

LETTER

Voters Punish Politicians with Depression

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This study investigates how voters react to political candidates who have suffered from a mental versus a physical illness. We present five related findings of interest. First, using an experimental survey design that presents respondents with a series of paired randomized political biographies, we find that voters in the United States are about 10 percentage points less likely to vote for candidates who have suffered from depression than for those with two other common ailments with potentially severe consequences: cancer and high blood pressure (see, for example, Lawes, Vander Hoorn and Rodgers 2008; Vasan et al. 2001). Secondly, we examine the effects after accounting for party affiliation. We show that the depression stigma affects the choice of independent voters and, in some cases, of co-partisans. Thirdly, we demonstrate that voters punish politicians with diseases other than depression according to the amount of work they miss as a result of their ailment. However, for depressed politicians the amount of work missed does not affect the degree of punishment. Fourthly, we demonstrate that depression affects perceptions of the character and preparedness of these individuals. Finally, we demonstrate that the findings are replicated in another context (Canada), where politics is believed to be less personalized and negative than in the United States. This suggests that voters' punishment of depression may be a general phenomenon.

An estimated 18 per cent of the adult US population, close to one out of five, had been treated for some form of mental health disorder as of 2015 (USA 2016). Depression is by far the most prevalent mental illness: roughly 16 million adult Americans, more than 300 million people worldwide, experience a major depressive episode in a typical year (USA 2016; WHO 2017). Depression has a significant impact on productivity; it is responsible for an estimated loss of more than USD 200 billion in decreased work flow and absenteeism each year in the United States alone (Greenberg et al. 2015). Depression touches a wide array of the population, including university students (Eisenberg et al. 2007; Ibrahim et al. 2013), individuals with critical positions such as physicians and health workers (Frank and Dingle 1999; Peterson et al. 2008), as well as managers and political leaders (Davidson, Connor and Swartz 2006; Owen and Davidson 2009; Post and Robins 1995; Tennant 2001).

Thus understanding the obstacles that depressive individuals face when seeking higher office has far-reaching implications. Politicians' mental fitness is a concern for a number of reasons. Psychiatric disorders may affect cognitive abilities, and the primary role of elected officials involves making decisions on complex social issues (Sheffer et al. 2018). Prior experimental studies have found that depression interferes with cognitive functions and impairs the decision-making process (Elliott 1998; Leykin, Roberts and DeRubeis 2011; Murphy et al. 2001). Scholars have associated depression with increased pessimism and risk-avoidant behaviours (Allen and Badcock 2003; Smoski et al. 2008). A body of literature in political science and international relations has also emphasized the consequences of psychological factors and personality on the decision-making process (Bar-Joseph and McDermott 2008; George and George 1998; Goldgeier and Tetlock 2001; Levy 2013; McDermott 2004; Simonton 1988).

The available evidence suggests that there is an especially high prevalence of mental health disorders among elected officials. There are several cases of high-profile political leaders suffering from depression while in office. Former British Prime Minister Winston Churchill's struggles with depression are well documented in his physician's memoirs, published in the 1960s (Moran 2006). US President Calvin Coolidge also suffered from depression throughout his tenure, which is thought to have had significant repercussions on his mood and behaviour (Gilbert 2003). In fact, a meta-analysis of biographic studies covering two centuries of US presidents suggests that nearly half of them suffered from some form of psychiatric disorder, the most common of which was depression (Davidson, Connor and Swartz 2006). The prevalence of depression among politicians is not surprising, since their work environment seems to combine many of the risk factors associated with depressive episodes (Weinberg and Cooper 2003; Weinberg, Cooper and Weinberg 1999). For instance, politicians usually work long hours under stress, make decisions under conditions of uncertainty and routinely experience interpersonal conflicts.

The present study explores whether the public discriminates against candidates for office who suffer from depression compared to other debilitating ailments. We define a stigma as the expected difference in support for candidates suffering from depression versus a physical disease. We expect to find a stigma based on two streams of academic literature. First, one body of research suggests that voters tend to rely on their perceptions of a candidate's personality (see, for example, Kuklinski and Quirk 2000; Lodge, McGraw and Stroh 1989; Miller, Wattenberg and Malanchuk 1986; Riggle et al. 1992). Second, a number of studies have documented the existence of a stigma toward depression (Corrigan and Watson 2002; Evans-Lacko, Henderson and Thornicroft 2013; Fokuo and Corrigan 2017; Griffiths, Christensen and Jorm 2008), particularly at the time of hiring (An, Roessler and McMahon 2011; Kosyluk, Corrigan and Landis 2014).

Despite evidence of a prejudice against the mentally ill in a variety of social environments, it is methodologically difficult to accurately estimate the effect of such disorders on hiring for at least two reasons. First, information about mental illnesses is not uniformly available to employers. Secondly, researchers cannot easily scrutinize hiring processes in the private sector without jeopardizing the internal validity of the findings. Our experiments take advantage of the fact that the selection process in politics is open and institutionalized. We use an experimental design in which we control the assignment to candidate biographies, which allows us to estimate the causal effect of depression on the chances of being selected for office. Moreover, comparing depression to physical diseases like blood pressure and cancer that also cause politicians to miss work lets us distinguish between the effect of concern for a candidate's ability to fulfil the duties of their office and the stigma associated with mental illness.

Experimental design

We conducted experimental surveys on opposing pairs of fictional candidates competing in an election. The data come from an online survey of 984 American respondents fielded on 24–28 April 2017 and a second survey of 780 Canadian respondents on 8–9 May 2017. Each survey used a stratified, quota-based sampling methodology based on census data to achieve representativeness on three key demographic variables: age, gender and region. The two samples were provided by Qualtrics. Participants received modest compensation from the sample vendor. The data was collected under protocols approved by the Institutional Review Board at the University of Toronto (Protocols #32001 and #26203). After reading the candidate biographies containing randomized pieces of information, participants were invited to first evaluate the personality traits of each candidate, by indicating which of the two candidates they trust most, which one appears most prepared, and which one has the best character. Next, we asked participants to indicate which of the two candidates they would vote for. We use both these evaluations and vote choice as alternative outcome variables in our analysis.

Experiments based on fictional candidates are widely used in political research (see, for example, Funk 1996; Lodge, Steenbergen and Brau 1995; Mondak and Huckfeldt 2006). Our research design involves paired conjoint experiments in which candidate attributes are randomly assigned using a Fisher-Yates shuffling algorithm. The online appendix reports the full text of the paired vignettes used to describe the candidates. Aside from information on the candidates' health conditions – our treatment of interest – the other randomized attributes include positions on abortion, gun control and taxes, as well as party affiliation, age, occupation, gender and race. A recent study examining the external validity of experimental designs suggests that paired conjoint designs produce results that are comparable to natural experiments; moreover, the design reduces participants' tendency to rely on simplistic cues when evaluating profiles (Hainmueller, Hangartner and Yamamoto 2015). Our study randomized candidate attributes independently from one another. As a result, the quantity of interest – the difference in vote support for the candidate suffering from depression, relative to comparison groups – can be estimated using standard regression techniques.¹

We implemented two different experimental scenarios, to which the participants were assigned sequentially. The order of the scenarios was randomly assigned. In the first scenario (which we refer to as Open Seat), two fictional candidates vie for an open seat (that is, with no incumbent candidate). Candidate A is assigned a medical condition: high blood pressure, cancer or depression. For candidates assigned to cancer or depression, we varied the amount of time (one, two or six weeks per year) that their physician recommends they take off work to maintain their health. Since the other attributes are balanced across the profiles, we ascribe the difference in vote shares to the medical condition and the required time off. We expect a stigma to be revealed in comparisons of support for the mentally ill candidate and the two candidates suffering from either high blood pressure or cancer.

In the second experimental scenario (which we call Incumbent), Candidate C is an incumbent running for re-election against a challenger, Candidate D. Candidate C has a noticeable advantage in terms of experience. This second experiment allows us to test whether the depression stigma is potent enough to diminish the credibility of an individual with an established track record. Once again, subjects are randomly assigned to three conditions, one of which is a biography containing a diagnosis of depression that caused them to miss workdays during their tenure (ranging from 0–30 per cent of votes missed in their previous term). The two other conditions present the same candidates as having missed time in office due to a severe case of the flu or skin cancer.

Results

Figure 1 depicts the average vote percentages for each candidate across treatment groups, in both experiments. Panel A shows that in the Open Seat session, depression is associated with a roughly 10-percentage-point decrease in support compared to the candidate suffering from high blood pressure, and more generally a 10-point decrease compared to the expectation of an even split. Interestingly, a diagnosis of cancer appears to have the opposite effect of a small electoral bonus, although this effect is not statistically robust. To facilitate inference, we estimate the treatment effects with 95 per cent confidence intervals and report them in Figure 2 for the various possible comparisons between groups. The estimate for depression is -10.6 compared to the other two experimental groups, and the result can be inferred to the population at the conventional 0.05 level. In the Incumbent experiment, the effect of the depression stigma is lower in magnitude, approximately -6.5 percentage points, and is shy of conventional statistical significance. However, this effect is significant after accounting for the missed time at work (see below).

¹Hainmueller, Hopkins and Yamamoto (2014) refer to that quantity of interest as an average marginal component effect (AMCE). For simplicity, we use the expression 'treatment effect' in the text. Our main results correspond to the case addressed in Proposition 3 by Hainmueller, Hopkins, and Yamamoto (2014, 16), in which treatment effects simplify to differences in means or equivalent estimates computed with regression models.

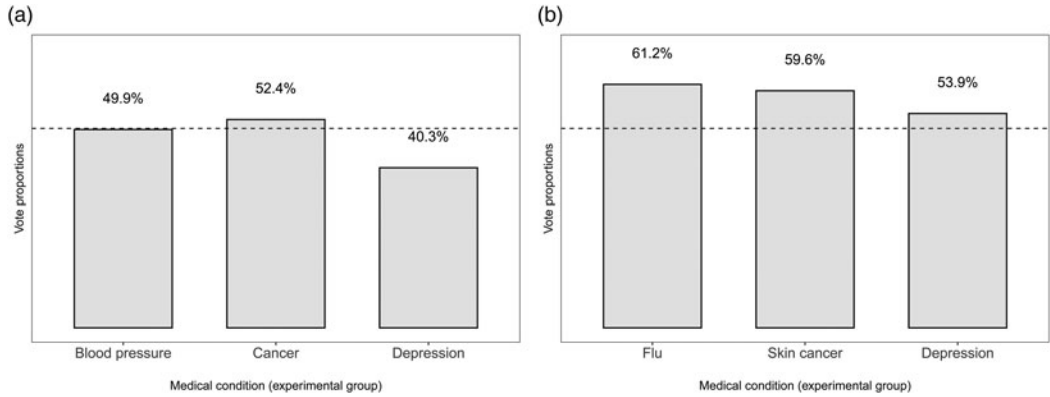


Figure 1. Vote percentages across experimental groups (USA) (a) Open Seat session (b) Incumbent session

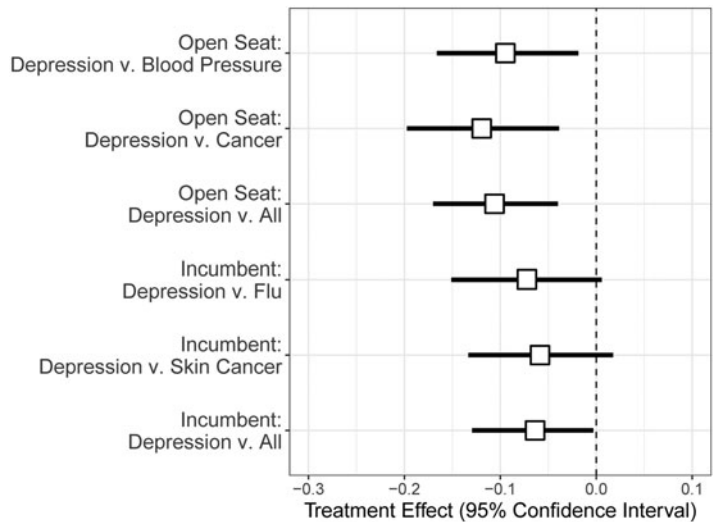


Figure 2. Treatment effect of depression (USA)

Our survey design affords us the opportunity to examine treatment effects by subgroups of respondents. A relevant question for political science scholars is whether the impact of mental health is limited to out-partisans and independent voters, or if it also affects the choices of co-partisans. We examine this question by computing conditional treatment effects, using subsamples for combinations of party identifiers and candidate affiliations. Figure 3 presents the findings. For Republican candidates, the depression stigma primarily affects the choices of independents and Republican identifiers, for whom the effect of a depression diagnosis is twice as large as for respondents who identify as Democrats. The difference with the first two groups is statistically significant. This finding may sound counterintuitive, but can be explained by the fact that respondents who identify with a political party are much less likely to choose the candidate from the other party to begin with. When focusing on Democrat politicians, we also observe a similar tendency for co-partisans to punish their candidate if they have a mental illness, although the differences between groups are not significant. The punishment by co-partisans is less pronounced for incumbents, a scenario that we discuss in more detail in the online appendix.

Our design also allows us to examine the change in support for Candidate A as a function of the leave of absence required by the medical condition. This indicator provides respondents with

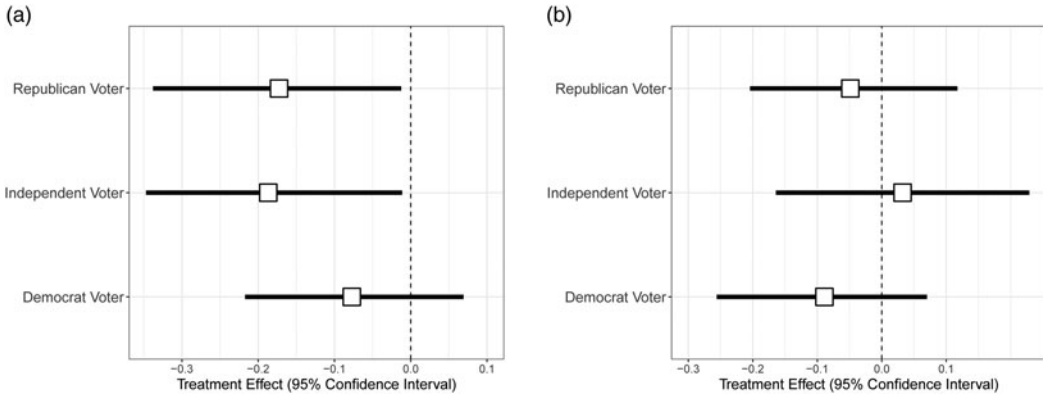


Figure 3. Conditional effect of depression, by party affiliation (Open Seat Session, USA) (a) Candidate A is a Republican (b) Candidate A is a Democrat

a concrete reference with which to evaluate the impact of the ailment on the candidate's capacity to fulfil their office duties. Figure 4 reports the predicted probabilities that a respondent will choose the ill candidate for different leaves of absence; the blood pressure group is used as a reference. We fit these probabilities using a logistic regression with an interaction effect between the treatment groups and the length of the leave of absence. The figure shows that the candidate with cancer would have to miss 6 weeks of work before experiencing a level of support as low as that of the candidate suffering from depression. By explicitly accounting for downtime, this result suggests that the depression stigma is not merely related to expectations voters may form about the impact of the disease on absenteeism.

For the second experimental session, we varied the information disclosed to respondents about the percentage of votes missed by the candidate due to his or her medical condition (we used four different values: 0, 10, 20 and 30 per cent, for all conditions). Although the treatment effect was short of statistical significance in this session, the difference between depression and the two physical diseases can be generalized at the 95 per cent confidence level when candidates have missed fewer than 20 per cent of the votes, in which case the treatment effect is nearly the same as in the Open Seat session, or -10.2 percentage points (see the online appendix for additional results). To illustrate, Figure 5 displays the predicted probability of choosing the incumbent candidate, for each combination of treatment group and share of votes missed. For both cancer and the flu, voters appear to punish candidates based on the share of votes they missed as a result of their illness. In contrast, the probability of choosing the incumbent suffering from depression is not affected by variations in reported downtime. As a result, we find that a politician suffering from cancer must miss 30 per cent of their votes in order to have a predicted support as low as someone with depression who has missed no votes as a result. Voters in the experiment thus punished the politician suffering from depression regardless of whether the disease affected their ability to carry out their duties.

To illustrate how depression may affect public perceptions of a candidate's personality, we also compute treatment effects using alternative outcome variables. As mentioned previously, we asked respondents to indicate which candidate they trust most, which appears best prepared, and which has the best character. Table 1 reports the findings based on models using responses to these questions as outcome variables. In all cases, a prior mental health condition negatively affects perceptions of the depressive candidate's character and preparedness. The effect on each evaluation is similar in magnitude to the one reported previously for vote choice, if not larger. For example, candidates coping with depression are about 11 percentage points less likely to be perceived as having the best character compared to those with physical ailments. These findings

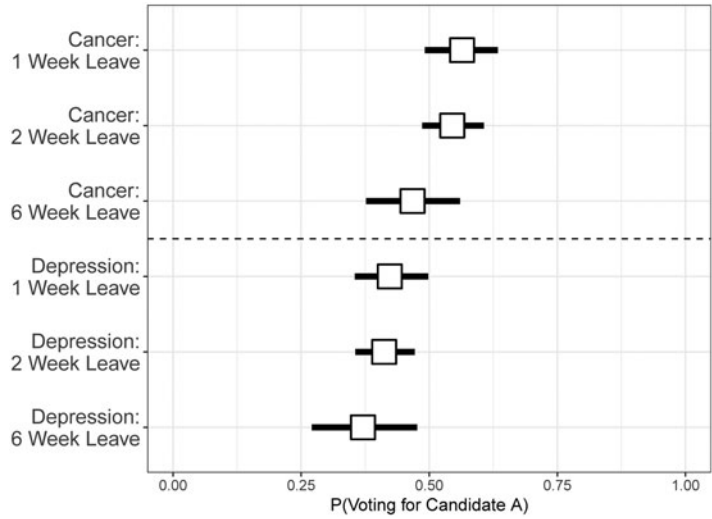


Figure 4. Predicted probability of choosing Candidate A, by leave of absence required (Open Seat, USA)

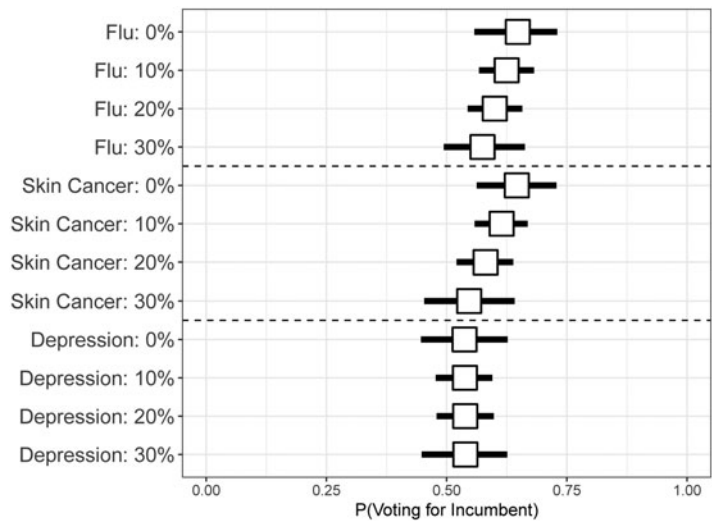


Figure 5. Predicted probability of choosing Candidate C, by percentage of votes missed due to illness (Incumbent, USA)

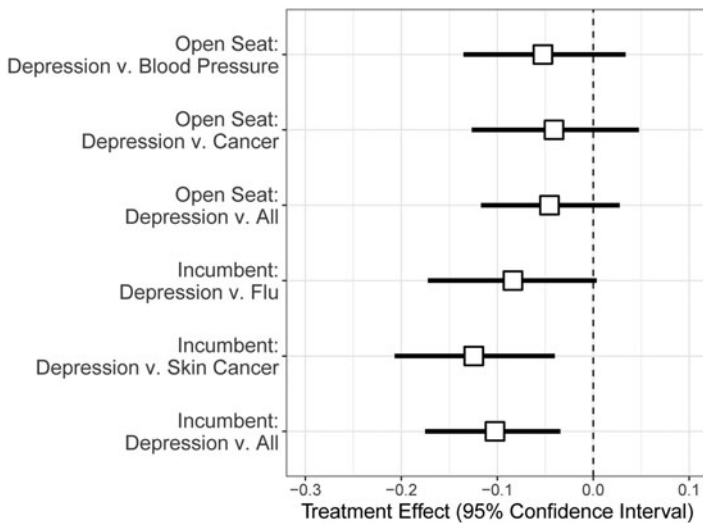
provide useful clues to explain the reasons behind the depression stigma. Our vignettes described each medical condition, physical or mental, with similar wording and the same information about the severity, such that the remaining source of variation can be attributed specifically to the difference between mental and physical disorders. The fact that some voters are likely to view depressive individuals as being of lesser character than physically ill candidates supports the idea that depression is perceived differently from other types of medical conditions, and may still be subject to misconceptions among the public.

Finally, we replicated the experiments using a sample of Canadian respondents. Although modern electoral campaigns are said to focus increasingly on the personality of candidates, as opposed to political parties, political science research suggests that this phenomenon is not nearly as pronounced in Canada as in the United States (see, for example, Dalton, McAllister and Wattenberg 2000; Karvonen 2010). Therefore, replicating the findings in a different polity where campaigns are not as harsh would suggest that the depression stigma extends beyond the United States. The experimental design is identical in all respects, including the diseases

Table 1. Effect of depression on evaluations of personality traits (USA)

Outcome variable	Open Seat	Incumbent
Character	-0.114 (-0.183, -0.049)	-0.113 (-0.181, -0.043)
Preparedness	-0.120 (-0.184, -0.055)	-0.089 (-0.161, -0.020)
Trustworthiness	-0.079 (-0.146, -0.015)	-0.042 (-0.112, 0.026)

Note: we compute the treatment effects using changes in predicted probabilities for the depression treatment versus the two other groups, based on logistic regression models. 95 per cent confidence intervals are in parentheses. Details on the methodology appear in the appendix.

**Figure 6.** Treatment effect of depression (Canada)

mentioned in the candidate biographies, with the exception of party names (the candidates belong to the Liberals or Conservatives as opposed to Democrats and Republicans) and issues chosen to reflect current affairs in Canada. We replicated the entire set of results and balance tests for the Canadian experiments (available in the Appendix).

Figure 6 reports the main treatment effects replicated in the Canadian experiments, computed in the same fashion as in the United States. Overall, we find that the candidate suffering from depression faces a loss in support relative to those with physical diseases. The effect is negative in both experimental sessions (Open Seat and Incumbent). However, the treatment effect for the depression stigma is statistically significant only in the Incumbent session. In the first session (Open Seat), candidates with a history of illness all suffer from a decline in support relative to the healthy candidate, but the difference with the depression condition is not statistically significant. In the Incumbent session, the penalty for depression relative to the physical diseases (flu and skin cancer) is larger than 10 percentage points, close to the size found earlier in the first American study. For the Canadian case, we also find that incumbent candidates suffering from physical illnesses must have missed a disproportionate number of votes before experiencing a punishment close to that of depressive candidates (results available in the Appendix).

Discussion

Our experimental results present new evidence of the magnitude of the depression stigma affecting people running for high office. We use paired conjoint experiments presenting subjects with

candidate biographies for elections in the United States and Canada. Across four scenarios in two different countries, we find that depression leads to an estimated decrease in support for afflicted political candidates as large as 10 percentage points relative to those with debilitating physical conditions. Importantly, our design allows us to isolate the depression stigma from other effects. In each scenario, we compared support for the candidate with depression with support for candidates with physical diseases. This rules out the rational concerns that voters may have about a person's capacity to fulfil their duties: what we define and measure as a depression stigma is the additional prejudice faced by people suffering from a depressive disorder. By estimating the effect attributable to the work time lost due to illness, we demonstrate that individuals with physical ailments must have high levels of absenteeism before being punished to the same extent as candidates with depression.

This finding has implications for the study of modern democracies. In particular, it contributes to a literature suggesting that voters often base their decision on peripheral factors rather than rational considerations of the issues being debated (Achen and Bartels 2016; Todorov et al. 2005). The larger trend towards the personalization of politics (see, for example, Bennett 2012; McAllister 2007) has brought leaders' personalities to the forefront of campaigns. Accordingly, influential models of vote choice have singled out the importance of short-term factors such as feelings toward candidates, particularly perceptions of trust and competence (Bartels 2010; Bittner 2011). One consequence of this development is that the health condition of elected officials has become a common feature of modern politics. A recent example is Hillary Clinton's diagnosis of pneumonia, which made headlines during the 2016 US presidential campaign. The finding that voters punish candidates with a history of depression appears to be consistent with the general emphasis on personality traits in modern politics, and highlights the importance of understanding the factors on which people base their decisions during the most critical exercise of democracy.

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Supplementary material. Data replication sets are available in Harvard Dataverse at: <https://doi.org/10.7910/DVN/DHWZY> and online appendices at: <https://doi.org/10.1017/S0007123419000127>.

References

- Achen CH and Bartels LM (2016) *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton, NJ: Princeton University Press.
- Allen NB and Badcock PBT (2003) The social risk hypothesis of depressed mood: evolutionary, psychosocial, and neurobiological perspectives. *Psychological Bulletin* 129(6), 887–913.
- An S, Roessler RT and McMahon BT (2011) Workplace discrimination and Americans with psychiatric disabilities: a comparative study. *Rehabilitation Counseling Bulletin* 55(1), 7–19.
- Bar-Joseph U and McDermott R (2008) Personal functioning under stress: accountability and social support of Israeli leaders in the Yom Kippur War. *Journal of Conflict Resolution* 52(1), 144–170.
- Bartels L (2010) The study of electoral behavior. In Leighley JE (ed.), *The Oxford Handbook of American Elections and Political Behavior*. Oxford: Oxford University Press, pp. 239–261.
- Bennett WL (2012) The personalization of politics: political identity, social media, and changing patterns of participation. *Annals of the American Academy of Political and Social Science* 644(1), 20–39.
- Bittner A (2011) *Platform or Personality? The Role of Party Leaders in Elections*. Oxford: Oxford University Press.
- Corrigan PW and Watson AC (2002) Understanding the impact of stigma on people with mental illness. *World Psychiatry* 1(1), 16–20.
- Dalton RJ, McAllister I and Wattenberg MP (2000) The consequences of partisan dealignment. In Dalton RJ and Wattenberg MP (eds), *Parties Without Partisans: Political Change in Advanced Industrial Democracies*. Oxford: Oxford University Press, pp. 37–63.
- Davidson J, Connor K and Swartz M (2006) Mental illness in US presidents between 1776 and 1974: a review of biographical sources. *The Journal of Nervous and Mental Disease* 194(1), 47–51.
- Eisenberg D et al. (2007) Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry* 77(4), 534–542.

- Elliott R** (1998) The neuropsychological profile in unipolar depression. *Trends in Cognitive Sciences* 2(11), 447–454.
- Evans-Lacko S, Henderson C and Thornicroft G** (2013) Public knowledge, attitudes and behaviour regarding people with mental illness in England 2009–2012. *The British Journal of Psychiatry* 202(s55), s51–s57.
- Fokuo JK and Corrigan PW** (2017) The influence of stigma for depression care. In Cohen NL (ed.), *Public Health Perspectives on Depressive Disorders*. Baltimore, MD: Johns Hopkins University Press, pp. 171–188.
- Frank E and Dingle AD** (1999) Self-reported depression and suicide attempts among U.S. women physicians. *American Journal of Psychiatry* 156(12), 1887–1894.
- Funk CL** (1996) The impact of scandal on candidate evaluations: an experimental test of the role of candidate traits. *Political Behavior* 18(1), 1–24.
- George AL and George JL** (1998) *Presidential Personality and Performance*. Boulder, CO: Westview Press.
- Gilbert RE** (2003) *The Tormented President: Calvin Coolidge, Death and Clinical Depression*. Westport, CT: Praeger Publications.
- Goldgeier JM and Tetlock PE** (2001) Psychology and international relations theory. *Annual Review of Political Science* 4(1), 67–92.
- Greenberg PE et al.** (2015) The economic burden of adults with major depressive disorder in the United States (2005 and 2010). *The Journal of Clinical Psychiatry* 76(2), 155–162.
- Griffiths KM, Christensen H and Jorm AF** (2008) Predictors of depression stigma. *BMC Psychiatry* 8(25), 1–12.
- Hainmueller J, Hangartner D and Yamamoto T** (2015) Validating vignette and conjoint survey experiments against real-world behavior. *Proceedings of the National Academy of Sciences* 112(8), 2395–2400.
- Hainmueller J, Hopkins DJ and Yamamoto T** (2014) Causal inference in conjoint analysis: understanding multidimensional choices via stated preference experiments. *Political Analysis* 22(1), 1–30.
- Ibrahim AK et al.** (2013) A systematic review of studies of depression prevalence in university students. *Journal of Psychiatric Research* 47(3), 391–400.
- Karvonen L** (2010) *The Personalisation of Politics: A Study of Parliamentary Democracies*. Colchester: ECPR Press.
- Kosyluk KA, Corrigan PW and Landis RS** (2014) Employer stigma as a mediator between past and future hiring behavior. *Rehabilitation Counseling Bulletin* 57, 102–108.
- Kuklinski JH and Quirk PJ** (2000) Reconsidering the rational public: cognition, heuristics, and mass opinion. In Lupia A, McCubbins MD and Popkin SL (eds), *Elements of Reason*. Cambridge: Cambridge University Press, pp. 153–182.
- Lawes CMM, Vander Hoorn S and Rodgers A** (2008) Global burden of blood-pressure-related disease, 2001. *The Lancet* 371(9623), 1513–1518.
- Levy JS** (2013) Psychology and foreign policy decision-making. In Huddy L, Sears DO and Levy JS (eds), *The Oxford Handbook of Political Psychology*. Oxford: Oxford University Press, pp. 301–333.
- Leykin Y, Sewell Roberts C and DeRubeis RJ** (2011) Decision-making and depressive symptomatology. *Cognitive Therapy and Research* 35(4), 333–341.
- Lodge M, McGraw KM and Stroh P** (1989) An impression-driven model of candidate evaluation. *American Political Science Review* 83(2), 399–419.
- Lodge M, Steenbergen MR and Brau S** (1995) The responsive voter: campaign information and the dynamics of candidate evaluation. *The American Political Science Review* 89(2), 309–326.
- Loewen PJ and Rheault L** (2019) replication data for: Voters Punish Politicians with Depression, <https://doi.org/10.7910/DVN/DHWZYE>, Harvard Dataverse, V1, UNF:6:G/3+d5gwMDPxKGBRIE4uHA== [fileUNF]
- McAllister I** (2007) The personalization of politics. In Dalton RJ and Klingemann H (eds), *The Oxford Handbook of Political Behavior*. Oxford: Oxford University Press, pp. 571–588.
- McDermott R** (2004) *Political Psychology in International Relations*. Ann Arbor: University of Michigan Press.
- Miller AH, Wattenberg MP and Malanchuk O** (1986) Schematic assessments of presidential candidates. *American Political Science Review* 80(2), 521–540.
- Mondak JJ and Huckfeldt R** (2006) The accessibility and utility of candidate character in electoral decision making. *Electoral Studies* 25(1), 20–34.
- Moran L** (2006) *Churchill: The Struggle for Survival 1945–60*, 2nd ed. New York: Basic Books.
- Murphy FC et al.** (2001) Decision-making cognition in mania and depression. *Psychological Medicine* 31(4), 679–693.
- Owen D and Davidson J** (2009) Hubris syndrome: an acquired personality disorder? A study of US presidents and UK prime ministers over the last 100 years. *Brain* 132(5), 1396–1406.
- Peterson U et al.** (2008) Burnout and physical and mental health among Swedish healthcare workers. *Journal of Advanced Nursing* 62(1), 84–95.
- Post JM and Robins RS** (1995) *When Illness Strikes the Leader: The Dilemma of the Captive King*. New Haven, CT: Yale University Press.
- Riggle ED et al.** (1992) Bases of political judgments: the role of stereotypic and nonstereotypic information. *Political Behavior* 14(1), 67–87.
- Sheffer L et al.** (2018) Non-representative representatives: an experimental study of the decision making of elected politicians. *American Political Science Review* 112(2), 302–321.

- Simonton DK** (1988) Presidential style: personality, biography, and performance. *Journal of Personality and Social Psychology* **55**(6), 928–936.
- Smoski MJ et al.** (2008) Decision-making and risk aversion among depressive adults. *Journal of Behavior Therapy and Experimental Psychiatry* **39**(4), 567–576.
- Tennant C** (2001) Work-related stress and depressive disorders. *Journal of Psychosomatic Research* **51**(5), 697–704.
- Todorov A et al.** (2005). Inferences of competence from faces predict election outcomes. *Science* **308**(5728), 1623–1626.
- USA** (2016) *Key Substance Use and Mental Health Indicators in the United States: Results From the 2015 National Survey on Drug Use and Health*. Washington, DC: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.
- Vasan RS et al.** (2001) Impact of high-normal blood pressure on the risk of cardiovascular disease. *New England Journal of Medicine* **345**(18), 1291–1297.
- Weinberg A and Cooper CC** (2003) Stress among national politicians elected to parliament for the first time. *Stress and Health* **19**(2), 111–117.
- Weinberg A, Cooper CC and Weinberg A** (1999) Workload, stress and family life in British members of parliament and the psychological impact of reforms to their working hours. *Stress Medicine* **15**(2), 79–87.
- WHO** (2017) *Depression and Other Common Mental Disorders: Global Health Estimates*. Geneva: World Health Organization.