

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 anti-government 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 evaluation, 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, performance management

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1 Introduction

How do citizens evaluate public programs? Scholarship in public administration explains this question with two competing approaches: New Public Management (NPM) and New Public Service (NPS). NPM argues that performance information on program effectiveness explains citizens' program evaluation, but NPS suggests that this argument is meaningless if democratic values behind public programs are omitted (Bryson et al. 2014). The disagreement between these two approaches results from their different definitions regarding public interest. NPM treats citizens as service customers and it assumes that public interest is defined by the aggregation of individual interests, so program effectiveness is critical to gain service satisfaction (Dagger 1997; Walzer 1995). In contrast, NPS treats citizens as collaborators in public governance. Therefore, public interests are "the result of a dialogue about shared values rather than the aggregation of individual interests" (Denhardt and Denhardt 2007, 45), and these values finally affect program evaluation. Both NPM and NPS approaches are impactful in public administration because democratic values and program effectiveness represent respectively the means and ends of public programs (Bryson et al. 2014; Denhardt and Denhardt 2007; Frederickson 1996; Wichowsky and Moynihan 2008). Despite the fact that the debate between them is long-standing, two questions need further research.

First, between the means and ends of public programs, which are more important to citizens? Can we empirically compare their effects on the definition of public interests? Our existing literature examines the means and ends of public programs regarding public interests separately. In one stream, scholars test how performance information, including program effectiveness and efficiency, affects the view regarding public interests (e.g., Olsen 2017; Walker et al. 2018). In the other stream, scholars investigate the effects of democratic values, such as inclusiveness and openness, on the public interest (e.g., Grimmelikhuijsen et al. 2013; Herian et al. 2012). However, we lack an effective analytical tool to compare the effects between the means and ends of public programs on defining the public interest. It is surprising that this research gap has been left unanswered in the debate between NPM and NPS, because this question is central to our understanding

of whether citizens are more likely to view themselves as customers who only pay attention to service effectiveness, or as collaborators of the government who care about the democratic values in citizen-state interactions.

Our second research question is: does the social environment moderate the effects of program effectiveness and values on how citizens define the public interest? Rather than comparing the NPM and NPS approaches in a vacuum, we should condition their effects on the social environment. For example, does the recent anti-government rhetoric affect citizens' use of program effectiveness or democratic values to judge public programs? On the one hand, if citizens distrust the government, would they still believe performance information on program effectiveness? On the other hand, would distrust in government boost public demands for democratic values that enable citizens' visions and voices in the program implementation process?

To address both research questions, this study compares the impacts of democratic values and effectiveness on citizens' definitions of the public interest, conditional on citizens' trust levels in government. In the following sections, we review relevant literature on democratic values, effectiveness, and trust in government. Then, we build hypotheses and analyses of public interests by measuring citizens' general program evaluation, which is widely used in studying citizens' perception toward government, through conjoint experiments (e.g., [Bechtel and Scheve 2013](#); [Rinscheid and Wüstenhagen 2019](#)). Finally, we discuss our theoretical findings and practical implications. Overall, this study contributes twofold to the scholarship of public administration. First, we suggest a theoretical and empirical model that integrates the normative discussion of the NPM and NPS approaches, compares their effects on citizen evaluations and examines causal relations. Second, we provide practical suggestions to public managers: How can they reduce citizens' criticism on public programs by combining performance management tools and deliberative problem-solving techniques with democratic values?

2 Theory

2.1 Democratic Values and Effectiveness

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 a “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). While these existing empirical studies provide implications for understanding how citizens use performance information to evaluate government actions (e.g., Abner et al. 2020; James and Moseley 2014; Olsen 2017; Van Ryzin et al. 2021), few studies compared citizens’ perceptions of democratic values and effectiveness simultaneously (Wallmeier et al. 2019).

Two streams of literature discuss the impact of information availability regarding democratic values on citizens’ 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, the 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 (Denhardt and Denhardt 2007). 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). Government should uphold democratic values through citizens’ participation in decision-making and active engagement in political life (DeLeon 1995; Denhardt and Denhardt 2007). 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.

Therefore, it is risky to omit democratic values from the policy implementation process. For example, 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 among scholars and practitioners to systematically consider democratic values as well as effectiveness as attributes for program evaluation and the development of democratic citizenship.

2.2 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."

2.2.1 The Openness of Implementation Information

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

enables citizens to be a part of political life and it is the prerequisite of authentic civic engagement (Denhardt and Denhardt 2007). Previous studies define openness as the availability of information on the decision-making process, operations, or the performance of governments (De Boer and Eshuis 2018). An open implementation of a public program provides information to citizens on how the program is going to be executed and the expected consequences. It sidesteps the government's black-box operation by revealing process information to the public (James 2011; Walker et al. 2018). By doing so, the government achieves legitimacy by being transparent in its operation. Further, when government information is disclosed and citizens have access to it, administrative behaviors are likely to be more ethical and follow citizens' expectations rather than running against the public interests (Piotrowski and Rosenbloom 2002).

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). The literature finds that when public decision-making is open, citizens are more willing to accept the decision and support it (e.g., De Fine Licht et al. 2014; Porumbescu and Grimmelikhuijsen 2018). Opening program implementation information reduces information asymmetry between the government and citizens which reduces suspicion and increases the legitimacy of policy decisions (De Fine Licht et al. 2014; Grimmelikhuijsen et al. 2013; Grosso and Van Ryzin 2011). Thus, citizens would prefer the openness of program implementation information rather than the government's internal review. Therefore, we expect:

H1a Citizens are more likely to support public programs for which implementation information is available to the public instead of only being available in the government's internal review.

2.2.2 *Inclusiveness of Program*

. Inclusive programs offer opportunities to reflect diverse interests which help resemble ideal democracy and broad citizenship. Inclusiveness enables citizens to actively engage in the overall

policy-making process through dialogue and discourse (Denhardt and Denhardt 2007; Rossmann and Shanahan 2012). Through the processes of engaging citizens, 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, citizens' interests are organized into groups around a policy that is 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).

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 effect of providing information about public participation on citizens' perception of fairness toward the government. When inclusiveness information is available, citizens perceive the government to be fairer and they are more likely to be supportive of government actions. Similarly, another study finds that citizens are less likely to support policy decisions when the government does not make attempts to include citizens in the decision-making process (Porumbescu and Grimmelikhuijsen 2018). Specifically, local governments and programs engaging interests of the local actors are likely to be legitimate and win more support from citizens (Jacobs and Kaufmann 2021). Based on the above theories and evidence, we construct our hypothesis of inclusiveness.

H1b Citizens are more likely to support public programs that involve local actors than only having government agencies in the decision-making process.

2.3 Program Effectiveness

We define effectiveness as the capacity of governments and programs to achieve their core missions (Pandey et al. 2007). Effectiveness has been widely discussed that citizens make use of governmental performance information to evaluate and compare the performance of a government, and make decisions such as voting choices to punish or reward politicians (James 2011; Walker et al. 2018). Citizens use a range of performance information including program efficiency and effectiveness (Walker et al. 2018). Program effectiveness affects citizens' general perceptions of a government (James et al. 2020). Previous studies show that the linkage between the program effectiveness information and citizens' program evaluation is straightforward: individuals are likely to evaluate a program more positively that has relatively higher effectiveness. Citizens evaluate the effectiveness of a program by comparing performance information with different reference points (Olsen 2017), and the positive or negative expression of the same outcome (Olsen 2015). Previous findings consistently indicate that citizens prefer a relatively more effective program, regardless the program's effectiveness information is subjective or objective. Based on the discussion, we suggest:

H2a Citizens are more likely to support public programs that have higher effectiveness over lower effectiveness.

While democratic values and program effectiveness are equally important (Rossmann and Shanahan 2012), safeguarding values have been a challenge for governments with performance-driven management focusing on the results of achieving goals rather than the processes (Beeri et al. 2019). However, few academic efforts exist to explore the different impacts of democratic values and program effectiveness on citizens' program evaluation. A couple studies suggest that citizens are likely to yield democratic values and principles for other conflicting aspects, which provides grounds for our study. (Graham and Svolik 2020) demonstrate that Americans pay less attention to the violation of democratic principles—checks and balances, electoral fairness, and civil liberties—when policies that citizens prefer are adopted, or for their political ideology. Sim-

ilarly, (Ruder and Woods 2020) find that the policy context and political ideology have a bigger effect than the procedural fairness information on citizens' program evaluation. More relevant to this study, Esaiasson et al. (2019) suggest that citizens' preferences are more driven by program effectiveness information than democratic value information. They compare the role of decision-making arrangements and outcome favorability on people's policy acceptance in diverse contexts. The findings suggest that outcome favorability is a stronger factor than decision-making arrangements. Combining the above evidence, we assume that program effectiveness will contribute a stronger effect than democratic values in impacting citizens' evaluation process.

H2b Effectiveness will have larger effects than democratic values for explaining program evaluation by citizens.

2.4 Trust

Although democratic values and program effectiveness can both affect citizens' public program evaluation, 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 focus more on procedural justice of government actions. Therefore, the democratic values of openness and inclusiveness become more important for them to evaluate public programs.

In the last three decades, governments in the U.S. have been falling short of citizens' expectations (Pew Center 2019). This fact attracted scholars' attention to studying how trust in government affects public opinions and moderates other variables' effects on program evaluation. For example, political science literature suggests that trust in government positively affects public acceptance of international policies (Hetherington and Husser 2012); negatively affects political engagement and willingness to contact elected officials (Miller and Krosnick 2004; Miller et al. 2016); and has no effect on redistribution program support (Peyton 2020). In public administration literature, trust in

local government positively predicts citizens' zoning approval (Cooper et al. 2008). On the other hand, distrust in government leads citizens to disapprove public-private partnerships and hesitate to collaborate in policy implementation (Liu 2022). Other than these direct effects on citizens' policy preferences, trust in government can also be a moderator to explain citizen-state interaction. For example, (Porumbescu and Grimmelikhuijsen 2018) found that negative police performance information increases citizens' willingness to participate in neighborhood watch programs, but trust in the government moderates this effect. Overall, trust in government not only affects citizens' policy preferences but also affects how they judge the legitimacy of public programs, which is closely related to the value-effectiveness debate between the NPM and NPS approaches.

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). Below, we theoretically argue that trust in government moderates the effects of democratic values and effectiveness on program evaluation, and we explain why public administration should move beyond NPM and embrace democratic values in public program management in the current "era of low trust".

2.4.1 Low Trust and Program Effectiveness

The NPM approach suggests that a public program can gain citizens' support through its effective performance, but this "managing for results" strategy may not be reliable when citizens feel the government is generally untrustworthy (Denhardt and Denhardt 2007, 26). This is because the theoretical association between program effectiveness and program evaluation is connected to citizens' perceptions of government. Strong program effectiveness improves perceived performance in citizens' minds and positively perceived performance transfers to favorable program evaluation. However, if citizens had a negative prior belief in government (i.e., distrust in government) before reading performance information, their perceptions of the actual performance would also be affected by this prior belief (Im et al. 2014). In this situation, strong program effectiveness may not always lead to a positive evaluation from the public. Moreover, public distrust does not always

result from program ineffectiveness but can also be from other reasons such as the government's unethical behaviors and dishonesty (Grimmelikhuijsen et al. 2013; Grimmelikhuijsen and Feeney 2017; Mayer et al. 1995). If so, "...all actions of government are evaluated negatively, just because it is government actions" (Van de Walle and Bouckaert 2003, 902). Therefore, we expect that low trust in the government will moderate the positive effect of program effectiveness on program evaluation.

H3a Citizens will be less likely to support public programs as a result of high effectiveness when they have low trust in government.

2.4.2 *Low Trust and Democratic Value*

In contrast, citizens will have stronger motivation to hold the government accountable if they distrust government. 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 the legitimacy and accountability of public programs. These institutional processes that involve democratic values can offset negative impacts from attitudes toward untrustworthy government and hold public programs 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 the 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 the 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 hypothesize that the decline of trust in government positively moderates the openness effect on program evaluation (H3a).

Moreover, low trust in government may increase citizens' demands for government inclusive-

ness, 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 when they distrust in government, and citizens support local governments' discretion when they perceive local governments are trustworthy. 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). According to these findings, we hypothesize that the decline of trust in government positively moderates the inclusiveness effect on program evaluation (H3b)¹.

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

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

3 Experimental Design

This study tests public support of local sustainability programs conditional on democratic values and program effectiveness (pre-registration at: [Open Science Framework](#)). We set our vignette in a local sustainability program scenario: a solar panel installment program in public schools (see the detailed description of the program context in [Appendix A](#)). Using a sustainability policy scenario is suitable to test the multi-dimensionality of public opinions on government programs because sustainability policies often have multiple effectiveness indicators (e.g., environmental and economic) and vary in democratic values (e.g., will be implemented by government or by collaborative forms).

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

¹We 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.

to support solar school programs. Second, we compared program evaluation between the two experimental groups to explore whether individuals were more likely to give priority to democratic values if the level of trust in government declined.

3.1 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 evaluation, 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 Liu 2022; 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; Grimmelikhuijsen and Feeney 2017; Mayer et al. 1995). Accordingly, we define low competency as the government’s inability to deliver services, low commitment as public nonconfidence in the government’s intention, and dishonesty as the government’s unethical behaviors. Using negative information cues of public officials to prime distrust in government is well established in social science literature (see Green et al. 2018; Kuziemko et al. 2015; Peyton 2020), and our design is similar to Kuziemko et al. (2015)². We try to avoid potential ethical issues by drawing on real-world reports to construct

²We conducted a pilot test to validate the statistical power of our LT treatment. We recruited 197 subjects from MTurk, We used the same design as our formal experiment, which randomly assigned subjects into the low trust treatment group (showing three negative government information) or the control group (no information). We then measure their levels of trust in government by asking: Do you trust the U.S. local governments? (0-100, from definitely not to

information cues (summary in table 1 and details in [Appendix B](#)) 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.

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)

3.2 Conjoint Analysis

We combined the LT instrument with a conjoint experiment. After asking the trust question, we presented four pairs of hypothetical local sustainability program profiles and asked our participants in each pair to indicate their program evaluation 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 program evaluation 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 program profile without constraints ([Bansak et al. 2019](#)). By comparing results from both variables, we can have a more comprehensive idea of program preferences.

definitely yes). The negative information cues result in a reduction of 14.21 points (S.E. = 3.23, $p = 0.00$, Cohen’s $d = 0.63$) in the participants’ trust in U.S. local governments, which is similar as results in our formal experiment.

Table 2: Attributes for Project Profile in Conjoint Experiment

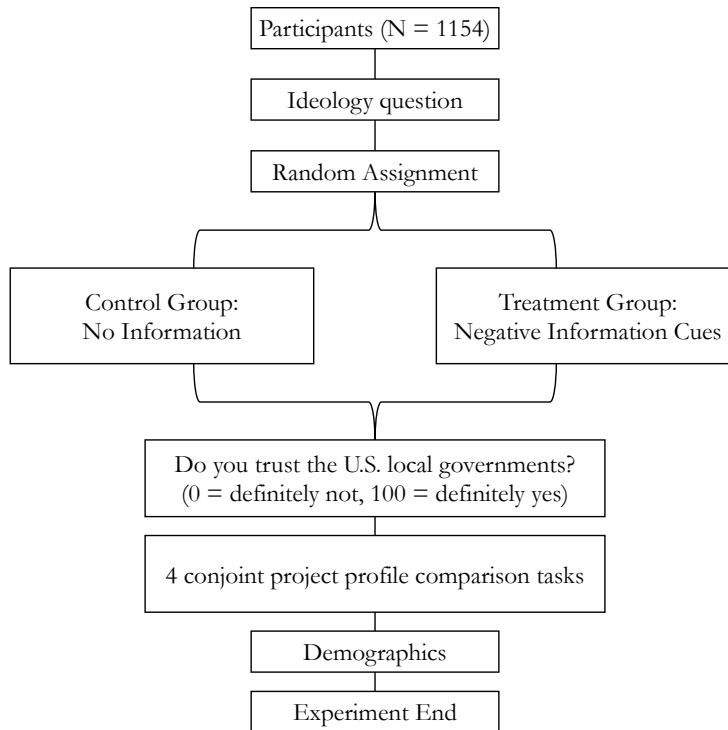
Attributes	Components
Democratic values	
Openness (Implementation information is available to)	(1) Government internal review (2) The public
Inclusiveness (Decision-making involves)	(1) Government agencies (2) Diverse local communities
Program effectiveness	
Environmental indicator (Reduce annual CO2 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 B](#) 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 program 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 program attributes individuals prioritize in profile evaluations. Second, it gains realism and reduces social desirability responses in the confronting information environment. Third, conjoint analysis helps researchers to compare the effect sizes of different theories, so it fits with our research purpose to compare the explanation

power between democratic values and effectiveness.

Figure 1: Experimental Procedure



After the program 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 B](#)).

4 Empirical Analysis

4.1 Descriptive Summary

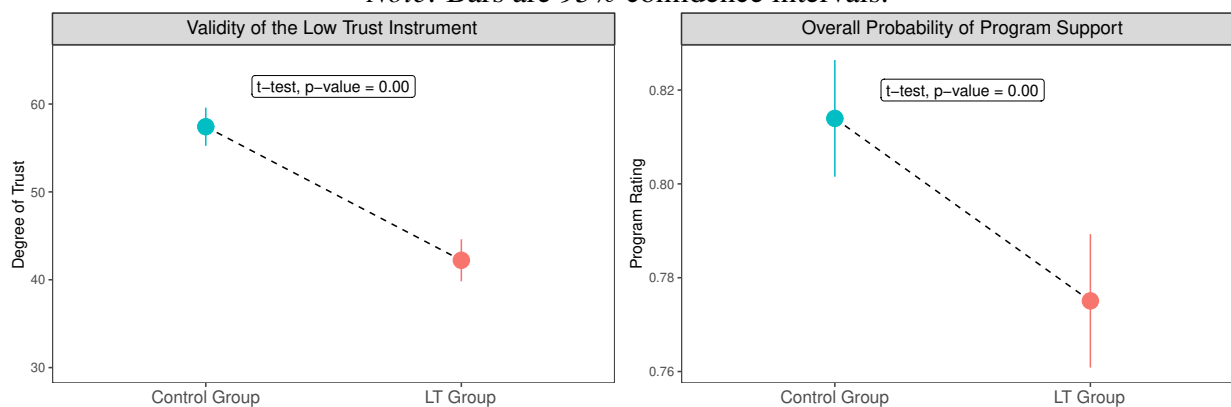
We recruited 1154 American participants from Amazon Mechanical Turk (MTurk). After removing incomplete responses, and participants who failed the manipulation or attention tests, the final sample size was 885 (48 percentage points female, 76 percentage points whites, $M_{age} = 39$). In the conjoint comparison setting, the total observations were 7,080 project profiles ($885 \times 2 \times 4$). [Appendix C](#) summarizes the sample characteristics and the p -value (t-test) for the randomization

check. Our sample was generally balanced across experimental groups.

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 D. 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 outcome³. In the right panel in figure 2, the LT effect on average reduces the probability of participants to approve the project adoption by 4 percentage points ($SE = 0.01$, $p = 0.00$), regardless of what attribute components a project contains.

Figure 2: Low Trust Instrument

Note: Bars are 95% confidence intervals.



4.2 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 program evaluation when switching one attribute component for another (Hainmueller et al. 2014). For example, we compared the marginal effect on program evaluation between “government agencies” and “diverse

³The 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.

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: Change for Program Evaluation

Note: Bars are 95% confidence intervals.

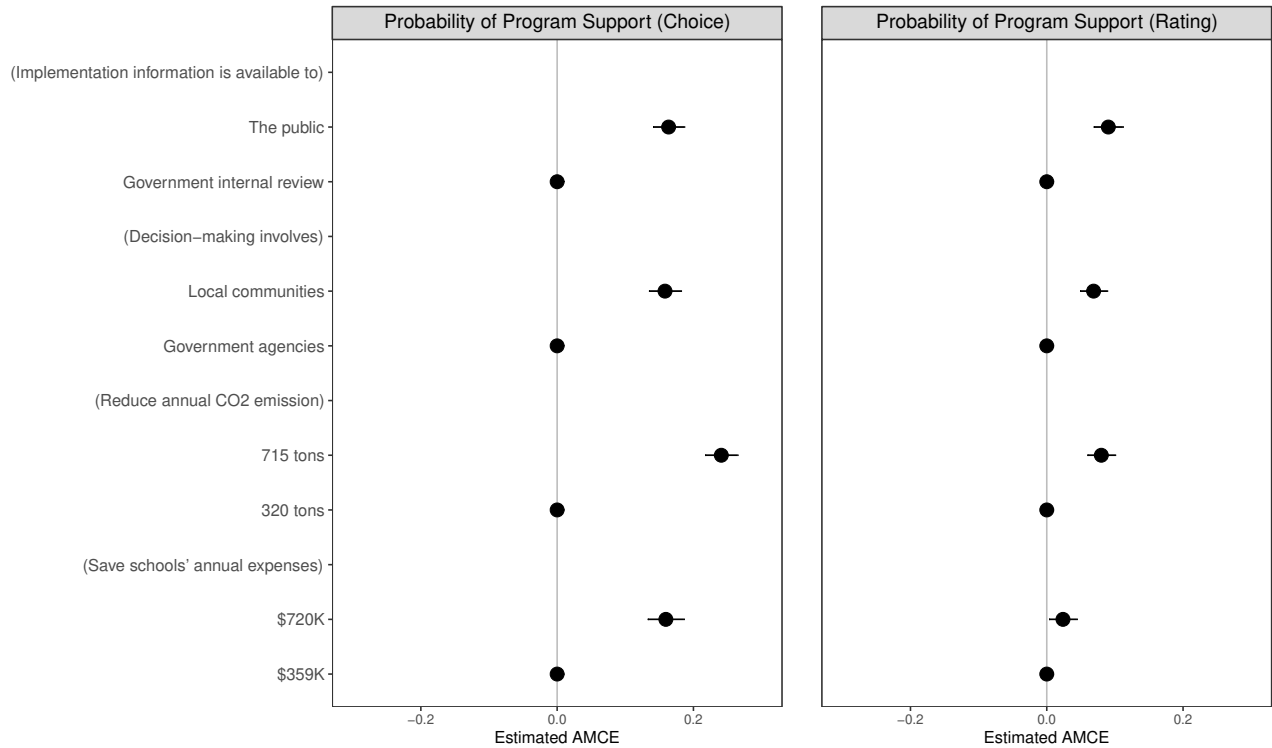


Figure 3 displays the overall probability of supporting solar school programs in both the forced choice and rating outcomes in the full sample. Results are similar in both outcomes, which generally support H1a, H1b, and H2a. We begin by assessing AMCEs for the choice-dependent variable (the left panel of figure 3). Supporting H1a, openness matters in program proposal choice. Individuals are 16 percentage points ($SE = 0.01, p = 0.00$) more likely to choose the program 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 percentage points ($SE = 0.01, p = 0.00$) more likely to choose the program proposal when it in-

volves 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 program proposal choice by 24 percentage points ($SE = 0.01, p = 0.00$) and 16 percentage points ($SE = 0.01, p = 0.00$).

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

Given the above results, we cannot draw a conclusion that effectiveness variables are superior to democratic value variables in explaining program preferences (rejecting H2b). Instead, their explanatory powers are similar. In the choice outcome, environmental performance is the strongest predictor of program 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.

4.3 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 for a program

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 percentage points of participants support the program when the decision-making process includes diverse local communities. AMCEs are relative statements about preferences between attribute levels, while MMs are absolute preferences⁴ (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 percentage points for “government agencies” means participants in the LT group are 7 percentage points less likely to support a program 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 program 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 rating preferences, the overall program evaluation declines in the LT group, compared to the control group (see the right panel in figure 2 and the lower left panel in figure 4).

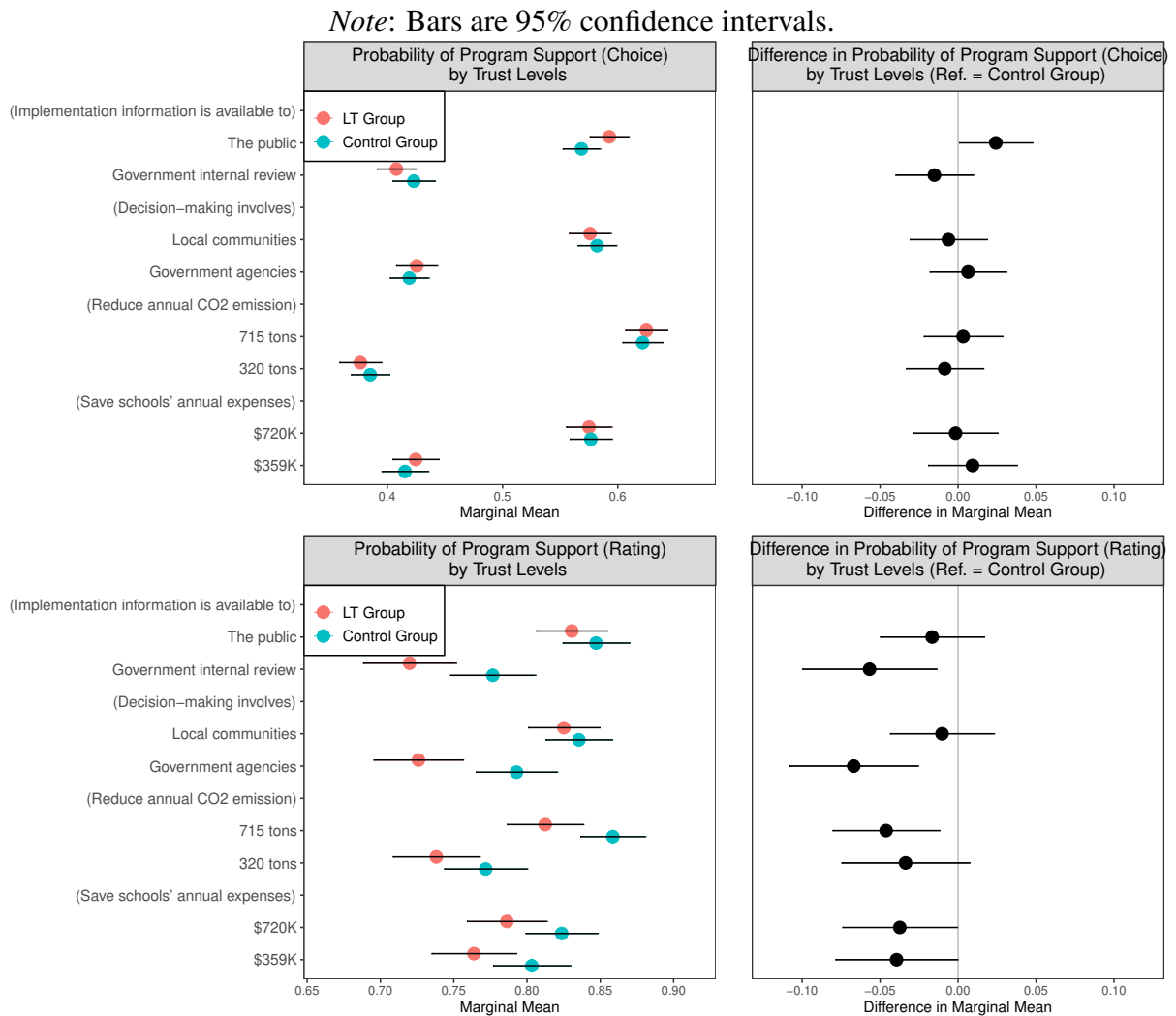
H3a asserts that individuals will be less likely to support a program as a result of high program effectiveness in the LT condition. We do not find evidence for this hypothesis with the choice outcome (the upper right panel in figure 4), but the rating of program evaluation is consistently reduced when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

Supporting H3b, the LT treatment increases participants’ program evaluation by 2 percentage points ($SE = 0.01$, $p = 0.04$) if the implementation information is available to the public (the

⁴As 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.

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 percentage points ($SE = 0.02, p = 0.01$) decline in program support (rating) when the implementation information is only available to government internal review.

Figure 4: Low Trust Treatment Effect on Program Evaluation



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 program support. However, the rating outcome still reveals some clues about H3c. The LT effect is associated with a 7 percentage points ($SE = 0.02, p = 0.00$) decline in program 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 the LT effect on democratic value variables in itself is interesting as the overall rating of the program declines when individuals have lower trust in government (see the right panel in figure 2). When public trust decreases, including diverse local communities in the decision-making process and opening the implementation information to the public does not seem to gain more program support; but these values can at least prevent a decline in program 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 \times Effectiveness	Negative	Negative (in rating)
H3b: Low Trust \times Openness	Positive	Positive (in choice)
H3c: Low Trust \times Inclusiveness	Positive	Reject

5 Conclusion and Discussion

5.1 Theoretical Implications

Overall, this study aims to answer two research questions: (1) Considering program effectiveness and democratic values, which are more important to explain citizens' program evaluation?; and (2) Does lower trust in government moderate the effects of program effectiveness and values on program evaluation differently? We obtain the following findings from our experiment. First,

both democratic values and program effectiveness are equivalently compelling for predicting public program evaluation. Individuals are not always primarily outcome-driven in judging public programs. Values inherent in government's actions are also prominent in people's consideration. Second, the positive effect of program effectiveness is partially weakened when citizens have lower trust in government, but this positive effect is still valid in program evaluation. Third, distrust in government has strengthened the positive effect of openness on program evaluation, but it does not moderate the effect of inclusiveness. Regarding these findings, we discuss three theoretical contributions of this research in the following paragraphs.

First, the magnitude comparison between program effectiveness and democratic values in our model supports the NPS approach but challenges the NPM approach. 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. Contrary to the NPM argument, public interests are not only a function of favorable outcomes from public programs but also the results of citizen-state interaction ([Wichowsky and Moynihan 2008](#)). How governments communicate and report information to citizens is similarly important as their final policy outcomes. Therefore, both openness of implementation information and inclusiveness in collaborative decision-making strengthen the legitimacy of public programs in citizens' minds. This finding corresponds with the NPS approach, 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" ([Denhardt and Denhardt 2015](#), 669). From this perspective, values of openness and inclusiveness are both deliberative problem-solving techniques that improve citizen-state communication and thereby gain public support. Although [Esa-
iasson et al. \(2019\)](#) and [Ruder and Woods \(2020\)](#) argue that the visibility of democratic values does not necessarily increase the legitimacy of public programs, our results demonstrate that people do care about democratic values when multi-dimensional program information is available and offered to them. Accordingly, we suggest 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.”

Our second theoretical contribution is finding that democratic values become more important when citizens have a lower level of trust in government. On the one hand, the magnitude of openness of implementation information is promising in our choice model, and the declines in trust in government even make this effect stronger. This result aligns with other studies (e.g., [Conrad and Daoust 2008](#); [Jacobs and Matthews 2017](#)) which indicate that citizens have stronger preferences for transparency when they feel the government is untrustworthy. On the other hand, including diverse communities in decision-making may not gain more program support when citizens distrust government, but the negative perception of the public program would be worse if we excluded the inclusiveness value. Therefore, public managers should deliberate with citizens to find out the reasons behind their mistrust. Accordingly, the government should encourage citizens to 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 the government to achieve shared goals for society ([Bryson et al. 2014](#)).

The third contribution is asserting that the marketized performance information tool in NPM may not solely solve public distrust in government. When citizens do not trust governments, they may disapprove of public programs regardless of the programs’ performance. 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.

5.2 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 studies 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 of citizens' public program perceptions, future studies are required to improve its limitations. The effects of democratic values on program evaluation 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 anti-government rhetoric than in the U.S. In addition, the operation of attribute design in the conjoint experiment is too simplified. Multi-dimensional information in a conjoint experiment has the advantages of avoiding social desirability bias and improving efficiency in hypotheses testing, but the forms of cognitive processing in a conjoint experiment may be different from a traditional vignette experiment that has more detailed information on every treatment (Hainmueller et al. 2014). To solve this problem, future experiments, for example, can vary the "diverse local community" to racial and income-diverse communities and compare whether the effects of inclusiveness are heterogenous between them.

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.

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Supplemental Information

Appendix A 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 B 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.

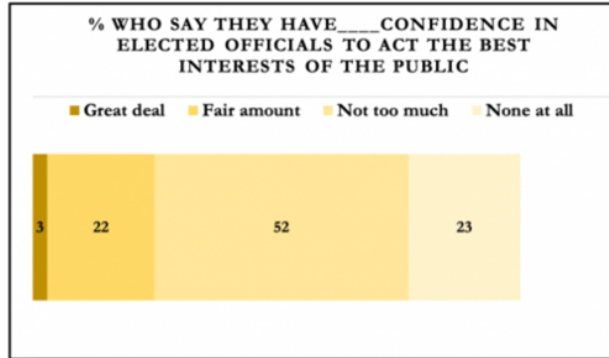
Information source: <https://news.gallup.com/opinion/gallup/210707/city-employees-not-engaged.aspx>

[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>

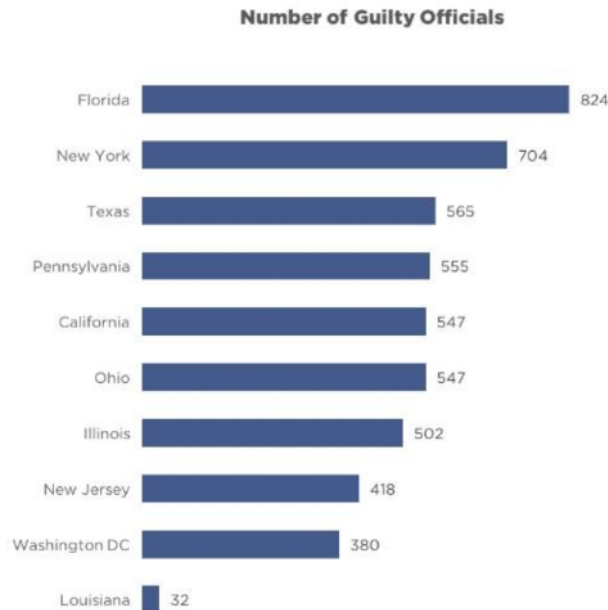


[Page3]

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 C 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 D Distribution of Trust in U.S. Local Governments

