

The Differential Effects of Stress on Voter Turnout

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While everyone deals with stressful situations on a daily basis, individuals have different behavioral reactions to that stress. We argue that life stress also affects individuals' political behavior, but this effect is contingent on their past political involvement. While individuals familiar with and engaged in the political process are unaffected when confronted with stress in life, individuals who are not routinely involved in the electoral process are more likely to disengage from politics. To test the differential effects of stress on the likelihood of political involvement, we fielded two experiments, one preceding the U.S. presidential election of 2012 and the second preceding the 2013 municipal election in a small Midwestern American town. We find that when triggered to consider life stressors unrelated to politics, individuals without a history of past participation in politics are less likely to vote while individuals who are habitual voters are unaffected.

KEY WORDS: stress, voter turnout, political participation

Every day individuals must deal with personal problems and stressful situations in their lives. The norms of civil society require that citizens participate in the political process in spite of these daily problems, as the function of an effective democracy depends on the participation of its citizens. Yet most people do not fully participate in all aspects of the process, and many do not participate at all. While previous studies of participation have focused primarily on the resources individuals have available such as time, money, and civic skills, recent evidence finds that an individual's well-being and overall health also significantly influence political engagement (Mattila, Söderlund, Wass, & Lauri, 2013; Ojeda, in press; Pacheco & Fletcher, 2015). Indeed, stressors from a wide range of life experiences and circumstances have a major influence on an individual's participation in the political process (Hobbs, Christakis, & Fowler, 2013; Pacheco & Plutzer, 2007, 2008; Sandell & Plutzer, 2005; Verba, Schlozman, & Brady, 1995).

Scholars have acted on the assumption, however, that stressful situations—and the costs they impose—uniformly and negatively affect the likelihood that individuals participate in the political process. This customary explanation suggests that as the life of the average American becomes more stressful, he or she is less likely to vote, as those problems and concerns occupy the time otherwise required to become informed about the political process and to participate. Under the assumption of universal stress effects, life stressors either reduce the availability of resources necessary to participate, or they increase the opportunity costs associated with voting. Differences in observed behavior

thus stem from differences in the educational and economic resources that individuals have at their disposal to pay those costs (Rosenstone & Hansen, 1993; Verba et al., 1995; Wolfinger & Rosenstone, 1980).

This assumption ignores the possibilities of the conditional effects of stress on political participation. While the bulk of the literature has shown that stress-inducing life events lower the political participation of the general population (Hobbs et al., 2013; Pacheco & Plutzer, 2008; Sandell & Plutzer, 2005), some studies involving certain subpopulations have shown the opposite, namely that stress in life has no effect or even increases political participation (Pacheco & Plutzer, 2007; Peterson, 1987; Peterson & Gabbidon, 2007; Peterson & Somit, 1994). Likewise, just as there is some limited evidence that the adaptive family and community structures of racial minorities provide a buffer to some of the political effects of life stressors (Pacheco & Plutzer, 2007), research in psychology has shown that there are important differences in how people handle and cope with stress (Bandura, 1977; Lazarus & Folkman, 1984). An individual's choice of how to respond to the presence of stress depends on that individual's appraisal of the situation. Past assumptions about the uniform and negative effects of stress do not take into consideration the means by which people deal with stress in their lives (Bandura, 1977; Lazarus & Folkman, 1984), their past political behaviors (Plutzer, 2002), or their ability to connect personal life stress to political or governmental solutions (Brody & Sniderman, 1977).

We argue that those differences moderate how stress affects an individual's political behavior. For those people who are regularly involved in and familiar with the political process, life stressors do not deter participation. For these individuals, participation does not require the time and consideration that it does for habitual nonvoters (Blais, 2000; Plutzer, 2002). Conversely, additional stress in the lives of nonhabitual participants decreases the likelihood of participation. For those individuals, the act of voting merely creates additional demands and stresses to an already demanding life. Stress in life for nonhabitual voters increases the opportunity costs associated with voting and causes them to withdraw from politics. Unlike voters familiar with the political process, personal troubles cannot be directly connected to the political process and, as such, increase the costs the individual must incur in order to participate.

In short, we argue that the effects of stress on political participation are conditional on past political behavior. To test this hypothesis, we fielded two experiments. The first of these was an online survey experiment that measured vote intentions. While controlled laboratory experiments better allow for the isolation of the variables of interest and ensure that respondents receive the full effects of the treatment, the environmental circumstances are significantly different from those experienced in the real world. Chief among those is the difference between an individual's stated intentions and his or her actual behavior (Abramson & Claggett, 1984; Berinsky, 2004; Katosh & Traugott, 1981). For that reason, we also ran a similar second field experiment in a small town in the Midwestern United States that measured actual turnout behavior. While the field experiment limits our ability to ensure the receipt and processing of the treatment, it better allows for us to see the effects of the treatment on actual behavior rather than stated intentions. Using a combination of field and lab experiments ensures that both the internal and external validity of our findings are robust.

In both experiments, one group of respondents was prompted to contemplate stressful things in their lives. The results from the first experiment suggest that compared to a control group that received no stress stimuli, nonhabitual voters in the treatment group are less likely to indicate they would vote and are also less likely to actually turn out to vote in the second experiment. On the contrary, habitual voters who were asked to contemplate stressful things in their lives were no less likely to indicate that they intended to vote in the first experiment or actually vote in the second experiment. As such, we argue that the assumption that the costs of stress are uniformly negative is wrong. We find that habitual voters and nonhabitual voters respond differently politically to stress in their daily lives, even after controlling for the resources commonly used to explain participation (Verba et al., 1995).

The Cost of Voting

The traditional rational choice voting calculus characterizes the decision to vote as a simple equation where the potential voter weighs the costs and benefits of voting (Downs, 1957; Duffy & Tavits, 2008). Many voters choose not to participate because of the overwhelming costs associated with casting a ballot. Costs to voters can take a myriad of forms, either institutional (Highton, 2004; Powell, 1986) or individual (Brady, Verba, & Scholzman, 1995), but all decrease the likelihood of participation for individuals unable or unwilling to pay those costs.

Life Stressors and the Vote

A recently burgeoning literature on health effects has shown that one's overall well-being (Matile et al., 2013; Pacheco & Fletcher, 2015), physical capacity (Schur, Shields, Kruse, & Schriener, 2002), and mental health (Ojeda, in press) all influence political participation rates of Americans. There is a well-documented literature on the long litany of trying events in life that affect political engagement. Among older rural Americans, stress and hardship in life reduces political interest, political efficacy, and participation (Peterson, 1987). Likewise, stressful life events—such as widowhood (Hobbs et al., 2013), divorce (Sandell & Plutzer, 2005), and economic hardships (Pacheco & Plutzer, 2007, 2008)—also have a dramatic negative effect on the likelihood of participation.

However, many of these studies find a wide variation in the size of the effects of these stressful occurrences among different subgroups, showing a large dampening effect on turnout in some subgroups and little to no effect in others (Pacheco & Plutzer, 2007). A few studies have even found that, among some subgroups, poor health and traumatic life events lead to greater political participation (Peterson & Gabbidon, 2007; Peterson & Somit, 1994). Political scientists have long contended that people's perceptions of their problems impact political behavior depending on the degree to which those problems can be connected to the political realm, concepts operationalized in Brody and Sniderman (1977) as the *locus of concern* and in Sniderman and Brody (1977) as the *focus of expectations*. Analyzing data from the 1972 American National Election Study (ANES), the authors find that those who participate in the political process on a regular basis are better able to connect the stress in their lives to a political solution (Brody & Sniderman, 1977). Furthermore, they find evidence of an inhibitory effect, where respondents who are concerned about personal problems (in their language, personal economic problems or self-located problems) are less likely to vote than we would expect based on their demographic characteristics alone.

These findings suggest that the differential effect sizes found in previous studies for the relationship between stressful life occurrences and political participation may be due to the role of past experience in the political realm fostering the ability to link personal problems to political solutions. A person's ability to view stressful events as fixable through the political process may largely depend upon his or her familiarity with the process and how that process affects his or her life. Thus, we turn to the literature on habitual voting to understand why personal stressors may differentially affect people based on their prior voting history.

Habitual and Nonhabitual Voters

A large body of evidence now supports the importance of the habit-formation aspects of voting. Voters who are mobilized to vote for the first time in one election are more likely to vote in subsequent elections than are similar voters who were not mobilized (Coppock & Green, 2015; Gerber, Green, & Shachar, 2003; Green & Shachar, 2000). People who have participated in the political process in the past are more likely to participate again in the future, in part because of their characteristics (Grant & Rudolph, 2002), but also because future electoral campaigns are more likely to target them

in their efforts (Hassell & Monson, 2014). One's status as a voter or nonvoter also appears to be subject to some inertia (Milbrath, 1965), which limits the ability of citizens to move seamlessly between groups. Individuals who are voters are likely to remain voters unless they encounter prohibitory barriers to voting. Individuals who are nonvoters, on the other hand, must pay higher costs to overcome the inertia of not voting, a cost that habitual voters do not normally face (Plutzer, 2002).

The concept of habit formation has come to form an important part of our understanding of why people vote, but the role of habit formation is nuanced and complex (Coppock & Green, 2015) as it likely intervenes and interacts with other important predictors of turnout. For example, many of the individual-level factors that contribute to voter turnout—ranging from demographic factors to attitudinal factors—appear to contribute to habit formation, suggesting that habit formation may play a large mediating role in these relationships. Simultaneously, habit formation may moderate citizens' responsiveness to contextual-level factors thought to be associated with increased voter turnout. The citizens most responsive to electoral competitiveness are those with little past voting experience (Franklin, 2004), and first-time voters appear to be more sensitive to the effect of living with other voters (Fieldhouse & Cutts, 2012), though neighborhood electoral context does not seem to differentially affect first-time voters (Fieldhouse & Cutts, 2012).

The Differential Effects of Life Stress

In our study, we test the possibility of habit formation to moderate the effect of a psychological factor—activated life stress—on voter turnout.¹ How and why should habit formation moderate the effects of activated stress on turnout? The answer to that question depends on the cognitive and emotional consequences of activating stress, an entire field of inquiry within psychology and a topic worthy of future investigation. However, we propose that reminding people of the stress in their daily lives has two main consequences. The first is to remind people of the opportunity costs of voting; every minute spent engaging in politics is time not spent addressing other financial or personal problems. The second consequence is to activate citizens' linkage of their personal problems to government solutions.

These two consequences differentially affect habitual and nonhabitual voters. The act of voting creates additional demands and stresses to an already demanding life, but this is differentially costly based on one's past experience with politics. Because many of the cognitive costs of voting are typically reduced for habitual voters, activation of additional costs via a reminder of life stress is insufficient to change the fundamental cost-benefit analyses in which a habitual voter engages. However, stress in life for nonhabitual voters increases the opportunity costs associated with voting, and troubles and stressors in their lives cause a withdrawal from politics. Unlike voters familiar with the political process, personal troubles cannot be directly connected to the political process and therefore increase the costs the individual must incur in order to participate.

Our study pulls together these two findings from two distinct literatures to argue that the experience of being a habitual voter can moderate a factor known to explain voter turnout: stressful life experiences. Previous studies about habitual voting have not focused on its ability to moderate the psychological factors known to be associated with voter turnout. Nor have previous studies about the role of life stress in political participation explored factors that explain why people are differentially responsive to life stress.

¹ We remain agnostic about whether habit formation also *mediates* the relationship between certain psychological predictors and turnout: a situation in which the way that people process the stress in their lives contributes to their underlying propensity to become a habitual voter. There is no clear prediction here in the literature. The pattern of findings from the closest stable personality trait regularly measured in the literature—emotional stability—is mixed with regards to various forms of political participation (Mondak, 2008; Mondak, Hibbing, Canache, Seligson, & Anderson, 2010).

Furthermore, these studies examine stressors in isolation and have relied on observational data that make it difficult to observe and isolate the process through which the addition of stress to an individual's life matters in his or her decision to participate in politics.² To varying degrees, these studies suggest a causal relationship between life stress and participation decisions, but they have not isolated the role of stress in the turnout decision. Rather they have focused on life conditions assumed to be stressful, without assessing the degree to which subjects themselves feel stressed by their circumstances. By using experimental methods, we are better able to causally link stress in life to individual political action.

Hypotheses

For regular voters, voting is a straightforward task, is more likely to be connected to economic related stress in life, and is a habitual process; therefore, we expect that additional stress in the life of a habitual voter will have no effect on her likelihood of voting.

H1: Reminding habitual voters about stressful things in their lives will have no effect on their likelihood of voting.

Nonhabitual voters, as a result of their lack of familiarity with the voting process, are more likely than habitual voters to view the process of voting as a particular burden and are also less likely to understand the relationship between stressors in their individual life and the political process. As such, we expect nonhabitual voters' voting behavior will decrease when exposed to stress. To these individuals, additional stress raises the opportunity costs associated with voting, lowering the likelihood they will vote.

H2: Nonhabitual voters will be less likely to vote when reminded about stressful things in their lives.

In summary, in contrast to nonhabitual voters, citizens who are familiar with the political process are more likely to connect stress in their daily life to the political process and less likely to view the voting process as an onerous task. Consequently, we should find that making life stress more salient should have a negligible or positive effect on the likelihood of voting for habitual voters and a *negative* effect on the likelihood of voting for nonhabitual voters.

Controlled Experiment

To test our hypothesis about the differential effect of stress on political participation, we ran two experiments. The first of these experiments was an online survey experiment in which we recruited 1,278 subjects who lived in the United States through Amazon's Mechanical Turk the week before the 2012 presidential election. Amazon's Mechanical Turk is a website where requesters publish tasks (HITs or Human Intelligence Tasks) and provide payment to those who choose to participate. Those who request a task can limit the availability of the task to respondents who meet certain qualifications, such as age or location. For our experiment, we required that respondents be citizens at least 18 years old living in the United States. Recruitment through Mechanical Turk is similar to other web-based

² The majority of these studies are also cross-sectional designs, with the exception of the work of Pacheco and Plutzer (2008) who use panel data for events occurring in adolescence. We know of no prior experimental work on the effects of life stress and political participation.

Table 1. Survey Sample Comparison

	Survey Sample	Actual U.S. Population
Turnout 2008	58.66%	61.60%
Turnout 2010	41.30%	41.70%
	Survey Sample	ANES 2012
White	79.39%	70.91%
Less Than a College Degree	54.59%	70.59%
With Income <\$40K	49.95%	40.67%
Under 35	69.33%	28.95%
Average External Efficacy	-0.144	-0.286

approaches such as YouGov that maintain panels of participants and invite them to participate in studies in exchange for a payment or other incentive. Studies that have used data from Mechanical Turk have been published in the top journals in political science (e.g., Grimmer, Messing, & Westwood, 2012; Hassell & Visalvanich, 2015). Additionally, studies run from samples collected from Mechanical Turk replicate important experimental findings in psychology (Buhrmester, Kwang, & Gosling, 2011), and previous research has shown that scholars can collect more representative samples from Mechanical Turk than they can from undergraduate samples or samples populated from those who respond to web advertisements (Berinsky, Huber, & Lenz, 2012).

Other issues with convenience samples, including online convenience samples, is the concern that treatment effects, or more specifically the lack thereof, may be driven by homogeneity of unmeasured characteristics of the subjects in the sample. It is possible that characteristics of individuals who take surveys online could confound the heterogeneous treatment effects; however, previous scholarship has only found convergence of these effects rather than a divergence and only in experimental treatments that require the subject to trust information provided by the experimenter (Krupnikov & Levine, 2014). Other similar experiments have found no confounding of heterogeneous treatment effects in similar experiments, including experiments using longer vignettes (Weinberg, Freese, & McElhattan, 2014) and elaborate buy-ins on the part of respondents (Berinsky et al., 2012).

We recognize the inherent limitations of using Mechanical Turk. However, although a sample may not be entirely representative of the general population, its usefulness is dependent on the variation of relevant moderating characteristics (Druckman & Kam, 2011). In our case that variable is past voter history.³ The sample from Mechanical Turk had a self-reported turnout rate of almost 59% in the 2008 election and 41% in the 2010 midterm elections compared to an actual voter eligible turnout rate of just under 62% in the 2008 national election and 42% in the 2010 midterm elections.⁴ While self-reported turnout is generally higher than actual turnout, the approximate similarity of these numbers suggests our sample mirrors the national adult population on voter turnout. Table 1 compares the turnout rate of individuals in our sample to the turnout rate in the general population in 2008 and 2010 and the demographics and political efficacy of our sample to the sample used in the 2012 American National Election Survey. While our survey participants are younger, slightly poorer, and more educated than a more representative national sample, the demographic sample in our study is more representative than convenience samples commonly used in political science

³ Previous research has also found that there is no support for speculations that busy people are less likely to respond to surveys. Busy people are just as likely to respond to surveys as those with more leisure time (Abraham, Maitland, & Bianci, 2006). While we are not able to measure how busy people were in the Mechanical Turk survey, given the consistency of the covariates outlined in Table 1, we suspect that there is also reasonable variation in the fullness of individuals' lives.

⁴ Voting Eligible Turnout was 59% and 41%; Voting Age Turnout was slightly lower. Data on turnout is from Michael McDonald's United States Election Project (<http://www.electproject.org>).

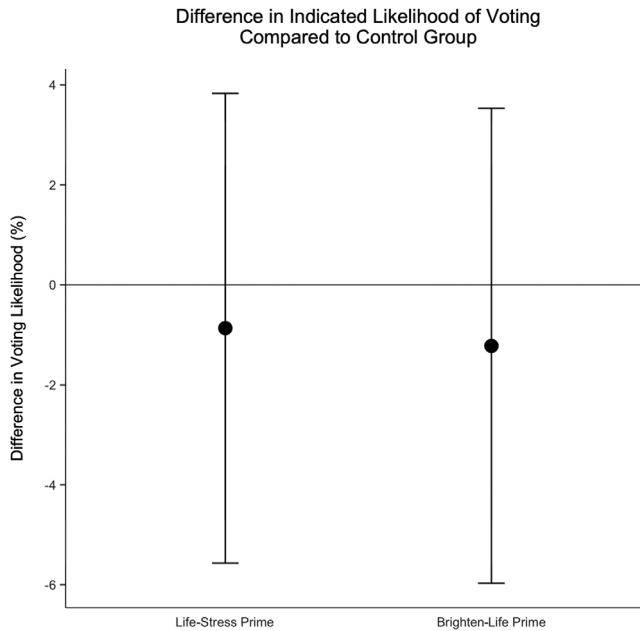


Figure 1. Indicated likelihood of voting for all experimental primes in the Mechanical Turk study. Lines indicate 95% confidence intervals.

and psychology. More importantly, our sample provides a conservative test of our hypothesis that there are differential effects of stress on habitual and nonhabitual voters. Studies indicate that habit strength is reinforced over time and as the activity is performed repeatedly (Milbrath, 1965). Thus, if we find a differential effect between habitual voters and habitual non-voters at a younger age when levels of inertia are lower, then it is more likely that these differential effects would be stronger in an older population where levels of inertia keeping individuals in their voting habits are higher.

After gathering basic information about the respondents, we implemented a single factor experiment with three levels. Respondents were randomly assigned into three different groups with two treatment groups and a control group. Hotelling balance tests showed that our randomization was successful and revealed no significant differences between the groups on socioeconomic and partisanship variables. Respondents were asked to complete a task designed to elicit a specific psychological response, and we varied the task between subjects. There was no within-subjects manipulation. We assigned the two treatment groups to engage in one of two different directed-thinking tasks designed to prompt respondents to conceptualize themselves as stressed or content (Kunda, Fong, Sanitioso, & Reber, 1993; Levine, 2015; McGuire & McGuire, 1996). Kunda et al. (1993) find that “directional questions influence self-conceptualizations” and that these directed questions cause individuals “to believe that they have higher levels of that attribute” (p. 82). In the first treatment, we asked respondents to list up to three things in their life that increase their levels of stress.⁵ To the extent we were able, we could find no meaningful differences between habitual and nonhabitual voters in the content

⁵ The exact wording of the question was “People often find that there are many things in their day-to-day life related to family and employment that bring stress to their lives, such as choices their family members make, their relationship with their spouse or partner, a difficult boss, a long commute, or an unsecure job, for example. Being as specific as possible, please list up to three things relating to your family life, job, or occupation that add stress to your life.” Individuals were then shown their responses and asked to confirm them.

Table 2. Effect of Stress-Inducing Prime on Indicated Likelihood of Voting

	(1) Likelihood of Voting	(2) Likelihood of Voting	(3) Likelihood of Voting	(4) Likelihood of Voting
Experimental Treatments				
Life-Stress Treatment	3.055 (3.547)	3.482 (3.467)	3.055 (3.575)	3.292 (3.459)
Pleasant-Thoughts Treatment			1.342 (3.713)	-1.508 (3.581)
Respondent Characteristics				
Nonhabitual Voter	-25.918*** (3.205)	-20.759*** (3.270)	-25.917*** (3.230)	-20.846*** (3.215)
Efficacy		6.064*** (1.369)		6.681*** (1.139)
Partisan		6.996*** (2.245)		8.941*** (1.848)
College Degree		12.129*** (2.942)		11.022*** (2.370)
Income \$40K to \$80K		0.150 (2.365)		1.544 (1.955)
Income \$80K+		8.094** (3.155)		7.806*** (2.579)
White		1.525 (2.814)		3.660 (2.264)
Age		0.548 (0.575)		0.391 (0.467)
Age ²		-0.007 (0.007)		-0.005 (0.006)
Interactions				
Nonhabitual Voter × Stress Treatment	-7.904* (4.496)	-9.262** (4.389)	-7.904* (4.531)	-9.226** (4.381)
Nonhabitual Voter × Pleasant Thoughts			-3.578 (4.628)	-4.186 (4.465)
Constant	94.686*** (2.561)	65.677*** (11.618)	94.686*** (2.582)	66.736*** (9.439)
Observations	863	863	1,278	1,278
R ²	0.174	0.232	0.168	0.235
RMSE	31.99	30.99	32.24	31.01

Note. OLS coefficients with standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

listed. (See the appendix in the online supporting information for a fuller explanation of this analysis.) After listing these items, we showed them the items they had listed and asked respondents to review them to make sure the items were correct. We designed this treatment to make stress more salient by priming respondents to think about those things that are stressful to them.⁶ Previous work has found that subjects who are asked directional questions such as these are more prone to conceptualize themselves in that state of being because they are more likely to access memories confirming these conceptualizations (Kunda et al., 1993).⁷ By reminding people of the stress in their lives we make them more

⁶ This differs from previous work in political science that has made assumptions about the kinds of things—interpersonal relationship change (divorce, spousal death) or financial strain (poverty rates)—that might be stressful for individuals. Our treatment is thus the process of thinking about specific stressful things related to one's life, which has a direct relationship with one's self-conceptualization (Kunda et al., 1993).

likely to recover a biased set of memories that causes them to believe they are in a certain mental state and thus affects their decision-making as if they were in that state (Levine, 2015). While we are unable to test whether these prompts cause a physiological state of stress, they affect individuals' perception of stress in their lives.

However, because we were concerned that the process of thinking and considering up to three items might increase respondents' focus and alter evaluations of the likelihood of voting in the upcoming election above and beyond the effect of conceptualizing stress in their lives, we prompted the second group to think and list up to three of the "things that make your day a little brighter and more pleasant." As with the group that received the stress treatment, we then showed individuals the list of items that they had listed as brightening their day and asked them to review them to make sure that they were correct. After receiving the treatment, individuals were asked how likely they were to vote in the upcoming election on a scale of 0–100.⁸ The final group acted as a control and received no self-directed thought treatment; respondents in that group were merely asked to indicate how likely they were to vote in the upcoming election.

Different Effects for Habitual and Nonhabitual Voters

We begin by comparing the indicated likelihood of voting of all three groups in Figure 1. The results indicate that the mean likelihood of predicted turnout in each of the treatment groups is not significantly different from that in the control. On the whole, priming individuals to consider stressful situations does not significantly change their indicated likelihood to vote.

As hypothesized, however, differentiating between those who vote habitually and those who do not vote on a consistent basis demonstrates a differential effect of stress on predicted turnout. Simply, stress affects these groups differently. We classified habitual voters as individuals who voted in both the 2008 presidential election and the 2010 midterm election.⁹ Voters who participated in only one election or in neither election were classified as nonhabitual voters.¹⁰ To model the effect of making stress salient on the propensity of individuals to turn out to vote, we constructed a model that controls for a variety of other factors that have been shown to be influential in an individual's turnout decision. Because habit formation is not randomly assigned, it is important to also control for a variety of socioeconomic factors that have been shown to cause habit formation (Franklin, 2004; Plutzer, 2002). This allows us to isolate the habit of voting from the other factors that cause the formation of habit. Table 2 contains a series of models predicting an individual's indicated voting likelihood. The first two

⁷ Because we prompted people to think about stress (and not anxiety) they should conceptualize themselves as stressed (Kunda et al., 1993). However, we recognize that in the general public, the distinction between stress and anxiety is not as well defined as it is in scholarship, and it could be that these individuals thought of themselves as anxious rather than stressed.

⁸ We used a scale of 0–100 to increase the variance in our measurement to facilitate identification of effects with a small sample and because we were concerned with ceiling effects among habitual voters using an ordinal measure of anticipated likelihood of voting. We recognize that this makes it difficult to identify substantive effects, especially among habitual voters, and thus in the later field experiment we use a verified measure of turnout.

⁹ Previous research has not been consistent in identifying how to classify habitual voters. Franklin (2004) identifies voters as forming a voting habit after voting in three consecutive elections. We, however, are not interested in the formation of voting habits, but rather whether the influence of stress on voting is different for those who have already established a habit. Because most voters form the habit of voting early in their voting eligibility (Franklin, 2004; Plutzer, 2002), we are merely attempting to identify those who have that habit or do not have that habit. Voting both in the past U.S. presidential election and the mid-term congressional election (which regularly have much lower turnout than presidential elections) suggests habit. Although we were not able to test it in the lab experiment, in the field experiment we examined different operationalizations of habitual and nonhabitual voters ranging from having voted in only the most recent election to having voted in all three previous general elections and found no significant differences in effects.

¹⁰ Although we do not show the results here, we found no difference in the effects of the stress prime on the anticipated turnout behaviors between individuals who voted in only one of the two elections and those who did not vote at all.

Table 3. Effect of Life-Stress and Brighten-Life Primes on Habitual and Nonhabitual Voters' Likelihood of Voting Compared to No Prime

	No Prime	Life Stress	Brighten Life
Habitual Voter	94.7	97.7**	96.0
Nonhabitual Voter	68.8	63.9*	66.5

Note. One-tailed test with No Prime as the comparison group.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

models exclude individuals who were shown the brighten-your-life prime and use only those in the control group and those who saw the prime prompting them to think about stressful things in their day-to-day life. In addition to the experimental conditions and an individual's past voting history, we also have included a series of demographic and socioeconomic controls routinely found to influence an individual's participation rates.¹¹ In our survey, we also asked individuals a series of questions to measure their sense of political efficacy, and we include a summary measure of efficacy drawn from those questions.¹²

The effect of priming stress is different for habitual and nonhabitual voters. As is seen in Table 3, individuals who were primed to think about stressful life situations who voted in both the 2008 and 2010 elections estimated their likelihood of turning out just over 3 percentage points higher than habitual voters who were not given the prime (increasing their self-perceived likelihood of voting from 94.7 to 97.7). On the contrary, those who had not voted in both elections and were exposed to the same life-stress prime *reduced* their likelihood of voting by roughly 5 percentage points (decreasing their perceived likelihood of voting from 68.8 to 63.9). Thus, as is evident from the coefficient on the interaction in Table 2, introducing stress from daily-life interactions has an opposite effect among habitual voters and nonhabitual voters. The interaction of stress with past voting experience produces significantly different effects of stress among these different subgroups.

The second two models in Table 2 (and the last column in Table 3) also include the group that was shown the additional prime asking respondents to reflect on things that made their life more pleasant. These models demonstrate similar results. None of the additional variables or interactions are significant, nor is there any change in the significance of the differential effect of focusing on stressful day-to-day situations among habitual and nonhabitual voters. The effect sizes of stress and the interaction of stress and habitual voter status in these models are similar to those in the first model. These results show that the effects were the result of individuals being asked to think about stressful things in their lives as opposed to the process of considering a topic more generally and thereby increasing a respondents' focus.¹³ However, the effect of asking individuals to think about things that brighten their lives does not have the same differential effects on nonhabitual voters and habitual voters that the life-stress prime does. Thus, we can rule out the possibility that the mere act of thinking about specific facets of one's life increases focus and alters the estimates of voting probability.

¹¹ In addition, we examined other variations and transformations of the age and income variables and found no effects. The inclusion of these alternative measures does not alter the direction of the coefficients nor their significance.

¹² Respondents were asked if they agreed, disagreed, or neither agreed nor disagreed with the following two statements: "People like me don't have any say about what the government does" and "Public officials don't care much what people like me think." Individuals were given a score of -1 for each question to which they answered that they agreed and a score of 1 for each question to which they disagreed. Questions to which they answered they neither agreed nor disagreed were scored as 0. We then scaled the variable from -1 to 1.

¹³ In other models not shown here, we also included an interaction between an individual's level of political efficacy and the experimental prime they were shown. None of these interactions were significant nor did they have a substantive effect on the other variables of interest, suggesting that it is not one's belief in the effectiveness of the process, but one's familiarity with the process that is important.

Table 4. Demographics of Randomly Assigned Treatment and Control Groups

	Receive Postcard	Control
Age	47.00	48.59
Partisan	64.52%	63.52%
Republican	24.75%	23.96%
Democrat	39.06%	39.33%
Nonhabitual Voters	30.62%	32.44%
Did Not Vote in 2012	15.99%	14.02%
Total N	699	1757

Note. All differences between groups are not statistically significant except for the difference in age.

Field Experiment

There are large differences between asking about the likelihood of voting and measuring actual participation. Individuals have an incentive to misrepresent socially acceptable behaviors such as voting (Abramson & Claggett, 1984; Katosh & Traugott, 1981). An increase in habitual voters' indication of likelihood to vote from 94.7 and 97.7, or the decrease in the likelihood of voting of nonhabitual voters from 68.8 to 63.9, may not represent a substantively meaningful difference in turnout. For these reasons, we also conducted a field experiment using similar techniques to evaluate the effect of priming life stress on actual voting behavior.

In this second experiment, we used a sample of 3,128 registered voters in Mount Vernon, IA, to implement a single factor design with two levels.¹⁴ Mount Vernon is a small suburban town located in the Cedar Rapids, IA, Metropolitan area. The town's population at the 2010 census was 4,506, of which 95% were White.¹⁵ The median income for the town was \$70,960, with roughly 11% of all families living below the federal poverty line. Prior to random assignment, we removed the 672 individuals who listed an address associated with the small college in the town.¹⁶ Random assignment to one of two groups was done at the individual level, with the caveat that no more than one individual in a household could be part of the treatment group. We eliminated multiple mailings to the same household because we were concerned about the multiplicative effect of sending more than one mailer. In situations where multiple individuals were randomly selected into the treatment group, we randomly moved all but one of those individuals into the control group.

Larger field experiments have often focused on single-member households to avoid this complication. However, we were concerned that there were insufficient single-member households in this community to restrict our experiment in that way. To the degree that voter mobilization may spread within a household (see Nickerson, 2008), it should be more difficult for us to detect an effect between the treatment and control groups. However, our findings are also robust

¹⁴ By excluding nonregistered individuals, our sample provides a conservative test of our hypothesis that there are differential effects of stress on habitual and nonhabitual voters. If nonregistered voters have an even higher state of inertia, if we find a differential effect between habitual voters and habitual nonvoters excluding these individuals, then it is more likely that these differential effects would be stronger if we included nonregistered individuals.

¹⁵ We recognize that the racial makeup of the chosen city is unrepresentative of national population as a whole. Racial minorities, however, are more likely to be nonhabitual voters, thus making it more difficult to find an effect among that subgroup. Although some might argue that minorities may have developed adaptive strategies to deal with life stressors (Pacheco & Plutzer, 2008), we looked and found no difference in the effects of stress on participation between Whites and minorities in the lab experiment.

¹⁶ Because the election during which we ran the experiment was a local city election, we eliminated from the sample those who were obviously students, as their participation was anticipated to be substantially lower than the general population due to their temporary residence and decreased interest in local affairs.

Hans Hassell Assistant Professor at Cornell College, is conducting a survey about the effects of stress in our community. Please take the time to answer these questions. There is a Dropbox in the offices of the Sun Newspaper in uptown Mt. Vernon. Please note that the Sun is not the sponsor of this survey and will not read the survey responses, but has graciously agreed to permit us to collect postcards there.

If you have any questions or complaints you can contact Hans Hassell at [319-895-4353](tel:319-895-4353) or at hassell@cornellcollege.edu. You may also contact the Barbara Christie-Pope, Chair of the Cornell Institutional Review Board, at [319-895-4395](tel:319-895-4395) or bchristie-pope@cornellcollege.edu.

By filling out this survey and returning the postcard, you consent to participation in this study. Your responses will be kept confidential, and your name will be removed from the survey data.

People often find that there are many things in their day-to-day life related to family and employment that bring stress to their lives. Being as specific as possible, please list up to three things that add stress to your life.

Now, focus on one of the things on your list and try to remember the last time you experienced this stressor. When was that?

Recall the details of how you felt in that moment. How did that make you feel? Write a few sentences about your feelings.

Figure 2. Life-Stress mailer.

if we only look at single-member households in the sample. Hotelling balance tests reveal no significant differences between the groups on partisanship as is shown in Table 4. There is a minor difference in age; the treatment group is older on average by a mere two years, but there is no significant difference between the ages of the habitual voters and the nonhabitual voters within each treatment.

Individuals assigned to the treatment group were sent a 5.5" × 8.5" postcard that arrived in their mailbox one to three days prior to the 2013 city council and mayoral election held on the first Tuesday in November.¹⁷ Both the city council and mayoral elections were highly competitive with the incumbents losing by margins of under 5%. The postcard asked subjects to fill out and return a brief survey about the effects of stress in the local community. As with the first experimental procedure, respondents were asked to list up to three things in their day-to-day life that added stress to their lives. In addition, respondents were asked to also recall the last time they experienced the stressor and to write a few sentences about how that recent stressful experience made them feel. As before, we were careful to remove any reference to politics in the survey, and the mailer did not mention anything at all about the election or the fact that political

¹⁷ Previous research has provided some evidence that affective states can fade quickly—especially those induced by a short stimulus (e.g., Mutz, 2015, pp. 86–87)—perhaps making it difficult to identify whether the mailer caused the decrease in turnout. Random assignment of individuals to the treatment group should address this issue. However, we recognize the typical trade-off between laboratory studies which are high on internal validity and low on external validity, and field experiments which are high on external validity, but where it is often more difficult to identify the causal mechanism (McDermott, 2011). It is for this exact purpose that we have done both a laboratory experiment and a field experiment in order to help us identify the causal mechanism and also its real-world implications. Thus, while it is possible that the effect of the mailer is more limited than we claim, both the laboratory and field experiments point to the same result. In addition, previous work on the effect of mailings indicates that individuals are able to identify and recall mail they received for at least five days and that these mailers can affect opinions and behaviors for that same period of time and perhaps longer (Doherty & Adler, 2014). It is also important to remember that the intent of the postcard was not to change the affective state, but rather to change individuals' self-conception of themselves by activating a biased set of memories that in turn leads them to conceptualize themselves as stressed individuals (Kunda et al., 1993). Given that individuals are able to recall mail for at least a five-day period, we believe that the effect of the postcard should last at least three days (the maximum amount of time between the arrival of the postcards and Election Day), if not longer.

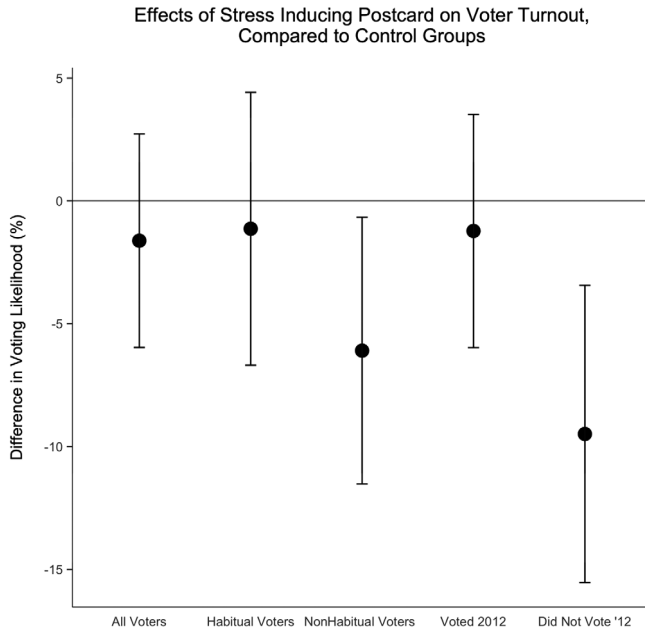


Figure 3. Effects of treatment in field experiment, by voter status. Lines indicate 95% confidence intervals.

scientists were conducting the study. Figure 2 provides a copy of the mailer sent out to registered voters. We measure intent-to-treat effects because we have no way to measure the extent to which our treatment was read by the treatment group, a common problem in get-out-the-vote field experiments (Gerber & Green, 2012).¹⁸

Different Effects for Habitual and Nonhabitual Voters

Figure 3 shows the levels of turnout for individuals in the treatment and control groups measured from official county voter records. Turnout citywide was 34.7%, but this figure also includes the 672 college students eliminated from the sample. According to records from the registrar of voters, the turnout among noncollege students was 43.6%. As in the first experiment, there is no overall significant difference between individuals assigned to the life-stress group and the control group. Although turnout among those in the treatment group was 1.6% lower than turnout in the control group, the difference was not statistically significant.

As before, the differential effect of the mailer is evident by looking at the effects of the treatment on habitual voters and nonhabitual voters, visualized in Figure 3.¹⁹ We again measured habitual voters as those individuals who had voted in both a presidential and congressional election, in this case the

¹⁸ No postcards were returned as undeliverable; however, only a very small proportion of people (about 3%) actually returned the “survey” to the drop site. However, we expect that simply reading the postcard may have been sufficient to cause an effect.

¹⁹ Although few postcards were returned, only one of those returned listed two items and none listed only one. Thus, while we are unable to systematically compare stress levels among habitual and nonhabitual voters, the consistent responses to the postcard (and also to the Mechanical Turk survey) suggest that habitual and nonhabitual voters do not vary in their ability to identify stress in their lives. Likewise, as before, we also attempt to control for covariates to reduce the influence of baseline levels of stress.

Table 5. Effect of Stress Inducing Postcard on Voter Turnout With and Without Controls

	(1) Voted	(2) Voted	(3) Voted	(4) Voted
Variables of Interest				
Stress Treatment Group	-0.027 (0.103)	-0.064 (0.110)	0.046 (0.087)	-0.077 (0.097)
Nonhabitual Voter	-1.762*** (0.147)	-1.427*** (0.171)		
Nonhabitual Voter × Stress Treatment	-0.452** (0.246)	-0.527** (0.264)		
Nonvoter 2012			-1.756*** (0.193)	-1.227*** (0.224)
Nonvoter 2012 × Stress Treatment			-1.110** (0.492)	-1.370** (0.527)
Demographic Controls				
Registered as Partisan		0.116 (0.108)		0.216** (0.106)
Age		0.152*** (0.019)		0.149*** (0.019)
Age ²		-0.001*** (0.000)		-0.001*** (0.000)
Constant	0.263*** (0.071)	-4.474*** (0.479)	-0.011 (0.076)	-4.479*** (0.472)
Observations	2,456	2,456	2,456	2,456
Pseudo R ²	0.111	0.200	0.063	0.166
Log-Likelihood	-1495	-1346	-1575	-1402

Note. Logit coefficients with clustered standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

2010 and 2012 elections.²⁰ While the effects of the treatment on habitual voters are miniscule and insignificant, the treatment lowered turnout among nonhabitual voters by 6.1% compared to nonhabitual voters who did not receive the postcard. The effect is even greater among those who did not vote in the previous election. Registered voters who did not vote in the 2012 presidential election were 9.7% less likely to vote if they received the stress postcard than if they did not.²¹

While our field experiment methodology limits our ability to control for a multitude of other attitudinal, demographical, and socioeconomic factors that may influence voter turnout, we can use data available from the voter file to again model the effects of the postcard in a regression framework. Table 5 contains a series of models predicting individual turnout. In addition to the experimental conditions and an individual's past voting history, we also have included a limited series of controls routinely found to influence an individual's participation rates.²²

After including the controls, the effect of the treatment on nonhabitual voters is still substantial and significant. Likewise, as before, there is no significant effect on the turnout rates of habitual voters.

²⁰ We also tested coding habitual voters as voters who had voted in all three of the previous general elections (as is consistent with Franklin's [2004] view of the formation of voting habit). We find no significant differences in effects. Habitual voters (measured as having voted in all three previous elections) saw no significant decline in the likelihood of turning out (47.6% turnout in the control compared to 46.7% turnout in the treatment group), while nonhabitual voters were almost 10% less likely to turnout (15.3% turnout in the control group compared to 5.6% turnout in the treatment group, significant at $p < .05$).

²¹ All of these findings are consistent and significant if we limit our analysis to single-voter households.

²² As before, we examined other variations and transformations of the age and found no difference in the effects. The inclusion of these alternative measures does not alter the direction of the coefficients nor their significance.

Discussion and Conclusion

Heightening voters' awareness of the stressors in their lives has differential effects on voter turnout depending on the degree to which people have participated in politics in the past. While there appears to be a nominal increase in the self-reported likelihood that habitual voters will turn out to vote as a result of stress, this finding was not replicated when actual voter turnout was measured. However, our results for nonhabitual voters are consistent across two studies: Making stress salient for those people least practiced in the political realm substantively and significantly reduces both their intention of voting and their actual behavior.

These findings suggest that stress from life experiences may be a motivating factor in perpetuating political inequalities. Those people who are more likely to experience higher levels of stress in their lives are also the same individuals who are most likely to be nonhabitual voters (Palloni, 2005). If those people most likely to be nonhabitual voters, and as such most likely to withdraw from the political arena when they experience stress in life, are also those who are most likely to *experience* high levels of stress in their lives on a regular basis, a vicious cycle of stress and detrimental stress response may push these citizens further and further away from connecting their problems with political solutions. This is concerning. These findings suggest that stress from individuals' life experiences may be a motivating factor in perpetuating current political inequalities between the haves and have-nots in society.

Although our study cannot disambiguate the mechanism of the effect of stress, we suspect that it has to do in part with differences in the familiarity with the political process between habitual voters and nonhabitual voters. Unlike nonhabitual voters, habitual voters are more likely to recognize connections between life stress and the electoral process. Habitual voters are less likely to consider voting an arduous task and a burden. Nonhabitual voters, however, likely perceive voting as a costly demand. They are more likely to be unfamiliar with the process and are less able to identify clear connections between their electoral participation and the stress in their lives. For nonhabitual voters, the act of voting during times of increased stress becomes only an additional, costly task adding to, instead of reducing, the level of stress in their lives.

All of this is also consistent with Blais's (2000) finding that those who have never voted tend to overestimate the costs associated with voting. People who have never voted perceive that the act of voting takes more time than do people who have voted previously, and a lower percentage of nonvoters report that voting is "easy." Thus, for nonhabitual voters, the act voting is seen as both more costly and less beneficial and is more likely to be set aside in the face of life's other problems.

One potential alternative explanation for our results is that the mechanism of the effect for the field experiment was a form of the Hawthorne Effect, where people are more likely to adhere to socially desirable behavior when they know they are being watched. We do not think this explains our results for two reasons. First, while the treatment postcard did mention one of the researcher's names and affiliation with a local college, it did not indicate that he was a political scientist. The subject would have had to independently seek out this information on the Internet or in the college's faculty directory. Furthermore, the postcard mentioned nothing about politics or the municipal election, so there was no easy way for a subject to know what the desirable behavior was. Second, our results indicate a pattern that runs counter to what one would expect if subjects were conforming to the normatively desirable behavior of voting. Habitual voters—who should be most aware of and sensitive to that norm—were unaffected by the postcard, while nonhabitual voters were less likely to turn out.

The vast majority of voter mobilization mailings sent out makes explicit mention of the election at hand or somehow makes voting salient to the recipient. This makes sense: Campaigns, interest groups, and academics have an interest in helping people channel their behavior toward participation in the electoral sphere. Thus, on the one hand, our treatment is unrealistic as far as a representation of the kind of political mail that people might actually receive. However, people are exposed to triggers

for stress in every facet of their lives. Whether it is the arrival of an unpaid bill or credit card statement or a conversation with a friend about personal problems, life stress is made salient day in and day out. In fact, those with the greatest amount of stress are least likely to be able to avoid it.

Our results suggest that factors outside of the specific realm of politics can have an important effect on the decisions that people make within the political sphere and that people's sensitivity to stress and the way they learn to manage it may have important repercussions on levels of political participation in our society. As a result, we hope that as policy makers consider how to encourage voting and work to reform the voting process to include those marginalized from the democratic process, they will be more concerned with ways to reduce life stress among those who do not participate regularly. By identifying times where stress is lowest (Ingraham, 2014; Mäkinen & Kinnunen, 1986), policy makers may be able to encourage turnout among those most marginalized in society. Otherwise, stress in life will continue, as it has in the past, to perpetuate political inequalities.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Analysis of the Sources of Stress for Habitual and Nonhabitual Voters

Table A1. Testing for Content Differences in the Stressors Listed by Habitual Voters and Nonhabitual Voters.