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ORIGINAL PAPER

An Experiment Testing the Relative Effectiveness of Encouraging Voter Participation by Inducing Feelings of Pride or Shame

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Abstract Prior experimental research has demonstrated that voter turnout rises substantially when people receive mailings that indicate whether they voted in previous elections. This effect suggests that voters are sensitive to whether their compliance with the norm of voting is being monitored. The present study extends this line of research by investigating whether disclosure of past participation has a stronger effect on turnout when it calls attention to a past abstention or a past vote. A sample of 369,211 registered voters who voted in just one of two recent elections were randomly assigned to receive no mail, mail that encouraged them to vote, and mail that both encouraged them to vote and indicated their turnout in one previous election. The latter type of mailing randomly reported either the election in which they voted or the one in which they abstained. Results suggest that mailings disclosing past voting behavior had strong effects on voter turnout and that these effects were significantly enhanced when it disclosed an abstention in a recent election.

Keywords Field experiment · Pride · Shame · Voting

The field of social psychology is replete with evidence documenting the power of social pressure on people's propensity to conform to social norms (see Cialdini and Goldstein 2004; Cialdini and Trost 1998). Publicizing a person's behavior—or threatening to do so—is one of the most powerful forms of social pressure.

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When people expect their behavior to be made public, they become much more likely to abide by existing social norms. Field and laboratory experiments document the effects of social pressure on recycling (Kallgren et al. 2000; Schulz 1999), donating to a public good (Whatley et al. 1999), and abiding by fairness norms in bargaining scenarios (Hoffman et al. 1996).

Although the influence of social pressure on voting behavior has long been an object of laboratory experimentation, historical narrative (Bensel 2004), and sociological theory (Lazarsfeld et al. 1968), only recently has social pressure become the object of field experimental inquiry. Gerber et al. (2008) report the first large scale experimental test of whether applying social pressure affects voter turnout. These authors distinguish between intrinsic benefits, or the "positive feeling a voter experiences from fulfilling a civic duty," and extrinsic benefits, the rewards from having the act of voting observed by others (Gerber et al. 2008, p. 35). To test for differences between these benefits they use four different treatments ranging from little to maximum social pressure. As a baseline comparison with social pressure treatments, the authors used a conventional civic duty mailing, which was shown to increase turnout by 1.8 percentage points. A second treatment group received a "Hawthorne" mailing in which voters were told "you are being studied," which produced an increase in turnout of 2.5 percentage points. The other two treatments ratcheted up the degree of social pressure significantly. A third treatment group received a mailing that displayed a subject's voting record, as well as the voting record of all registered voters in the household. Turnout increased by approximately 4.8 percentage-points among this treatment group, which makes this type of mail an order of magnitude more effective than more conventional direct mail (Gerber and Green 2000; Gerber et al. 2003). A fourth treatment group received the same mailing as the third treatment group but reported the behavior of an expanded list of voters that included all registered voters on the block. Turnout in this group increased by 8.1 percentage points, an increase that is comparable to the effects of personal canvassing.

This study uses a similar experimental paradigm to extend the findings of Gerber et al. (2008) in a new direction. We investigate whether disclosure of past participation has a stronger effect on turnout when it calls attention to a past abstention or a past vote. By disclosing past turnout behavior to individual voters we are engaging in a practice commonly known as feedback intervention. Empirical studies of such interventions as they pertain to the norm of voting, at least within political science, are rare. To our knowledge, Gerber et al. (2008) is the first study within political science to provide real feedback regarding the act of voting.

In psychology, however, where such interventions are more common, the empirical evidence is mixed. Early work in psychology suggested negative feedback was a more effective motivator than positive feedback. Experimental subjects receiving either negative feedback or both positive and negative feedback performed significantly better than subjects receiving positive feedback only (Buss and Buss 1956; Jones 1961; Meyer and Offenbach 1962; but see Buchwald 1962). A more recent meta-analysis, however, reveals that while negative feedback has a positive effect on performance, extremely negative feedback can have just the opposite effect (Kluger and DeNisi 1996); a tendency also known as "reactance"

(Brehm and Brehm 1981) or "boomerang effects" (Ringold 2002). Indeed, as some scholars have found, when negative feedback reaches the point of "shaming," it can have both positive and negative consequences. Drawing on experimental and observational studies, Ahmed et al. (2001) show that norm compliance decreases following negative shaming or "stigmatization." That is, shaming that takes the form of scolding and/or humiliating the subject tends to decrease norm compliance. As others have noted, subjects are more likely to reject feedback when it threatens their self-esteem or is perceived negatively (Bandura and Locke 2003; Ilgen et al. 1979).

Thus, despite what Kluger and DeNisi (1996, p. 257) describe as the "empirical variability" of feedback on performance,[1] the results are at least suggestive that negative feedback in the form of simply pointing out past mistakes can have a positive effect on behavior. For example, Waldersee and Luthans (1994) show "corrective" feedback is more effective than positive feedback for improving customer service relations among employees in fast food restaurants.[2] Corrective feedback in this study was operationalized by telling the subject that there were certain aspects of their behavior that "have room for further improvement" (87). Corrective feedback seems to lead to more cooperative behavior in laboratory settings (Nelissen et al. 2007). Focusing on what they call the "prosocial" side of shame, deHooge et al. (2008) show that experimental subjects who experience the feeling of shame tend to be more cooperative in subsequent decisions (give more money to their experimental counterpart) than subjects in the control condition.

In order to investigate the relative force of messages that call attention to the fact that one complied or failed to comply with the norm of voting, we conducted a large-scale field experiment. A sample of 369,211 registered voters who voted in just one of two recent elections were randomly assigned to receive no mail, mail that encouraged them to vote, and mail that encouraged them to vote and indicated their turnout in one previous election. The latter type of mailing randomly reported either the election in which they voted or the one in which they abstained. Results suggest that mailings that disclosed past voting behavior had strong effects and that these effects were significantly stronger when people were shown that they had abstained in a recent election.

Experimental Design

Setting

Our field experiment was conducted in Michigan prior to the November 2007 municipal election. In total, 224 cities in the state of Michigan held elections on

[1] With regard to negative feedback, several factors, including self-esteem of the one receiving feedback (Bandura and Locke 2003), the credibility of the source (Podsakoff and Farh 1989), the complexity of the task (Ashby and O'Brien 2007), and whether the subject receiving feedback is motivated to reduce the "discrepancy" between their goal and feedback received (Kluger and DeNisi 1996) moderate the effectiveness of such feedback.

[2] See Murphy and Harris (2007) for an observational study on the effects of reintegrative shaming and stigmatization on tax compliance. Reintegrative shaming is defined as "communicating disapproval of an *act* with respect" (Ahmed et al. 2001, p. 39).

November 6, 2007. There was considerable variation as to what appeared on the ballot in each of these cities. Some elections consisted of a range of local offices and initiatives appearing on the ballot while in other elections there were no city offices on the ballot, but instead a contest for school board, or a tax levy or some other ballot initiative.

Study Population

Subjects for this experiment were voters listed in the State of Michigan's Qualified Voter File (QVF).[3] For purposes of random assignment, voters were grouped into households, which were defined to include everyone with the same last name at the same address. Households with three or more registered voters were eliminated, as were precincts with fewer than 100 voters. Additionally, we eliminated households that had been shown their vote history in previous field experiments as well as households where addresses listed on the QVF did not appear to be valid.

For the remaining households, the randomization process is as follows. Precincts were first given a random identifier and sorted in random order. Within precincts, households were sorted according to an arbitrary household identifier. These individuals were then randomly assigned into one of three treatment conditions (described below) using a skip pattern. The effect was to randomize assignment to treatment and control groups at the household level.

In Table 1 we provide descriptive statistics for the 369,211 registered voters in the study. The table shows the relationship between treatment group assignment and voter turnout history in five previous elections. As expected given random assignment of large numbers of subjects, there is no relationship between vote history and assignment to one of the three treatment groups. We also conducted a multinomial logit to test whether assignment to one of the three treatment groups can be predicted by the covariates, dummy variables scored 1 for those who voted. This test was performed at the individual level, which means that it is biased in favor of rejection of the null hypothesis (Hansen and Bowers 2008). Nevertheless, the likelihood ratio test with 12 degrees of freedom (four covariates times three treatments) was nonsignificant (LR chi-square = 10.08, $p = .61$), indicating the treatment groups are well balanced among the covariates listed in Table 1.

Treatments

Each household assigned to one of the three treatment groups received one of three different types of mailers. Common to each mailer was a message that read

[3] This figure represents a subset of the 585,378 households (807,021 individuals) described in Larimer (2009). Here we restrict attention to just those voters who voted in one of the past two elections, whereas Larimer (2009) examines, in addition, voters who voted in both or neither of these elections. We also limit the sample to people living in towns where an election was held in 2005. It should be noted that the average effect of the social pressure mailing (described below) is approximately the same regardless of how the sample is defined. In Larimer (2009), the social pressure mailing increases turnout from 27.7% in the control group ($N = 772{,}479$ individuals) to 32.4% ($N = 27{,}609$ individuals). Another 6,933 people received a mailing that encouraged them to vote but did not show their vote history; their turnout was 29.1%, which again is similar to the results reported by Gerber et al. (2008).

Table 1 Relationship between treatment group assignment and prior voting rates

	Experimental group			
	Control Mean	Civic duty Mean	Shown past abstention Mean	Shown past turnout Mean
Nov 2006	.90	.90	.91	.90
Nov 2005	.10	.10	.09	.10
Nov 2004	.91	.92	.92	.91
Aug 2006	.26	.26	.26	.26
Aug 2004	.23	.24	.23	.23
N	353,341	3,238	6,325	6,307

Note: entries are average voting rates in prior elections, for each experimental group

"DO YOUR CIVIC DUTY—VOTE!" The first treatment group received a "Civic duty" mailer. This mailer is identical to the civic duty mailer used in Gerber et al. (2008). Households receiving this mailer were told, "Remember your rights and responsibilities as a citizen. Remember to vote." The other two treatment groups received mailers that attempted to apply social pressure to vote. In the "Shown Past Abstention" treatment group, individuals received a mailing that indicated that they had not voted in a recent election. The mailer listed all registered voters in the household and included two columns, one for a recent election (either November 2005 or November 2006) and one for the upcoming November 2007 election. The phrase "Did not vote" appeared in the column associated with the prior election. In the "Shown Past Vote" treatment, subjects were shown an election in which they cast a ballot. Care was taken to ensure that subjects were provided accurate information.[4]

In sum, a sample of voters who had voted in just one of the past two elections could be shown one of four things: nothing at all, a mailing urging them to do their civic duty, a mailing disclosing that they had abstained in a recent election, or a mailing disclosing that they had voted in a recent election.

Results

In Table 2 we report the turnout rates for each of the experimental groups. Those in the control group voted at a rate of 22.5%. Households receiving the civic duty treatment voted at a rate of 24.3%, a 1.8 percentage point increase over the control group. This estimated effect is similar to what is reported in Gerber et al. (2008) but stronger than the typical effect of nonpartisan mail (Green and Gerber 2008). Gerber et al. (2008) report a 4.8 percentage point increase for the treatment group receiving within household social pressure, or what they call the "Self" mailer. In our experiment, turnout was 28.9% among those who received the mailing indicating

[4] Providing accurate information avoids ethical concerns associated with deception. In addition, previous research suggests that providing accurate feedback from a reliable source increases the likelihood of norm-compliant behavior (see Podsakoff and Farh 1989; Ilgen et al. 1979, p. 366).

Table 2 Effects of three mail treatments on voter turnout in the November 2007 municipal election

	Experimental group			
	Control	Civic duty	Shown past abstention	Shown past vote
Voted 2005, abstained 2006	13.60% ($N = 35{,}040$)	14.91% ($N = 322$)	17.53% ($N = 599$)	16.36% ($N = 605$)
Abstained 2005, voted 2006	23.51% ($N = 318{,}301$)	25.34% ($N = 2{,}916$)	30.04% ($N = 5{,}726$)	27.64% ($N = 5{,}702$)
Total percent voting	22.53%	24.31%	28.85%	26.56%
N of individuals	353,341	3,238	6,325	6,307

that they did not vote in a recent election. Turnout among those who received the mailing indicating that they voted was 26.6%.

Table 3 refines the analysis by providing two sets of regression estimates. The first column of Table 3 reports the results of a linear regression in which voter turnout (Y_i) for individual i is regressed on dummy variables $\{D_{1i}, D_{2i}, D_{3i}\}$ marking each of the three treatments (the reference category is the control group). This model may be written simply as

$$Y_i = \beta_0 + \beta_1 D_{1i} + \beta_2 D_{2i} + \beta_3 D_{3i} + u_i, \quad (1)$$

where u_i represents an unobserved disturbance term. This regression basically mimics the simple array of turnout percentages reported in Table 2. The second column of Table 3 controls further for voting in four[5] of the recent elections reported in Table 1 $\{V_{1i}, V_{2i}, V_{3i}, V_{4i}\}$:

$$Y_i = \beta_0 + \beta_1 D_{1i} + \beta_2 D_{2i} + \beta_3 D_{3i} + \lambda_1 V_{1i} + \lambda_2 V_{2i} + \lambda_3 V_{3i} + \lambda_4 V_{4i} + u_i. \quad (2)$$

Because of random assignment, both specifications provide unbiased estimates, but the second specification is potentially more efficient. Controlling for past voting behavior reduces disturbance variance and therefore improves the precision of the treatment estimates. When calculating the sampling variability of the estimated treatment effects, we use robust-cluster standard errors in order to take into account the fact that the household, rather than the individual, is the unit of random assignment (Arceneaux 2005).

The estimates reported in Table 3 attest to the robustness of the experimental results. Four models are presented, all of which show that the social pressure mailings have powerful and statistically significant effects. Using a linear model without covariates (see Eq. 1), the estimated effect of showing voters that they failed to vote in a previous election raises turnout by 6.3 percentage points (SE = .7) above their counterparts in the control group. After controlling for covariates (see Eq. 2), the linear regression estimate rises to 6.4 percentage points with a standard error of .6. The corresponding estimate for the effect of showing people that they did vote in a recent election is 4.0 percentage points (SE = .6) or

[5] Although five elections are listed in Table 1, the November 2005 and 2006 are, by design, perfectly collinear, since voters were selected on the grounds that they participated in just one of them.

Table 3 OLS and probit estimates of the effects of three mail treatments on voter turnout in the November 2007 election

	OLS		Probit	
	(1)	(2)	(3)	(4)
Civic duty treatment	1.78 (.87)	1.72 (.83)	.06 (.03)	.06 (.03)
Shown past abstention	6.33 (.66)	6.42 (.63)	.20 (.02)	.21 (.02)
Shown past vote	4.03 (.64)	4.08 (.62)	.13 (.02)	.14 (.02)
Voted in November 2004		3.92 (.23)		.16 (.01)
Voted in August 2004		8.60 (.20)		.27 (.01)
Voted in November 2006		6.73 (.20)		.28 (.01)
Voted in August 2006		16.31 (.20)		.50 (.01)
Constant	22.53 (.08)	6.60 (.25)	−.75 (.003)	−1.38 (.01)
N of individuals	369,211	369,211	369,211	369,211

Note: Robust cluster standard errors in parentheses. Clustering takes account of the fact that households, rather than individuals, were assigned to experimental treatments

4.1 (SE = .6), depending on whether the regression includes covariates. The pattern remains unchanged when we estimate these models using probit, which constrains the predicted probability of voting to lie between 0 and 1. Without covariates, the probit estimates are essentially rescaled versions of the estimates obtained by linear regression. When covariates are added, the estimated effects of the mailings grow slightly larger. For example, the effect of an abstention mailing is .21 probits, which implies that a voter who would otherwise have a 23% chance of voting (the average voting rate in the control group, or $\Phi(-.75)$) would have a $\Phi(-.75 + .21) = 29\%$ chance of voting if sent an abstention mailing.

The remaining question is whether showing people that they abstained has a significantly greater effect than showing people that they voted. In order to test this hypothesis, we restricted our sample to the 12,632 subjects who received one of the two mailings that showed household members' vote history. Recall from Table 2 that turnout was higher among those who were shown a past abstention, regardless of whether that abstention occurred in 2005 or 2006.[6] Regression enables us to gauge this effect more rigorously. The estimated effect of seeing that one abstained is 2.3 percentage-points with a standard error of .9. This estimate remains unchanged when one controls for past voting. Without covariates, the *t*-ratio is 2.53; with covariates, the *t*-ratio rises to 2.66. In both cases, the two-tailed *p*-value is approximately .01, suggesting that if shame vs. pride mail were equally effective, there would be just a 1% probability of obtaining an estimated effect as large (in absolute value) as 2.3 due to chance.

[6] The effect of past abstention appears to be slightly larger when the abstention occurred in 2005, which is surprising given that it was a low turnout election. The interaction between treatment and the year in which one abstained is not statistically significant.

Conclusion

The results reported here and in other social pressure experiments attest to the formidable effects of surveillance on compliance with social norms. Despite the fact that direct mail is typically an ineffective method for raising voter turnout (Green and Gerber 2008), direct mail profoundly influences voter turnout when it conveys information about past voting and promises to monitor future voting. In this experiment, those receiving any kind of information about their past turnout voted at a rate of 27.7%, as compared to 22.5% among the control group. Social pressure mail, in other words, led to a 23% increase in the number of votes cast. The fact that this result closely approximates the prior findings of Gerber et al. (2008) and appears to hold across an array of different electoral settings and partisan groups across the state (Larimer 2009) suggests that causal forces at work are quite general.

The principal contribution of this study is to clarify how the content of the social pressure appeal shapes voting behavior. Given the inattentiveness with which voters typically read mass mailings, it would not have been surprising to find that people react to the news that their participation is being monitored without responding to the specific information that was revealed about their participation in past elections. The content of this information proved, however, to be quite important. Showing a past abstention generated $28.85/22.53 - 1 = 28\%$ additional votes, whereas showing past participation generated $26.56/22.53 - 1 = 18\%$ more votes. Both mailings are effective, but the former is significantly more so. Since both mailings cost the same to produce, the practical message is clear: exert social pressure by calling attention to a past lapse in participation.

This practical lesson potentially applies to a wide array of different domains—from sermons to public service announcements. Rather than applaud the audience for its accomplishments, politely remind them of their failure to live up to social norms. Evidently, being told that you did not abide with the norm of voting is a strong "negative reinforcer," more so than positive feedback alone (Buss and Buss 1956, p. 287; Jones 1961; see also Waldersee and Luthans 1994).

Our preferred interpretation is that the experiment measures the relative effects of inducing feelings of shame versus pride. However, we did not obtain direct measurements of the extent to which our mailings did in fact induce these emotions, and we recognize that other mechanisms may be at work. For some people, receiving a positive vote history may have actually served as justification for abstaining in the current election. As recent studies from psychology on licensing suggest, people are more likely to express prejudiced attitudes if they are first given the opportunity to express non-prejudiced attitudes (Effron et al. 2009; Monin and Miller 2001). Those who are reminded that they have voted, according to this view, may feel that they have demonstrated adherence to the social norms of good citizenship and therefore may now abstain in the current election without fear of appearing to be bad citizens. A related argument, growing out of the "fair share" model proposed by Margolis (1982), is that reminding people that they have voted in the past—and have therefore done their fair share in support of a public

good—diminishes their sense of obligation to do so in the future. What pattern of participation behavior constitutes doing one's "fair share" is ambiguous, but the fact that voting rates fall well short of fifty percent of eligible voters in most elections suggests that there is little social stigma attached to those who occasionally abstain. The broader point is that there are potentially many mechanisms at work. Some involve emotions such as shame and pride, while others involve the sense that one is released from obligations by virtue of past contributions.

One direction for future research would be to introduce variance into the degree of message negativity. As found in previous studies, feedback perceived as excessively negative or stigmatizing can actually decrease performance levels. Recent evidence from laboratory settings however points to a positive effect of mild shame on individual behavior (see deHooge et al. 2008). The fact that subjects in our study who were reminded that they did not vote in the previous election had a higher turnout rate than subjects who were shown past participation suggests our treatment is appropriately balanced between being negative or corrective, and not overly negative. Another direction for future research would be to vary the tone of the mailings. In our experiment, the only thing that differentiated the two mailings that provided the recipient's vote history was the indicator "voted" or "did not vote." One could imagine a mailing that tailored the accompanying prose so that voters were praised and nonvoters scolded. Alternatively, one could move away from eliciting emotions and present recipients with a dispassionate statement of their past conduct, perhaps in conjunction with a statement about average voting rates in the community. If fair share reasoning is at work, the effects should vary according to the discrepancy between the recipient's past behavior and the putative norm.

From a theoretical standpoint, the findings illuminate the kinds of psychic costs and benefits that figure in the calculus of voting and other forms of collective action. Gerber et al. (2008) distinguish between two kinds of psychic benefits, the intrinsic rewards of performing a civic duty and the external rewards that come from being observed to do so. The present study extends this line of research by differentiating between two kinds of surveillance: monitoring that calls attention to a failure to uphold a norm versus monitoring that documents past compliance with a norm. Evidently, the implicit admonition in the former is a stronger inducement than the implicit approbation in the latter. Although this finding is subject to multiple interpretations that must be sorted out in subsequent experiments, the pattern of results may indicate that the psychic rewards of participation are less a function of the satisfaction associated with doing one's duty than the disutility associated with being scolded for abstention.

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Appendix: Mailings

Civic duty

For more information: (517) 351-1975
email: etov@Grebner.com
Practical Political Consulting
P. O. Box 6249
East Lansing, MI 48826

PRSRT STD
U.S. Postage
PAID
Lansing, MI
Permit # 444

THE SMITH FAMILY
9999 PARK LANE
FLINT MI 48507

Dear Registered Voter:

DO YOUR CIVIC DUTY AND VOTE!

Why do so many people fail to vote? We've been talking about this problem for years, but it only seems to get worse.

The whole point of democracy is that citizens are active participants in government; that we have a voice in government. Your voice starts with your vote. On November 6, remember your rights and responsibilities as a citizen. Remember to vote.

DO YOUR CIVIC DUTY - VOTE!

Shown Past Abstention

For more information: (517) 351-1975
email: etov@Grebner.com
Practical Political Consulting
P. O. Box 6249
East Lansing, MI 48826

PRSRT STD
U.S. Postage
PAID
Lansing, MI
Permit # 444

ROBERT WAYNE
9999 OAK ST
FLINT MI 48507

Dear Registered Voter:

DO YOUR CIVIC DUTY AND VOTE!

Why do so many people fail to vote? We've been talking about this problem for years, but it only seems to get worse.

This year, we're taking a different approach. We are reminding people that who votes is a matter of public record.
The chart shows your name from the list of registered voters, showing past votes, as well as an empty box which we will fill in to show whether you vote in the November 6 election. We intend to mail you an updated chart when we have that information.

We will note whether you vote or not.

DO YOUR CIVIC DUTY - VOTE!

OAK ST		11/8/05	11/6/07
9999	ROBERT WAYNE	Did not vote	_____

Shown Past Vote

For more information: (517) 351-1975
email: etov@Grebner.com
Practical Political Consulting
P. O. Box 6249
East Lansing, MI 48826

PRSRT STD
U.S. Postage
PAID
Lansing, MI
Permit # 444

KATHY JACKSON
9999 MAPLE DR
FLINT MI 48507

Dear Registered Voter:

DO YOUR CIVIC DUTY AND VOTE!

Why do so many people fail to vote? We've been talking about this problem for years, but it only seems to get worse.

This year, we're taking a different approach. We are reminding people that who votes is a matter of public record.
The chart shows your name from the list of registered voters, showing past votes, as well as an empty box which we will fill in to show whether you vote in the November 6 election. We intend to mail you an updated chart when we have that information.

We will note whether you vote or not.

DO YOUR CIVIC DUTY - VOTE!

MAPLE DR		11/7/06	11/6/07
9999	KATHY JACKSON	Voted	_____

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