



Divided we stand, united we worry: Predictors of worry in anticipation of a political election

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Abstract

Across two studies, we examined predictors of voters' worry about the outcome of a political election, thus testing the application of the uncertainty navigation model to political waiting periods. Using a theoretically-grounded set of predictors, we assessed voters who preferred either the Democrats or Republicans to control the House of Representatives following the 2018 U.S. midterm election ($N=376$) and Trump and Clinton voters leading up to the 2016 U.S. presidential election ($N=669$). Findings generally supported the predictions of the model, such that people worried more as Election Day approached, as did people who saw the election outcome as more important, who believed it was more likely their preferred candidate would lose (Study 2), and who had a set of worry-exacerbating traits. Taken together, the findings provide considerable insight into the dynamics of worry during stressful waiting periods and support the generalizability of the uncertainty navigation model to political contexts.

Keywords Worry · Uncertainty · Emotion · Election

Over 135 million people voted in the 2016 U.S. presidential election (United States Election Project 2016). Prior to and on Election Day, Americans were divided by both political ideology and their preferred election outcome. However, all Americans shared one thing in common: They had to wait to learn who would become their 45th president. Two years later, Americans were again deeply divided as the 2018 U.S. midterm elections approached and faced significant uncertainty about which political party would have power in Congress after Election Day. Although the experience of waiting varies across domains, circumstances, and individuals, people typically find waiting to be worrisome (Sweeny and Falkenstein 2015; Sweeny and Andrews 2014). Across two studies we examine predictors of worry, as outlined by the uncertainty navigation model (Sweeny and Cavanaugh 2012), in anticipation of these two political outcomes. Specifically, we surveyed American voters prior to the 2016 presidential election and the 2018 midterm election as they endured uncertainty over whom would be the

next president-elect and which party would have control of the U.S. House of Representatives following the election, respectively.

Understanding worry

Worry, defined as “a chain of thoughts and images, negatively affect-laden and relatively uncontrollable” (Borkovec et al. 1983, p. 10), is a key antecedent of many protective and productive behaviors. For example, people who worry more about the relevant outcome are more likely to engage in cancer screening (Hay et al. 2006) and other preventive health behaviors (sun protection, Bränström et al. 2010; seatbelt use, Sutton and Eiser 1990; safe sex practices, van der Plicht et al. 1993; vaccination, Brewer et al. 2004; Cuite et al. 2000) and tend to show better job performance (Perkins, and Corr 2005) and academic performance (Siddique et al. 2006). Similarly, during acute moments of uncertainty, worry seems to motivate the use of coping strategies that prepare people for worst-case scenarios—and if they ultimately receive bad news, people who worried more while they waited are better prepared to absorb the blow and move forward (Sweeny et al. 2016).

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Of course, worry is also quite unpleasant and can be disruptive to daily life. In non-clinical populations, worry has been linked to depressed mood and heightened anxiety (Behar et al. 2005; McLaughlin et al. 2007). When worry arises in the context of generalized anxiety disorder, it often arises in concert with fatigue, reduced concentration, irritability, and sleep disruptions, among other problematic symptoms (e.g., Llera and Newman 2014; Newman et al. 2013).

Given the critical role that worry can play as both a motivating force and an impairment to well-being, a better understanding of protective and risk factors with regard to worry is important for targeting effective interventions, either to reduce worry or to direct worry toward productive ends. The uncertainty navigation model (Sweeny and Cavanaugh 2012) provides a theoretical lens through which to view various types of uncertain waiting periods, including predictors of worry during these periods. Although originally developed as a theoretical approach to understanding the experience of awaiting health news, it has been extended to non-health contexts (e.g., waiting for bar exam results; Sweeny and Andrews 2014; Sweeny et al. 2016; Howell and Sweeny 2016). At its heart lies the distinct experience of distress prompted by acute moments of uncertainty, namely a combination of anxiety and repetitive thoughts that later iterations of the model have simply referred to as worry.¹ The model also includes a set of characteristics of both the situation and the person facing it that may elevate or mitigate worry during a waiting period. However, this list was not intended to be comprehensive, and it has yet to undergo empirical scrutiny. The goal of the current study is to provide a test of the predictors of worry outlined in the uncertainty navigation model in a context in which the outcome had implications for a large number of people and over which people had little control—namely, the outcome of a political election.

Predictors of worry

We should note that a large literature addresses worry in the context of anxiety disorders, most notably generalized anxiety disorder (Newman et al. 2013). Here, we focus on worry in the context of non-clinical populations facing worrisome uncertainty in their lives. In that context, the uncertainty navigation model identifies five predictors of worry during

stressful waiting periods: proximity to the news, severity of potential bad news, risk of receiving bad news, controllability of the news or its consequences, and individual differences in future outlooks, comfort with uncertainty, and psychological resources. We test these predictors in the current study, as well as several additional predictors that were not included in the initial iteration of the uncertainty navigation model but have particular relevance during a societal-level moment of uncertainty (versus more personal experiences like awaiting the result of one's medical test or exam result).

Although the uncertainty navigation model does not articulate why this set of situational and personal factors would exacerbate worry, consideration of two key components of a worrisome experience reveals the systematic nature of these predictors. First, by its very nature, worry is a response to aversive uncertainty about potential future problems. Thus, characteristics of the situation or person that heighten this stressful sense of uncertainty are likely to exacerbate worry. Second, worry has a motivating function, such that it directs attention and effort toward opportunities to prevent future problems if possible (Borkovec and Roemer 1995; for a review, see Sweeny and Dooley 2017). However, this motivational drive can only be satisfied if people have control over the relevant future outcome; otherwise, worry's function is thwarted. Thus, characteristics of the situation or person that increase one's degree of control over the future (whether actual or perceived) are likely to mitigate worry by conferring a sense that worry has done its job and can recede into the background. We specify the links between this framework for understanding worry and each hypothesized predictor below.

Severity of potential bad news

The uncertainty navigation model suggests that the severity of anticipated bad news can influence the extent to which people worry about that outcome while they wait, presumably because feelings of uncertainty are more stressful to the extent that the potential future problem is more problematic. In fact, several studies have confirmed the link between the severity of a feared negative outcome and negatively-valenced thoughts and emotions, including worry (Chapman and Coups 2006; Taylor and Shepperd 1998; Tull et al. 2011). In the current study, we operationalize severity as voters' perception of the importance of the election outcome and the degree to which people believed the United States would change (for better or worse) as a result of the opposing major party candidate being elected. We hypothesized that voters who perceived the election outcome to be more important (*Hypothesis 1a*; Studies 1 and 2) and who felt that the United States would change for the worse if the opposing candidate was elected would report greater worry prior to the election (*Hypothesis 1b*; Study 2).

¹ To be clear, the uncertainty navigation model is not a model of worry's nature or function. Instead, it was developed to provide a framework for understanding how people feel and cope when they are waiting for important news. Worry is an inevitable part of that experience, and thus the model makes some predictions about the circumstances under which worry is most likely to arise (within the broader context of uncertain waiting periods). It is these predictions we test in the present paper.

Risk of receiving bad news

A third predictor of worry proposed by the uncertainty navigation model is the risk of receiving bad news, as perceived by the worrier. Research in the context of health outcomes provides strong evidence for a link between risk perceptions and worry (e.g., in the context of cancer risk; Bjorvatn et al. 2007; DiLorenzo et al. 2006; Gibbons and Groarke 2016), such that people who perceive themselves to be at greater risk for an undesirable outcome tend to worry more about that outcome. In fact, uncertainty can be pleasurable when the array of potential future outcomes are all relatively positive (Wilson et al. 2005). Thus, consistent with the framework proposed earlier, a perception that one is at risk of a future problem elicits stressful uncertainty, and consequently worry. In the current study, we operationalized risk perceptions as voters' perception of the likelihood that their preferred candidate would lose the election (i.e., a bad outcome). We hypothesized that voters who perceived the risk of a bad outcome to be greater would be more worried in anticipation of Election Day (*Hypothesis 2*; Studies 1 and 2).

Control over the outcome

Another predictor of worry proposed by the uncertainty navigation model, and further articulated in the framework above, is the degree to which an undesirable outcome is preventable—that is, the extent to which people feel that they have control over their outcome. Studies have identified a negative relationship between control and worry in the context of academic pursuits (Putwain et al. 2010) and medical tests (Dawson et al. 2006), and other work has linked general perceptions of control to lower overall worry (Chapman et al. 2009; Zebb and Beck 1998). In contrast, and most relevant to the current investigation, greater political engagement (one marker of perceived control over political outcomes) was associated with greater politically-relevant worry in a study of attitudes and engagement with issues relevant to the European Union (Strohmeier et al. 2017). However, in that study, the authors interpreted the relationship as suggesting that more worried participants were more motivated toward engagement, rather than the other way around (i.e., engagement predicting worry). Given the mixed evidence, we used our framework as a guide and tentatively hypothesized that people who felt that they had more control over the outcome of the presidential election would report less worry. We operationalized perceived control as a combination of active political engagement (e.g., campaigning for one's preferred candidate; *Hypothesis 3a*; Study 1 and Study 2) and voters' perception that their vote had an impact on the outcome of the election (*Hypothesis 3b*; Study 2).

Individual differences

In previous studies that have examined the experience of awaiting uncertain news (albeit in performance contexts rather than political ones), both dispositional optimism (e.g., Carver et al. 2010) and defensive pessimism (e.g., Norem 2001) have emerged as consistent predictors of various aspects of the waiting experience. People high in dispositional optimism and low in defensive pessimism consistently experience less anxiety and fewer repetitive thoughts (i.e., worry less) while they wait (Sweeny and Andrews 2014; Sweeny et al. 2015). These trait-like individual differences serve to heighten (in the case of defensive pessimism) or minimize (in the case of dispositional optimism) people's perception that they are at risk of facing an unpleasant future.

Another robust and reliable predictor of people's experiences as they await uncertain news is the extent to which they are generally comfortable with various types of uncertainty—a trait-like individual difference referred to in the clinical literature as intolerance of uncertainty (Buhr and Dugas 2002). People who are dispositionally intolerant of uncertainty tend to worry excessively (Dugas et al. 2001; Laugesen et al. 2003) and find it difficult to manage their anxiety during stressful situations (Boelen and Reijntjes 2009; Sweeny and Andrews 2014; Sweeny et al. 2015). In fact, the Intolerance of Uncertainty Model (IUM; Dugas et al. 1998) proposes four factors that exacerbate and maintain worry (particularly among sufferers of GAD), one of which is intolerance of uncertainty. The IUM differs from the uncertainty navigation model in its focus on individual vulnerabilities to worry (namely intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance) rather than focusing broadly on situational and individual factors that exacerbate worry during the specific experience of awaiting uncertain news. Nonetheless, the predictions of the IUM with respect to intolerance of uncertainty overlaps with one of the predictions of the uncertainty navigation model.

One aim of the current study was to replicate the links between these individual differences and worry in a novel context, and thus we hypothesized that people who are high in dispositional optimism, low in defensive pessimism, and low in intolerance of uncertainty would worry less in anticipation of Election Day (*Hypotheses 4a–4c*; Studies 1 and 2).

Proximity to news

A consistent finding in the small but growing literature on the experience of awaiting uncertain news is that waiting is dynamic, with the experience changing across a waiting period. Moreover, the pattern of change seems to be predictable, such that waiting is hardest when uncertainty is most

salient (typically at the beginning and at the end of a waiting period; e.g., Howell and Sweeny 2016; Sweeny and Andrews 2014; Sweeny and Howell 2017; Sweeny et al. 2016), consistent with the framework just proposed. Because the wait for election results does not have a clear start, particularly given the ever-lengthier campaign “season” in the U.S., we focus here on shifts that occur as Election Day draws near. Specifically, we hypothesized that worry would increase over time, peaking just prior to Election Day (*Hypothesis 5*; Study 2).

Extending the uncertainty navigation model

The context of the current study provided a unique opportunity to extend the application of the uncertainty navigation model to societal-level moments of uncertainty and thus explore additional predictors of worry. First, we examined the role of social context—namely, the degree to which people’s social groups concurred with their preferred outcome. In previously-studied waiting periods like the wait for bar exam or medical test results, all members of one’s social group are presumably rooting for the same outcome. In contrast, an election creates “teams” that are rooting for mutually exclusive outcomes. Some people are surrounded by others on their team, whereas other people are isolated within groups of opposing team members. In Study 2, we explored the role of this type of social context in worry about the election outcome.

Second, we examined the role of media exposure in waiting experiences. Similar to social context, some people primarily consume media that is consistent with their preferred outcome (i.e., consistent with their political leaning), whereas other people consume media from a variety of sources, or even from sources that contradict their preferences. We explored the role of media consumption in worry about the election outcome in Study 2.

Study 1

Study 1 examined the predictors of worry in anticipation of the 2018 U.S. midterm election.²

² Although this study was run after Study 2, which examined these processes in the 2016 U.S. presidential election, we present the studies in this order in the interest of the flow of the manuscript, such that Study 1 is followed by a larger and more complex Study 2 that included additional predictors.

Method

Participants

Amazon mTurk workers ($N=376$; 193 preferred that the Republicans remain control of the U.S. House of Representatives after the 2018 midterm election, 183 preferred that the Democrats gain control of the U.S. House of Representatives after the 2018 midterm election; $M_{age}=38.34$; 45% female) were compensated US\$1 for completing a pre-election survey. In order to participate in the study, mTurk workers had to be over the age of 18 and a United States citizen, the same requirements to vote in U.S. elections. Participants also had to intend on voting in the election and have a preferred outcome (i.e., Republicans remain in control or that Democrats gain control of the U.S. House of Representatives following the 2018 U.S. midterm elections). Participants also had the opportunity to complete a post-election survey for an additional US\$2 ($N=176$); this survey is irrelevant to the current paper. All materials are available as Supplemental Materials online and on the Open Science Framework at <https://osf.io/kt6x7/>, and deidentified data will be posted there within 1 year. This study was reviewed and approved by the authors’ Institutional Review Board.

Procedure

Participants were recruited 2 days prior to the 2018 midterm election. Following informed consent, participants completed an online survey. At the end of the survey, participants had the option to provide their email address to receive a follow-up survey 1 day after the election. A total of 307 participants provided their email address, and 57.3% of these participants completed the second survey. For the purpose of the current paper, we focus on pre-election data.

Measures

Worry Worry about the outcome of the midterm election was assessed with three items, capturing both the affective and cognitive components of worry (Sweeny and Dooley 2017; “I feel anxious every time I think about the outcome of the midterm elections,” “I am worried about the outcome of the midterm elections,” “I can’t seem to stop thinking about the outcome of the midterm elections”); 1 = *strongly disagree*, 7 = *strongly agree*; $M=3.86$, $SD=1.50$, Cronbach’s $\alpha=.87$).

Individual differences Dispositional optimism was assessed with the Life Orientation Test-Revised (Scheier et al. 1994; e.g., “In uncertain times, I usually expect the best,” “I hardly ever expect things to go my way”); 1 = *strongly disagree*, 5 = *strongly agree*; $M=3.45$, $SD=.95$, $\alpha=.89$).

Table 1 Study 1: intercorrelations among key study variables

<i>R</i> (<i>p</i>)	Worry	Severity	Risk	Control	Dispositional optimism	Defensive pessimism	Intolerance of uncertainty
Severity of bad news	.30 (<.001)						
Perceived risk of bad news	-.03 (.53)	-.18 (<.001)					
Control over outcome	.39 (<.001)	.31 (<.001)	-.26 (<.001)				
Dispositional optimism	-.24 (<.001)	.14 (.006)	-.19 (<.001)	.14 (.009)			
Defensive pessimism	.23 (<.001)	.19 (<.001)	.05 (.37)	.06 (.27)	-.31 (<.001)		
Intolerance of uncertainty	.39 (<.001)	-.01 (.92)	.04 (.50)	.09 (.09)	-.49 (<.001)	.53 (<.001)	

Defensive pessimism was assessed with the validated 5-item Defensive Pessimism Questionnaire, Short Form (Norem et al. 2015; 5 items; e.g., “I usually prepare for the worst,” “I often think about what might go wrong”; 1 = *not true at all of me*, 7 = *very true of me*; $M = 4.93$, $SD = 1.11$; $\alpha = .80$).

We assessed intolerance of uncertainty using the 12-item Intolerance of Uncertainty–Short scale (Carleton et al. 2007; e.g., “Unforeseen events upset me greatly,” “I always want to know what the future has in store for me”; 1 = *not at all characteristic of me*, 5 = *extremely characteristic of me*; $M = 3.07$, $SD = .77$; $\alpha = .90$).

We also assessed participants’ political orientation (1 = *extremely liberal*, 7 = *extremely conservative*; $M = 3.93$, $SD = 1.92$) for use as a covariate in relevant analyses.

Perceived severity Importance of the election outcome was assessed with three items (“The outcome of the U.S. midterm elections will affect how I live my life,” “I care about the outcome of the U.S. midterm elections,” “It is very important to me who wins the U.S. midterm elections”; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 5.63$, $SD = 1.05$; $\alpha = .76$).

Perceived risk We assessed participants’ perception of the risk of a bad outcome (i.e., their non-preferred party winning) with a single item (“Which party do you think will have control of the U.S. House of Representatives after the 2018 midterm elections?”; 1 = *definitely my preferred party*, 7 = *definitely my non-preferred party*; $M = 2.69$, $SD = 1.31$).

Perceived control Perceived control was assessed by measuring political engagement. Participants indicated the extent to which they had engaged in six politically-active behaviors (e.g., “I have attended political rallies,” “I try to persuade others to share my views”; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 3.77$, $SD = 1.34$, $\alpha = .88$).

Results

Table 1 presents a correlation matrix including all variables of interest.

Severity of potential bad news

For our remaining analyses, we examined predictors of worry prior to the midterm election using multiple regression analyses predicting worry from each predictor (separately), while controlling for outcome preference (Republican = $-.5$, Democrat = $.5$) and their interaction.³ Table 2 presents independent-samples *t*-tests comparing supporters on all relevant variables, and full results of the regression analyses are presented in Table 3. All findings are consistent when controlling for political orientation instead of outcome preference.

As hypothesized, participants who perceived the election outcome as more important reported greater worry about the outcome (*Hypotheses 1a*).

Risk of receiving bad news

Contrary to our hypothesis, risk of a bad outcome (i.e., that participants’ preferred party would not have control of the U.S. House of Representatives following the election) was unrelated to worry about the outcome of the election (*Hypothesis 2*).

Control over the outcome

In contrast to our tentative hypothesis, participants who were more politically engaged worried *more* about the outcome of the election (*Hypotheses 3a*).

³ For this analysis and all other multiple regression analyses in this paper, all variables were entered in the same step using the enter method.

Table 2 Study 1: differences between democrat and republican supporters

	M_D	SD_D	M_R	SD_R	T	P	D
Worry	4.43	1.42	3.60	1.53	3.46	<.001	.56
Severity of bad news	5.83	.88	5.44	1.16	3.66	<.001	.39
Perceived risk of bad news	2.80	1.30	2.58	1.31	1.62	.11	.17
Control over outcome	3.72	1.30	3.81	1.39	.65	.52	.07
Individual differences							
Dispositional optimism	3.37	1.03	3.52	.87	1.49	.14	.16
Defensive pessimism	5.01	1.08	4.85	1.14	1.45	.15	.14
Intolerance of uncertainty	3.08	.79	3.07	.75	.22	.82	.01

M_D and SD_D are the means and standard deviations for Democrat supporters. M_R and SD_R are the means and standard deviations for Republican supporters

Table 3 Study 1: predictors of worry, overall and moderated by outcome preference

	Individual Regressions			R^2 (Model p)	Simultaneous Regression $R^2 = .36$ Model $p < .001$
	Predictor	Outcome preference	Interaction		
	β (p) [95% CI]	β (p) [95% CI]	β (p) [95% CI]		
Severity of bad news	.32 (<.001) [.22, .42]	.12 (.02) [.02, .21]	.13 (.01) [.03, .23]	.12 (<.001)	.22 (<.001) [.12, .31]
Perceived risk of bad news	-.04 (.38) [-.14, .06]	.18 (<.001) [.08, .28]	.08 (.11) [-.02, .18]	.04 (.002)	.04 (.32) [-.04, .13]
Control over outcome	.39 (<.001) [.30, .48]	.19 (<.001) [.10, .28]	-.07 (.12) [-.17, .02]	.19 (<.001)	.34 (<.001) [.25, .43]
Individual differences					
Dispositional optimism	-.22 (<.001) [-.32, -.12]	.16 (.002) [.06, .26]	-.06 (.21) [-.16, .04]	.09 (<.001)	-.16 (.001) [-.26, -.07]
Defensive pessimism	.23 (<.001) [.13, .32]	.16 (.002) [.06, .26]	.04 (.39) [-.05, .14]	.08 (<.001)	-.05 (.35) [-.15, .05]
Intolerance of uncertainty	.39 (<.001) [.29, .48]	.17 (<.001) [.08, .26]	-.07 (.14) [-.16, .02]	.18 (<.001)	.30 (<.001) [.19, .41]

Results are from multiple regression analyses, including mean centered predictor of interest, candidate preference (Republican supporters = -.5; Democrat supporters = +.5), and their interaction

Individual differences

As hypothesized, participants lower in dispositional optimism and higher in defensive pessimism and intolerance of uncertainty reported greater worry (*Hypotheses 4a–4c*).

All together now

Lastly, we conducted a multiple regression analysis predicting worry from all predictors of interest, controlling for outcome preference, to identify the strongest independent relationships with worry.⁴ Results from this analysis appear in Table 3. In order of the magnitude of each effect,

⁴ No two predictor variables were correlated greater than $r = .149$, thus providing reassurance against multicollinearity concerns. We also inspected the residual plots for all multiple regression analyses and saw no cause for concern regarding non-normality or non-linear associations. Results were nearly identical when corrected for potential heteroscedasticity.

findings suggest that participants who were higher in intolerance of uncertainty more politically engaged, perceived the election to be more important, and were lower in dispositional optimism experienced significantly greater worry. Thus, all predictors that were statistically significant in the individual regression analyses remained significant in the simultaneous regression model, with the exception of defensive pessimism. Furthermore, the standardized estimates for all of the predictors except defensive pessimism were within the 95% confidence intervals of the standardized estimates within the individual regression models.

Study 2

Consistent with our hypotheses, Study 1 found that voters who placed greater importance on the election and who usually find waiting to be difficult worried more about the outcome of the 2018 U.S. midterm election. In contrast,

perceived risk was unrelated to worry about the election outcome and political engagement was positively related to worry about the election outcome. In Study 2 we seek to replicate and extend these results in the context of the 2018 U.S. presidential election. A presidential election, compared to a midterm election, focuses the entire nation on one election outcome and tends to be more important in the eyes of voters.

In addition to measuring each construct as we did in Study 1, we have also included supplemental measures of severity of and control over the outcome. We also included time as a predictor via a cross-sectional panel design. As discussed earlier, proximity of news reliably predicts increases in worry in previous work. Although the political climate during the 2016 U.S. presidential election was unique in a variety of ways, which may have affected temporal fluctuations in worry, we anticipated that worry would increase linearly as news approached as in previous studies (*Hypothesis 5*). Finally, in Study 2 we extended the uncertainty navigation model to explore the role of social context and media consumption in worry about an election outcome.

Method

Participants

Amazon mTurk workers ($N=669$; 330 Donald Trump supporters, 339 Hillary Clinton supporters; $M_{age}=34.6$; 44% female) were compensated US\$1 for completing a pre-election survey. In order to participate in the study, mTurk workers had to be over the age of 18 and a United States citizen. Participants also had the opportunity to complete an additional post-election survey for an additional US\$2 ($n=476$), but measures in the post-election survey are not discussed here.

Although we recruited 800 participants in our initial efforts (a new batch of 50 Clinton supporters and Trump supporters each week over the 7 weeks leading up to the election), we removed 131 pre-election survey responses because these participants completed the survey more than once across weeks⁵ or reported in the post-election survey that they voted for the opposing major party candidate than they initially indicated supporting in the pre-election survey (i.e., completing the pre-election survey as a Trump supporter then voting for Clinton or vice versa; $n=79$). We strongly suspect that those who switched their apparent support between the two major party candidates were

⁵ The possibility of repeat participation was due to a combination of an error on our part in neglecting to prevent repeat responses within the survey and the fact that we had to post several “batches” (essentially, versions of the study) on mTurk.

dishonest in one survey or the other or were unsure of who they would vote for until Election Day had arrived. After these 131 participants were deleted from the dataset, 669 participants remained in the pre-election survey, as indicated above. In the post-election survey, 56 people either reported that they had voted for a third-party candidate ($n=27$) or chose to not specify ($n=29$); we conservatively retained these participants in our analyses. For all analyses that compare Trump and Clinton supporters, we identify participants by the candidate for whom they indicated support in the pre-election survey.

We aimed for a sample that would provide ample power for analyses of change over time ($n=100$ at each measurement point). All materials are available as Supplemental Materials online and on the Open Science Framework at osf.io/7j3ca, and full data are available upon request. This study was reviewed and approved by the authors’ Institutional Review Board.

Procedure

Participants were recruited each week over the 7 weeks leading up to the 2016 presidential election using a cross-sectional panel design.⁶ That is, each participant completed one survey before Election Day, spread across 7 weeks. The eighth and final pre-election survey was completed one day before the election. Following informed consent procedures, participants completed an online survey. At the end of the survey, participants had the option to provide their email address if they wished to complete a follow-up survey 1 day after the election. A total of 645 participants provided their email address, and 73.8% of these participants ultimately completed the second survey. As in Study 1, we focus on pre-election data.

Measures

Unless otherwise noted, all measures were identical to those in Study 1, reworded to be applicable to the presidential election instead of the midterm election.

Worry Worry about the outcome of the presidential election was assessed with three items ($M=4.21$, $SD=1.55$, $\alpha=.86$).

⁶ We tested the possibility that participants may have differed in notable ways across weeks. We ran one-way ANOVAs (continuous variables) and Chi square tests (categorical variables) comparing the eight time-based groups on demographic variables, religiosity, political orientation, and candidate preference. Only education and religiosity differed across groups. Importantly, neither education nor religiosity was notably correlated with worry, $r_s < .07$, $p_s > .08$.

Individual differences Dispositional optimism was assessed with the Life Orientation Test-Revised (9 items rather than 10 due to a survey error; $M=3.40$, $SD=1.00$, $\alpha=.88$).⁷ Defensive pessimism was assessed with the 5-item Defensive Pessimism Questionnaire, Short Form ($M=4.95$, $SD=1.16$; $\alpha=.82$). Intolerance of uncertainty was assessed using the 12-item Intolerance of Uncertainty–Short scale ($M=2.99$, $SD=.81$; $\alpha=.90$). We again assessed participants' political orientation ($M=2.82$, $SD=1.19$) for use as a covariate in relevant analyses.

Perceived severity Importance of the election outcome was again assessed with three items ($M=5.46$, $SD=1.26$; $\alpha=.84$). As an additional measure of perceived severity, participants also reported the extent to which the United States would change as a result of their non-preferred candidate being elected (1=*much worse*; 7=*much better*; $M=3.67$, $SD=1.69$).

Perceived risk We assessed participants' perception of the risk of a bad outcome (i.e., their non-preferred candidate winning) with a single item from 0% to 100% ($M=35.80\%$, $SD=20.72$).

Perceived control Perceived control was assessed in two ways. First, as in Study 1, participants indicated the extent to which they had engaged in six politically-active behaviors ($M=3.56$, $SD=1.28$, $\alpha=.84$). Second, participants reported the extent to which they felt that their vote had an impact on the outcome of the presidential election ("Do you feel that your vote will have a significant impact on the outcome of the presidential election?"; 1=*definitely not*, 5=*definitely yes*; $M=2.74$, $SD=1.17$).

Social context Participants reported the percentage of their social group that supported their preferred candidate (indicating from 0% to 100% in increments of 10% for each of the following groups: friends, family, coworkers, acquaintances; overall $M=5.31$, equivalent to 53.1%), $SD=2.46$, equivalent to 24.6%).

Media exposure We assessed the news sources participants used to acquire information regarding the election (12 total; e.g., nightly network news, cables news, news websites). We examined both the total number of news sources participants reported using ($M=3.12$, $SD=1.65$), as well as the average political leaning of the news sources they accessed

(1=*right-leaning*; 5=*left-leaning*; $M=3.93$, $SD=1.01$). Political leaning scores for each news source were drawn from a media-fact-checking website (<https://mediabiasfactcheck.com/>).

Results

Table 4 presents a correlation matrix including all variables of interest.

Severity of potential bad news

For our remaining analyses, we examined predictors of worry prior to the presidential election using multiple regression analyses predicting worry from each predictor (separately), while controlling for candidate preference (Trump = $-.5$, Clinton = $.5$) and their interaction. Table 5 presents independent-samples *t*-tests comparing Trump and Clinton supporters on all relevant variables, and full results of the regression analyses are presented in Table 6. Unless otherwise noted, all findings are consistent when controlling for political orientation instead of candidate preference.

As hypothesized, participants who perceived the election outcome as more important reported greater worry about the election outcome, as did participants who felt more strongly that the United States would change for the worse if the opposing candidate was elected (*Hypotheses 1a–1b*).

Risk of receiving bad news

Also as hypothesized, participants who perceived a greater risk that their candidate would lose worried more about the outcome of the election (*Hypothesis 2*).

Control over the outcome

As in Study 1, participants who were more politically engaged worried *more* about the outcome of the election. Participants' perception that their vote mattered was unrelated to worry (*Hypotheses 3a–3b*).

Individual differences

As hypothesized, participants lower in dispositional optimism and higher in defensive pessimism and intolerance of uncertainty reported greater worry (*Hypotheses 4a–4c*).

Proximity to news

We examined changes in worry leading up to the presidential election using multiple regression analyses predicting worry from time (centered), candidate preference (Trump = $-.5$,

⁷ Although we cannot be certain whether the validated properties of the LOT-R were retained with the missing item, a comparison between the results of Studies 1 and 2 provides reassurance that the measure worked in substantively the same way across studies.

Table 4 Study 2: intercorrelations among key study variables

<i>R</i> (<i>p</i>)	Worry	Week	Importance	Expect. change	Risk	Pol. engage.	Vote impact	Disp. opt.	Def. pess.	Intol. of uncert.	Social groups	Total news
Week	-.10 (.008)											
Importance	.29 (<.001)	-.01 (.70)										
Expected change	-.17 (<.001)	.02 (.67)	-.42 (<.001)									
Perceived risk of loss	.09 (.02)	.07 (.06)	-.11 (.004)	.29 (<.001)								
Political engagement	.10 (.01)	.10 (.01)	.35 (<.001)	-.09 (.02)	-.10 (.01)							
Vote impact	-.008 (.83)	-.01 (.83)	.20 (<.001)	-.04 (.27)	-.18 (<.001)	.36 (<.001)						
Dispositional optimism	-.17 (<.001)	-.17 (<.001)	.06 (.10)	-.08 (.04)	-.03 (.47)	.05 (.21)	.15 (<.001)					
Defensive pessimism	.23 (<.001)	.02 (.54)	.15 (.001)	-.04 (.29)	.08 (.03)	-.11 (.003)	-.09 (.02)	-.30 (<.001)				
Intolerance of uncertainty	.34 (<.001)	-.06 (.14)	.07 (.08)	.01 (.85)	.04 (.34)	-.02 (.55)	-.08 (.05)	-.46 (<.001)	.49 (<.001)			
Social groups ^a	-.01 (.71)	-.22 (<.001)	.14 (<.001)	-.27 (<.001)	-.31 (<.001)	.06 (.09)	.07 (.08)	.06 (.10)	.09 (.03)	.03 (.39)		
Total news sources	.16 (<.001)	-.03 (.38)	.18 (<.001)	-.14 (<.001)	-.002 (.95)	.06 (.11)	.05 (.24)	.14 (<.001)	.14 (<.001)	.03 (.37)	.07 (.09)	
News source political leaning ^b	-.09 (.04)	.02 (.65)	-.04 (.42)	.01 (.91)	-.30 (<.001)	-.08 (.07)	-.06 (.17)	-.05 (.25)	.01 (.80)	.02 (.68)	.14 (.002)	.13 (.005)

^aHigher scores for social groups = greater percentage of people in agreement with participants' preferred candidate

^bHigher scores for news source political leaning = more liberal

Table 5 Study 2: differences between Trump and Clinton supporters

	M_{DT}	SD_{DT}	M_{HC}	SD_{HC}	T	P	D
Worry	4.20	1.56	4.22	1.55	.22	.83	.01
Severity of bad news							
Importance	5.34	1.30	5.57	1.20	2.34	.02	.18
Expected change	2.48	1.32	1.79	.06	7.11	<.001	.55
Perceived risk of bad news	46.23	17.78	25.64	16.06	14.80	<.001	1.14
Control over outcome							
Political engagement	5.06	1.40	4.89	1.41	1.58	.02	.12
Vote impact	2.76	1.22	2.73	1.13	.35	.72	.03
Individual differences							
Dispositional optimism	3.47	.95	3.34	1.04	1.71	.09	.13
Defensive pessimism	4.86	1.20	5.03	1.11	1.91	.06	.15
Intolerance of uncertainty	2.94	.80	3.04	.82	1.63	.10	.12
Social groups ^a	4.48	2.50	6.11	2.14	9.04	<.001	.70
Media consumption							
Total news sources	2.95	1.59	3.29	1.71	2.67	.006	.21
News source political leaning ^b	3.46	1.21	4.33	.55	10.24	<.001	.93

^aHigher scores for social groups = greater percentage of people in agreement with participants' preferred candidate

^bHigher scores for news source political leaning = more liberal. M_{DT} and SD_{DT} are the means and standard deviations for Trump supporters. M_{HC} and SD_{HC} are the means and stand deviations for Clinton supporters

Clinton = .5), and their interaction. Time was coded as weeks until Election Day, such that the time variable decreases as Election Day neared. As hypothesized (*Hypothesis 5*), worry increased as Election Day neared, $\beta = -.10$ [95% CI: $-.18, -.03$], $p = .008$; neither candidate preference, $\beta = .007$ [$-.07, .08$], $p = .86$, nor the interaction, $\beta = .009$ [$-.07, .09$], $p = .80$, was significant.

Extending the uncertainty navigation model

Social context

The percentage of participants' social group that supported their preferred candidate was unrelated to worry.⁸ However, analyses revealed a weak interaction between social context and candidate preference, such that the relationship was significant (and negative) for Clinton supporters ($\beta = -.12$ [$-.16, -.01$], $p = .03$), but not Trump supporters ($\beta = .07$ [$-.02, .11$], $p = .20$). That is, Clinton supporters whose social group was comprised of fewer Clinton supporters reported greater worry before the election.

⁸ These findings were consistent when examining the relationship between each individual social group (friends, family, coworkers, and acquaintances) and worry.

Media exposure

We examined both the total number of news sources participants reported accessing, as well as the average political leaning of the news sources they accessed. Findings suggest that participants who used a larger number of news sources and who accessed more conservative news sources on average were more worried (albeit only somewhat more, in the case of the political leaning of news sources) about the election outcome. However, political leaning of news sources was no longer a significant predictor of worry when controlling for participants' political orientation rather than candidate preference (all other results remain consistent when controlling for political orientation).

All together now

Lastly, we conducted a multiple regression analysis predicting worry from all predictors of interest, controlling for candidate preference, to identify the strongest independent relationships with worry.⁹ Results from this analysis appear in Table 6. In order of the magnitude of each effect, findings suggest that participants who were higher in intolerance of

⁹ No two predictor variables were correlated greater than $r = .43$, thus providing reassurance against multicollinearity concerns. We also once again inspected residual plots, finding no cause for concern, and results were nearly identical when correcting for potential heteroscedasticity.

Table 6 Study 2: predictors of worry, overall and moderated by candidate preference

	Individual regressions			Simultaneous regression	
	Predictor	Candidate preference	Interaction	R^2 (Model p)	$R^2 = .31$ Model $p < .001$
	β (p) [95% CI]	β (p) [95% CI]	β (p) [95% CI]		β (p) [95% CI]
Week	-.10 (.008) [-.18, -.03]	.007 (.86) [-.07, .08]	.01 (.80) [-.07, .09]	.01 (.07)	-.08 (.04) [-.16, -.004]
Severity of bad news					
Importance	.29 (<.001) [.22, .37]	-.02 (.63) [-.09, .06]	.04 (.26) [-.03, .11]	.08 (<.001)	.25 (<.001) [.16, .35]
Expected change	-.17 (<.001) [-.25, -.10]	-.04 (.35) [-.12, .04]	.003 (.93) [-.07, .08]	.03 (<.001)	-.14 (.002) [-.24, -.06]
Perceived risk of bad news	.13 (.003) [.04, .22]	.07 (.10) [-.01, .16]	.03 (.37) [-.04, .11]	.01 (.03)	.08 (.07) [-.008, .17]
Control over outcome					
Political engagement	.10 (.009) [.03, .18]	.02 (.65) [-.06, .09]	.04 (.25) [-.03, .12]	.01 (.04)	.09 (.04) [.004, .18]
Vote impact	-.007 (.85) [-.08, .07]	.008 (.83) [-.07, .08]	.009 (.81) [-.07, .09]	.0002 (.99)	-.03 (.43) [-.12, .05]
Individual differences					
Dispositional optimism	-.17 (<.001) [-.25, -.09]	-.002 (.94) [-.08, .07]	-.02 (.55) [-.10, .05]	.03 (<.001)	-.07 (.09) [-.16, .01]
Defensive pessimism	.23 (<.001) [.15, .30]	-.008 (.83) [-.08, .07]	-.01 (.70) [-.09, .06]	.05 (<.001)	.06 (.21) [-.03, .15]
Intolerance of uncertainty	.35 (<.001) [.28, .42]	-.01 (.71) [-.09, .06]	-.03 (.46) [-.10, .04]	.12 (<.001)	.29 (<.001) [.20, .39]
Social groups	-.03 (.40) [-.12, .05]	.02 (.64) [-.06, .10]	-.10 (.01) [-.18, -.02]	.01 (.08)	-.11 (.01) [-.18, -.02]
Media consumption					
Total news sources	.15 (<.001) [.08, .23]	-.005 (.90) [-.08, .07]	.04 (.33) [-.04, .11]	.03 (<.001)	.07 (.08) [-.001, .15]
News source political leaning ^a	-.11 (.08) [-.37, .02]	.06 (.25) [-.13, .51]	.008 (.89) [-.36, .42]	.01 (.13)	-.06 (.17) [-.14, .03]

^aHigher numbers for news source political leaning = more liberal. Results are from multiple regression analyses, including mean centered predictor of interest, candidate preference (Trump supporters = -.5; Clinton supporters = +.5), and their interaction. Standardized betas are provided with 95% confidence intervals in brackets

uncertainty, perceived the election to be more important, expected the United States to change for the worse if their candidate lost, were surrounded by fewer people who supported their preferred candidate, and were more politically engaged experienced significantly greater worry. Additionally, participants who perceived a greater risk of losing the election and were lower in dispositional optimism experienced somewhat greater worry, although those relationships fell short of traditional standards for statistical significance in the full regression model. The standardized estimates for all of the predictors except dispositional optimism and total news sources fell within the 95% confidence intervals of the standardized estimates within the individual regression models.

General discussion

The goal of this study was to examine predictors of worry in anticipation of the outcome of political elections using the uncertainty navigation model (as well as an extended

framework for understanding the model’s predictions) as a guide. Taken together, our findings predominantly supported our hypotheses and thus the predictions of the model. Specifically, voters tended to worry more about the election outcome when it was closer to Election Day and when they felt the election would be more consequential, as did voters who were more politically engaged, had a set of worry-exacerbating traits, and were surrounded by supporters of the opposing candidate. Study 2 also found that voters were more likely to worry when they felt that losing the election was more likely. These findings generally held when entering all predictors into a simultaneous regression model, suggesting that they have independent relationships with worry—although in both studies, intolerance of uncertainty, perceived importance of the election outcome, and political engagement were clearly the strongest predictors.

Although our studies provide a strong initial test of the uncertainty navigation model in a political context across two elections and with a theoretically-grounded set of predictors predictor, we propose four avenues for future research

to extend our inquiry. First, future research can replicate and extend our findings regarding political engagement to better understand the dynamics of perceived control in the context of stressful waiting periods. The only finding to contradict the predictions of the uncertainty navigation model was the positive relationship between political engagement and worry, which suggests that becoming actively involved in steering the outcome of the election failed to reassure these engaged voters. Of course, this finding is consistent with the study mentioned earlier that examined worry in the context of issues relevant to the European Union (Strohmeier et al. 2017). The authors of that study posited that worry leads to engagement, rather than the other way around—a plausible explanation for our finding as well.

Another possibility is that investment in the election outcome generated both worry and engagement. In fact, participants' perceptions of the importance of the election outcome was robustly associated at a bivariate level with both worry and engagement in both studies. Follow-up analyses (see footnote¹⁰) were consistent with the possibility that importance was driving the relationship between engagement and worry in Study 2, but not Study 1. Clearly further research is needed to better understand the emotional dynamics of engagement in political elections.

We note that the original description of the uncertainty navigation model focused more on “treatability” of an undesirable outcome rather than control over one’s immediate fate (Sweeny and Cavanaugh 2012). That is, the model proposed that people would worry less about an outcome that was mutable (e.g., a treatable illness) than one that was permanent (e.g., a terminal illness). The current study suggests that control over one’s outcome may be more complex in its relationship with worry, such that worry may prompt people to take action to ensure a desirable outcome, but those actions seem to provide little comfort as uncertainty persists.

Second, because we focused on theoretically-proposed predictors, we did not address circumstances that were particularly relevant to the context of our studies, namely the ever-shifting socio-political climate leading up to the elections. Although we may have captured some influence of the political climate through our assessment of media exposure, we did not include direct assessments of polling fluctuations, sensational press reports, or other election-relevant events. Future research should examine the extent to which people are informed about the political climate and how changes in this climate might influence worry about election outcomes.

¹⁰ In Study 1, a regression analysis predicting worry from perceived importance ($\beta = .20$, $p < .001$) and political engagement ($\beta = .33$, $p < .001$) suggests that both variables are independent predictors of worry. In Study 2, the same regression analysis revealed that only perceived importance ($\beta = .29$, $p < .001$) and not engagement ($\beta = -.002$, $p = .96$) independently predicted worry.

Third, we tested our theoretical predictions in a non-clinical sample rather than target a population that particularly struggles with worry, and in which worry has been studied most extensively—namely, people with generalized anxiety disorder (GAD). Excessive and persistent worry is a hallmark of GAD (National Institute of Mental Health 2016). One model of worry in the context of GAD, the contrast avoidance model (Newman et al. 2013), posits that GAD sufferers find downward shifts in emotional states (e.g., from positive to neutral or neutral to negative) to be aversive, and thus they embrace worry as a means by which to avoid such shifts. For example, a pro-Clinton voter who suffers from GAD might have feared the possibility of shattering disappointment on the night of the 2016 presidential election. To avoid the crush of unexpected bad news, this hypothetical voter would likely have worried heartily about the election outcome in the weeks or months before Election Day, thus reducing the likelihood that bad news would come as an emotional shock.

Although most people prefer to avoid unpleasant surprises and will adopt a pessimistic mindset in an effort to avoid them (e.g., Sweeny et al. 2006), the intensity of these psychological machinations is turned up in those who suffer from GAD. We did not include a diagnostic assessment of GAD symptoms in our studies, and thus we do not know the extent to which our results reflect normative or disordered worry and its correlates. Further research should recruit participants who suffer from GAD to determine whether worrisome situations like the uncertainty preceding a political election affect them in similar or distinct ways compared to non-clinical samples.

Further pointing to the importance of studying clinical populations in future studies is the prominent role of intolerance of uncertainty in our findings. Intolerance of uncertainty as a trait-like individual difference emerged in studies of people with GAD, and as a particular focus of the Intolerance of Uncertainty Model (Dugas et al. 1998), and people who are high in intolerance of uncertainty tend to report the type and magnitude of daily worries that are associated with GAD (e.g., Boswell et al. 2013; Buhr and Dugas 2009). Perhaps unsurprisingly, then, participants in our studies with this dispositional tendency were also at particularly high risk for pre-election worry. This finding suggests that people with GAD would likely report elevated worry prior to important elections, but studies targeting this population are necessary to confirm this prediction.

As a final area for future inquiry, the uncertainty navigation model posits that worry is a response to aversive uncertainty and heightened when a person lacks the ability to control the future. However, given the correlational and cross-sectional nature of our data cannot provide evidence for causality. For example, people who felt that their candidate was likely to lose the election may have experienced

worry about this outcome, and that worry may have in turn fed their pessimism. Future studies can get one step closer to directionality via longitudinal designs that allow for cross lag analyses to narrow temporal order of the predictors examined and worry. Ultimately, experimental studies would be best for determining causality and future research should attempt to simulate the social uncertainty experienced in a political context.

It's not personal, it's politics

Beyond the specific goals of our study, the findings provide corroborating evidence for the usefulness of the uncertainty navigation model, in a context quite different from the one in which it was developed. Waiting in this context likely differed in numerous ways from the types of waiting periods that are typically the topic of study in this research area, most notably the extent to which the outcome has clear, immediate, and significant personal consequences (or lack thereof). Considering the slow progression of policy development and implementation, many of the election's consequences will only reveal themselves over months, years, or even decades after Election Day—and until they do, it is difficult to know exactly which people will be affected and how those effects will transpire. Nonetheless, the predictors of worry laid out in the uncertainty navigation model seem to be a good fit when awaiting both concrete, personal outcomes (e.g., results of a medical test, outcome on the bar exam) and more abstract, societal outcomes.

Using a novel context to study waiting experiences also allowed us to examine several context-specific and exploratory predictors of worry. First, we considered the social context of our participants, specifically the extent to which their family, friends, colleagues, and acquaintances were on their “team” when it came to their preferred presidential candidate. This analysis was exploratory, and one could imagine the relationship between social context and worry going one of two ways. Perhaps being surrounded by similarly-minded loved ones and coworkers serves to heighten worry via a type of group polarization process, in which each person's worries build on each other's by making uncertainty more salient. In contrast, perhaps being surrounded by similarly-minded loved ones and coworkers provides a cocoon of mutual reassurance and optimism. Our findings suggest that the latter process was more dominant in anticipation of the 2016 presidential election. In the final regression analysis, voters in a more politically homogeneous social context were less worried overall—although our more targeted analysis suggested that this effect was only apparent among Clinton supporters.

Second, we considered voters' individual media landscapes, including the number of individual news sources participants accessed and the political leaning of those news

sources. Although initial analyses suggested that people who accessed more news sources worried more, this effect disappeared when we controlled for all predictors in a single regression model. Similarly, initial analyses suggested that voters who viewed more conservative news might have worried more, even controlling for the candidate they preferred; however, this effect disappeared when controlling for political orientation instead (strongly related to candidate preference, but not perfectly equivalent) and in the multiple regression analysis. As a whole, these findings suggest that media exposure was not a strong nor consistent predictor of worry in the context of the presidential election.

At a broader level, our study points to opportunities to extend the uncertainty navigation model to new populations and new experiences with uncertainty. Together with previous studies that provide support for many of the model's predictions (e.g., Howell and Sweeny 2016; Sweeny and Andrews 2014; Sweeny et al. 2015, 2016), our findings point to the generalizability of the model and specifically the model's proposed predictors of worry. As in our study, future work across varying domains of uncertainty can pair the model's predictors with context-specific predictors to more thoroughly understand the dynamics of worry during stressful waiting periods.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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