on project proposals overall (the upper left panel), because participants cannot specifically state their preferences as they can in the ratings. When participants are allowed to freely express their preferences in rating, the overall project approvals decline in the LT group, compared to the control group (see the right panel in figure 2 and the lower left panel in figure 4).

H3a suggests that individuals will be less likely to support project adoption as a result of strong program effectiveness in the LT condition. We do not find evidence for this hypothesis with the choice outcome (the upper right panel in figure 4), but the rating of project adoption support is consistently reduced when the participants have lower trust in U.S. local governments, regardless of whether the environmental/economic performance is either strong or poor (the lower right panel in figure 4). Therefore, our results partially support H3a, in which participants discredit the accountability of public program's effectiveness information in their rating.

Figure 4: Low Trust Treatment Effect on Public Support for Project Adoption



Note: Bars are 95% confidence intervals.

Supporting H3b, the LT treatment increases participants' project preference by 2% ($SE = 0.01$, $p = 0.04$) if the implementation information is available to the public (the upper right panel in figure 4). This evidence suggests that if citizens do have lower trust in local governments, they rely more on the openness value to evaluate sustainability programs. Although this effect does not happen in the rating outcome, it drives a 6% ($SE = 0.02$, $p = 0.01$) decline in project adoption support (rating) when the implementation information is only available to government internal review.

In addition, we do not find supporting evidence for H3c in either outcome which means that involving diverse communities in decision-making does not increase project adoption support.

However, the rating outcome still reveals some clues about H3c. The LT effect is associated with a 7% ($SE = 0.02, p = 0.00$) decline in project adoption support when the decision-making involves the government agencies (the lower right panel in figure 4).

Combining results from the choice and rating outcomes, we find partial support for H3a and H3b, but no support for H3c. Although we do not find supportive evidence for H3b and H3c in the rating outcome, the overall pattern in the lower right panel in figure 4 has some important implications. Compared to other attribute components, the null finding of LT effect on democratic value variables in itself is interesting as the overall rating of project adoption declines when individuals do not trust in government (see the right panel in figure 2). When public trust decreases, including diverse local communities in decision-making process and opening the implementation information to public cannot gain more project support; but they can at least prevent a decline for project support. Table 3 summarizes our empirical evidence related to our seven hypotheses; the findings are considered and discussed in the theoretical implications section.

Table 3: Summary of the Hypotheses and Results of the Experimental Tests

Effect on Program Adoption Support	Expected Relationship	Finding
H1a: Openness	Positive	Positive
H1b: Inclusiveness	Positive	Positive
H2a: Effectiveness	Positive	Positive
H2b: Effectiveness > Democratic Values	True	Reject
H3a: Low Trust → Effectiveness	Negative	Negative (in rating)
H3b: Low Trust → Openness	Positive	Positive (in choice)
H3c: Low Trust → Inclusiveness	Positive	Reject

Conclusion and Discussion

Theoretical Implications

The theoretical connection between democratic values and program effectiveness as the means and ends in shaping public evaluation of programs has been empirically unknown. Therefore, this

study attempts to build a model to compare democratic values and program effectiveness by asking citizens to evaluate a public program. Our findings indicate that both democratic values and program effectiveness are equivalently compelling for predicting public program support. Our results contradict conventional knowledge in the NPM approach; individuals are not always primarily outcome-driven in judging public programs. Values inherent in government's actions are also prominent in people's consideration. In addition, we successfully induced a situation in which respondents were primed to have low trust in local governments. Under such conditions, we argued that respondents might pay more attention to democratic values, such as openness of program implementation information, and we found these results. Therefore, the NPS approach to underline democratic values is not only a normative statement, but also a practical tool to rebuild the relationship between citizens and the government. Our results provide three main contributions for public administration theories on performance management and incorporation of values in public program design, described in the following paragraphs.

First, our empirical findings justify the normative argument for democratic values. Openness and inclusiveness are meaningful and indispensable values for citizens, even when they have to trade off other information such as environmental and economic effectiveness. Therefore, public opinion is not only a function of favorable outcomes, but also the results of citizen-state interaction (Wichowsky and Moynihan 2008). Our results align with the policy feedback theory and challenge Esaiasson et al.'s (2019), and Ruder and Woods's (2020) arguments that increasing the visibility of democratic values does not necessarily increase the legitimacy of public programs. Our study's results demonstrate that citizens care about whether the public program decision-making process is inclusive, and whether the implementation process is open to the public. Accordingly, we argue that governments should promote the visibility of democratic values. As Denhardt and Denhardt (2015, 665) suggest: "public service should focus on creating opportunities for citizenship by forging trusting relationships with members of the public and working with them to define public problems, develop alternatives, and implement solutions."

Second, associating program processes and outcomes with democratic values may be a rem-

edy to rebuild citizens' confidence in public programs. Although citizens' low trust has been associated with a decrease in public program support, this decrease seems to be moderated in our study by openness and inclusiveness in the program implementation process. Therefore, public managers should deliberate with citizens to find out the reasons behind their mistrust. Citizens then move beyond the roles of constituents in election cycles or customers in receiving government services, and become public goods' co-producers who solve problems with government managers to achieve shared goals for society (Bryson et al. 2014).

Third, the marketized performance information tool in NPM may not solely solve public distrust in government. When citizens do not trust in governments, they may disapprove of public programs regardless of the programs' performances. As Denhardt and Denhardt (2015, 669) note, public managers may need to understand: "how public policies and programs influence citizenship outcomes such as political efficacy, social trust, and civic engagement." Therefore, public managers and local governments should thoroughly combine democratic values and effectiveness when implementing public programs and when communicating program information with residents.

Methodological Implications and Future Research

Other than the theoretical contributions discussed above, the current study also makes a methodological contribution to experimental public administration research. Subgroup differences in most social science studies are endogenous and cannot be causally interpreted (Bansak et al. 2019). Our novel identification strategy of trust improves causality by exogenously separating respondents into subgroups and rerunning the analysis to compare the difference in their responses, which is rarely done in the literature (e.g., Jankowski et al. 2020). This methodological innovation is not only useful in future conjoint experiment, but also provides more opportunities for scholars who intend to use trust as an explanatory variable to identify its causal relations with their outcomes of interest.

While this study provides an overall understanding for citizens' public program perceptions, future studies are required to improve its limitations. The effects of democratic values on program

support are likely to be context-based (Ruder and Woods 2020). We recommend scholars extend studies on these complex relationships between values and program effectiveness to other policies and governmental contexts to test the generalizability of our results, which are based solely on local school sustainability programs. We also see the need to study the effects of democratic values and program effectiveness on citizen approval in other countries where there is lower antigovernment rhetoric than in the U.S.

In summary, our contributions and limitations indicate that building democratic values requires the enduring efforts of citizens and managers in daily governance. We believe we should further advance our theoretical understanding of democratic values in scholarship on policy and management, and work to make citizen-state interaction unfettered in practice.

Notes

- 1 We had H3b in the pre-registration report that tests for moderating effects of low trust on democratic values. Here, we posit moderating effects of low trust on inclusiveness and openness separately and posit two hypotheses. Both H3b and H3c in this section stay aligned with the logic of H3b in the pre-registration report.
- 2 The overall LT effect on choice is untestable, because every pair of project comparison generates one approved project profile and one disapproved profile in the forced choice mechanism. So, eventually 50% of project profiles would be approved in both the LT and control groups. Therefore, the p -value in a two-sample t-test on choice equals to 1.
- 3 As Leeper et al. (2020, 6) argued, "...the differences between conditional AMCEs are used as a way of descriptively characterizing differences in preferences (i.e., levels of support) between the groups rather than differences in causal effects on preferences in the groups." In this study, causally detecting the LT effect is crucial for us to disentangle the complex theoretical mechanisms between trust, value, effectiveness, and program support. In this sense, difference-in-MMs between the control and LT group is preferred.

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Supplemental Information

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Appendix A Pre-registration Report

Hypotheses

Democratic value hypotheses:

H1a: In policy evaluation, individuals prefer the policy to involve diverse local communities rather than government agencies in the decision-making process.

H1b: In policy evaluation, individuals prefer the policy implementation information available to the public rather than the government internal review.

Performance hypotheses:

H2a: In policy evaluation, Individuals prefer higher rather than lower performance.

H2b: Performance information will have larger effect sizes than democratic values for explaining individuals' policy preferences.

Trust hypotheses:

H3a: The positive effects of favorable outcomes on individuals' policy preferences would be moderated when they have low trust in government.

H3b: The positive effects of democratic values on individuals' policy preferences would be increased when they have low trust in government.

Have any data been collected for this study already?

No, no data have been collected for this study yet.

What's the main question being asked or hypothesis being tested in this study?

In this survey experiment, we ask two major research questions:

- i Whether performance information or democratic values display larger explanatory power to citizens' policy preferences
- ii Would their explanatory powers change when people have low trust in government?

Describe the key dependent variable(s) specifying how they will be measured.

In this study, we have two main dependent variables.

- i Choice: we will code choice as a dummy variable as 1 or 0, based on whether the participants select the policy profile.
- ii Rating: We will ask participants to rate each profile from 0 to 100.

How many and which conditions will participants be assigned to?

First, we will randomize participants in two groups: control group and the low trust (LT) group. We construct the LT instrument with three factors in the theoretical concept of trust: ability, commitment, and honesty (Grimmelikhuijsen et al. 2013; Mayer et al. 1995). Three pieces of negative government information from real news or reports will be delivered to the LT group:

- i Local government employees have low engagement rates in their works (low ability).
- ii American citizens perceive little confidence to elected officials in acting public interests (low commitment).
- iii local corruption information (dishonesty).

Then, we ask both control and treatment group participants: do you trust U.S local governments (from 0 to 100 scale)? Next, we employ a choice-based conjoint design to obtain a more comprehensive picture of citizens' opinions on which solar school projects to accept. Our experiment puts respondents in the position of local residents, asking them to make decisions between pairs of solar school project profiles. We require a choice between each pair of project profiles to simplify the decision task. In each project profile includes information (profile attributes) about decision-making involvement, implementation information availability, environmental performance, and economic performance. Every participant will complete 4 pairs of profile comparison tasks.

Specify exactly which analyses you will conduct to examine the main question/hypothesis.

Analyses will be based on the standard practices in the conjoint experimental design:

- i Average Marginal Component Effect (AMCE).
- ii Marginal Means (MM).

Any secondary analyses?

We will conduct subgroup analyses by participants' characteristics. In addition, we will re-weight our sample on the U.S. population as a robustness check.

How many observations will be collected or what will determine the sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will stop data collection once 1,200 subjects have submitted a responses on MTurk. Deviations from this goal are entirely due to MTurk software and outside of our control.

Anything else you would like to pre-register? (e.g., data exclusions, variables collected for exploratory purposes, unusual analyses planned?)

Subjects' demographic information will be collected after they have answered the questions regarding key dependent variables. The information is collected for detecting the heterogeneity of the treatment effect and for the randomization balance check. Since we only recruit adult subjects in the U.S., VPN and proxy identifier will be applied at the beginning to filter out disqualified subjects.

Appendix B Context (Local Sustainability Effort)

We set our vignette in a local sustainability effort scenario: a solar panel installment project in public schools. There are two benefits of using a local sustainability program in comparing effects between democratic values and effectiveness. First, sustainability programs pursue both economic and environmental goals, which provide researchers a chance to see how citizens trade off different performance information. The U.S. National Environmental Policy Act 1969 defines sustainability as “to create and maintain conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.” Second, sustainability programs often require collaboration with local interest groups or interorganizational agencies (Lubell and Fulton 2008). Therefore, how citizens perceive these different allocations reflect their value preferences.

The “solar school program” among the United States local governments have multi-dimensional attributes both subjective value elements and objective program effectiveness. Solar school program aims to save electricity expenses in schools and improve local air quality with solar panel installation. The solar school program has varying implementation strategies by local school districts (Solar Energy Industries Association 2017). At the decision-making stage, some school districts get their state’s financial assistance, some school districts developed third-party ownership of the solar system to save schools’ upfront capital fees, and others worked with local communities to develop installation plans. During the implementation stage, schools may involve diverse groups of citizens, technical experts, and/or government officials to oversee the project’s processes. At the evaluation stage, solar school projects are assessed by economic and environmental outcomes, such as cost-savings at the school and local air quality improvement. Therefore, the multi-dimensionality of solar school programs provides researchers a good opportunity to study how citizens trade off democratic values and effectiveness in assessing this public program.

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Appendix C Survey Protocol

[Survey begin]

[VPN and Proxy Check]

[IRB Consent Form]

[Demographic: Ideology] When comes to social issues, I am...

- Very liberal
- Liberal
- Moderate
- Conservative
- Very conservative

[Low Trust instrument: Negative Information Cues]

[Control group] No information

[LT treatment group] In this section, you will read some facts about American local governments. Please read carefully.

[Page1]

The vast majority of state and local government workers are not reaching their full potential

According to the Gallup 2017 report,

71%

local government employees in U.S. are **unhappy or disengaged** with their jobs.

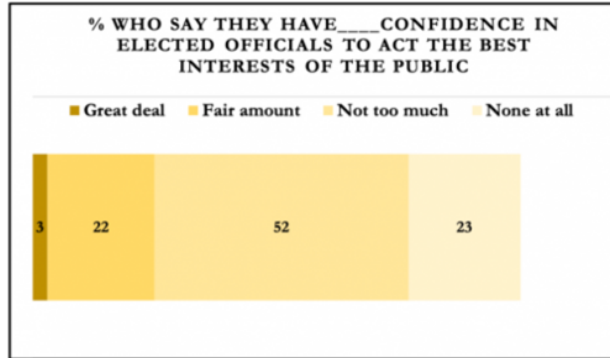
Information source: <https://news.gallup.com/opinion/gallup/210707/city-employees-not-engaged.aspx>

[Page2]

American people have little confidence in elected officials

According to Pew Center 2018 report,

Information source: <https://news.gallup.com/opinion/gallup/210707/city-employees-not-engaged.aspx>



[Page3]

Local and state governments have more corruptions than we assumed

According to a recent report from HARVARD POLITICAL REVIEW, more than **20,000** public officials and private individuals were convicted for crimes related to corruption in the last two decades. The graph below shows 10 example states from the original report.

information source: <https://harvardpolitics.com/united-states/stealing-in-the-shadows-state-level-political-corruption/>



[Trust question] Do you trust the U.S. local governments? (Please move the slide between 0 and 100)

0 = Definitely not; 100 = Definitely yes

(Note: We asked this question for both the control and treatment groups.)

[Conjoint tasks] In this section, you will be asked some questions about your personal idea on solar projects in U.S. school districts.

Solar projects in U.S. Schools

Some of the school district governments in the U.S. are utilizing solar energy by installing solar PV (photo-voltaic) system on the school rooftops. Solar electricity saves schools' utility costs, reduces greenhouse gas emission, and provides teachers with a unique opportunity to teach concepts in science and technology.

Source: Brighter Future: A Study on Solar in U.S. Schools (2017) by Solar Energy Industries Association

[Example of a conjoint comparison task] Now, assume that a solar project will take place in your school district. You will get information of two possible projects for comparison in each page. Please indicate which project you prefer over the other.

In total, you are asked to make 4 comparisons.

Note: There is no right or wrong answer to any comparisons.

Please indicate which project you prefer:

This project:	Project A	Project B
Implementation information is available to	Public	Government internal review
Decision-making involves	Government agencies	Diverse local communities
Reduce annual CO2 emission (metric tons)	715 tons	320 tons
Save schools' annual expense	\$720K	\$720K

[DV: Choice]

[1] Project A [2] Project B

[DV: Rating] On a scale from 0 to 100, where 0 indicates that you do not like the project at all and 100 indicates that you are totally in favor of your government adopting the project, how would you rate each project?

Project A: 0 = Totally dislike 100 = Totally favor (Please move the slide between 0 and 100)

Project B: 0 = Totally dislike 100 = Totally favor (Please move the slide between 0 and 100)

[Manipulation check] Have you seen the information below from any previous part of this survey?
"Local and state government have more corruption than we assumed"

- Yes
- No

[Attention test] This is just to screen out random clicking. Please move the slide to the answer of the following question: $17 + 63 = ?$

[Demographics]

Are you...

- Male
- Female

Do you consider yourself to be...

- White, not Hispanic or Latino
- Black, not Hispanic or Latino
- Hispanic or Latino
- Asian, not Hispanic or Latino
- Other

Your age: _____

What was your total household income before taxes during the past 12 months?

- Less than \$25,000
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or more

What is the highest level of education you have completed?

- Less than high school

- High school/GED
- Some college
- 2-year college degree
- 4-year college degree
- master degree
- doctoral degree
- Professional Degree (JD, MD)

[End of Survey]

Appendix D Experimenter Demand Effect

Priming manipulation often raises issues related to experimenter demand effects, which occur when subjects infer the experimental purpose and respond in a way to help researchers confirm their hypotheses (Mummolo and Peterson 2019). There are two reasons for our design to have less concern on this issue. First, the experiment did not measure participants' program adoption attitudes right after the LT treatment. Rather, participants received the LT treatment, went through the conjoint tasks and received the dependent variable questions below each task. This process serves as a filter to reduce participants' memory attention on the negative information cues (Druckman and Leeper 2012). Second, the conjoint experiment design itself is an effective tool to reduce demand effect by its information-rich and multiple tasks environment (Hainmueller et al. 2014; Mummolo and Peterson 2019).

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Appendix E Characteristics of Sample and Randomization Check

	Mean	SD	Min	Max	Randomization Check (P-value)
Female	0.48	0.50	0.00	1.00	0.86
White	0.76	0.42	0.00	1.00	0.29
Black	0.05	0.22	0.00	1.00	0.29
Hispanic	0.05	0.22	0.00	1.00	0.07
Asian	0.11	0.32	0.00	1.00	0.96
Other	0.02	0.15	0.00	1.00	0.29
Ideology	2.93	1.23	1.00	6.00	0.78
Age	39.50	13.84	18.00	78.00	0.47
Education	4.52	1.33	1.00	8.00	0.75
Income	3.94	1.78	1.00	7.00	0.48

Note: P-value is calculated from two sample t-test between the control and LT group.

Appendix F Distribution of Trust in U.S. Local Governments

