Political Psychology

Political Psychology, Vol. 32, No. 2, 2011
doi: 10.1111/j.1467-9221.2010.00805.x

Does Anxiety Improve Voters' Decision Making?

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Affective Intelligence (AI) theory proposes to answer a fundamental question about democracy: how it succeeds even though most citizens pay little attention to politics. AI contends that, when circumstances generate sufficient anxiety, citizens make informed and thoughtful political decisions. In Ladd and Lenz (2008), we showed that two simpler depictions of anxiety's role can explain the vote interactions that apparently support AI. Here, we again replicate Marcus, Neuman and MacKuen's (2000)'s voting model, which they contend supports AI, and again show that it is vulnerable to these alternative explanations, regardless of how candidate choice is measured. We also briefly review the broader literature and discuss Brader's (2005, 2006) important experimental results. Although the literature undoubtedly supports other aspects of AI, few studies directly test AI's voting claims, which were the focus of our reassessment. In our view, the only study that does so while ruling out the two alternatives is our analysis of the 1980 ANES Major Panel (Ladd & Lenz, 2008), which finds no support for AI, but ample support for the alternatives. None of the responses to Ladd and Lenz (2008) addresses these findings. Overall, evidence that anxiety helps solve the problem of voter competence remains sparse and vulnerable to alternative explanations.

KEY WORDS: emotions, affect, voting, partisan identification, issue voting

Introduction

Decades of research show that citizens are often ignorant about politics (e.g., Campbell, Converse, Miller, & Stokes, 1980 [1960]; Converse, 1964; Luskin, 2002). Much of the time, they pay little heed to political events, know little about candidates and policy, and, on election day, rely on intuition, habit, and other shortcuts (e.g., Conover & Feldman, 1989; Rahn, 1993). This ignorance poses a problem for democratic theory (Althaus, 2003; Bartels, 1996, 2003; Lupia &

Published by Wiley Periodicals, Inc., 350 Main Street, Malden, MA 02148, USA, 9600 Garsington Road, Oxford, OX4 2DQ, and PO Box 378 Carlton South, 3053 Victoria Australia

McCubbins, 1998; Neuman, 1986). How can disengaged citizens make reasonable choices about politics? How can democracy succeed?

In a series of articles and books, Marcus, Neuman, and MacKuen (henceforth MNM) suggest an answer.[1] They argue that ordinary people use emotions to manage attention to the political world. When normally inattentive citizens sense that all is not right, they become anxious. This focuses their attention on politics and leads them to judge candidates more on issues and character and less on heuristics such as party affiliation. MNM (2000) label this theory Affective Intelligence (henceforth AI).

In support of AI, MNM (2000) present evidence that anxiety indeed fundamentally changes, and arguably improves, voting decisions. If correct, AI may thus answer a fundamental question about democracy. It has also played a central role in the recent intellectual ferment in the emotions and voting literature (e.g., Neuman, Marcus, Crigler, & MacKuen, 2007; Redlawsk, 2006).

In Ladd and Lenz (2008), we reassessed AI's claims about anxiety and voting. We examined whether two alternative depictions of anxiety's role could also explain the results of MNM's empirical voting model. The first alternative embodies the intuitive notion that if a candidate makes citizens feel anxious, afraid, angry, or other negative emotions, they will be more likely to vote against her. The second embodies the similarly intuitive notion that a candidate whom people like is less likely to make them feel these negative emotions. These are uncontroversial, common sense understandings of anxiety's relationship with vote choice. Following Brader (2006), we labeled them Affect Transfer and Endogenous Affect, respectively.[2] Reanalyzing pooled American National Election Studies (ANES) time-series data employed by MNM (2000), as well as the 1980 ANES Major Panel, we found the evidence more consistent with these direct relationships than with AI's claim that anxiety affects voting indirectly by improving the decision making process.

We are very grateful for Marcus, MacKuen, and Neuman's (2011, henceforth MMN) and Brader's (2011) thoughtful responses to our article, and to the editors of *Political Psychology* for the opportunity to participate in this discussion. We hope this dialogue advances scholarship on this topic. Below, we again argue that the results of voting models purported to support AI are just as consistent with these simpler alternatives. We also stress that, though the literature undoubtedly supports other aspects of AI, few studies directly test AI's voting claims, the focus of our reassessment. Overall, evidence that anxiety helps solve the problem of voter competence remains sparse and vulnerable to alternative explanations.

[1] Other possible solutions to this dilemma include heuristics and satisficing (see Lau & Redlawsk, 2006; Lupia, 1994, 2006; Popkin, 1991; Sniderman, Brody, & Tetlock, 1991).

[2] Neither constitutes a theory of emotions (see Ladd & Lenz, 2008, p. 269 note 6), as both are consistent with a variety of possible alternative theories.

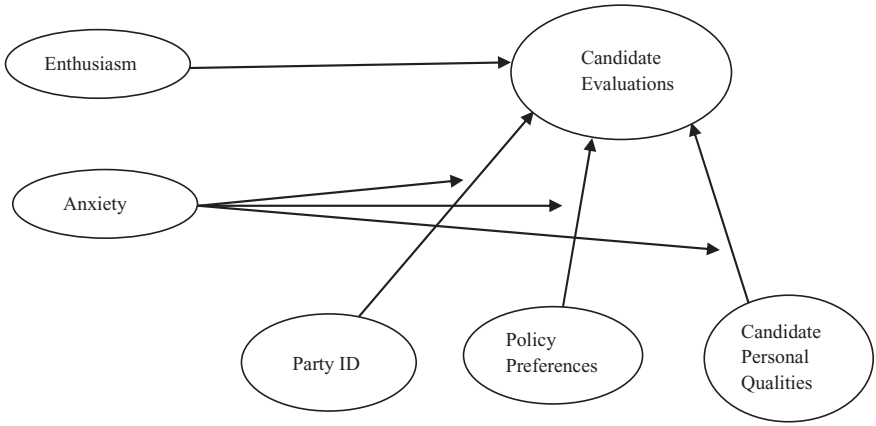

Figure 1. Simple version of affective intelligence.

Does the Evidence Support AI's Depiction of Voting?

Our reassessment presented three pieces of evidence that are inconsistent with AI's depiction of anxiety and voting: the strong correlation between anxiety and vote choice, that enthusiasm and feeling thermometer ratings produce the same interactions as anxiety in MNM's (2000, p. 118) voting model, and the failure of these findings to persist when we measured anxiety and other key variables in an earlier wave of a panel survey. This section revisits each piece of evidence.

The Correlation between Anxiety and Vote Choice

Our article first examined the association between anxiety and vote choice. Marcus and MacKuen (1993) write that AI predicts a weak or nonexistent bivariate association: "Our theoretical position . . . suggests that enthusiasm will directly affect the voting decision while anxiety's role will be muted" (p. 677). When describing AI, MNM (2000) use phrases such as "when the electorate is anxious" (p. 61) or "anxiety in the air" (p. 72). In this depiction of AI, support or opposition to candidates does not generate anxiety, nor does anxiety directly lead citizens to favor specific candidates.[3] Instead, a general state of anxiety leads voters to seek and process political information (see Figure 1). In contrast, Affect Transfer and Endogenous Affect posit direct links between anxiety and vote choice (see Figure 2), implying that these should be correlated.

In Ladd and Lenz (2008), we found a strong correlation. Analyzing the ANES, we found that all emotion measures (including those categorized as anxiety

[3] For other instances where the sources of anxiety are depicted as exogenous to vote choice, see MNM (2000, pp. 63, 100–101, and 117).

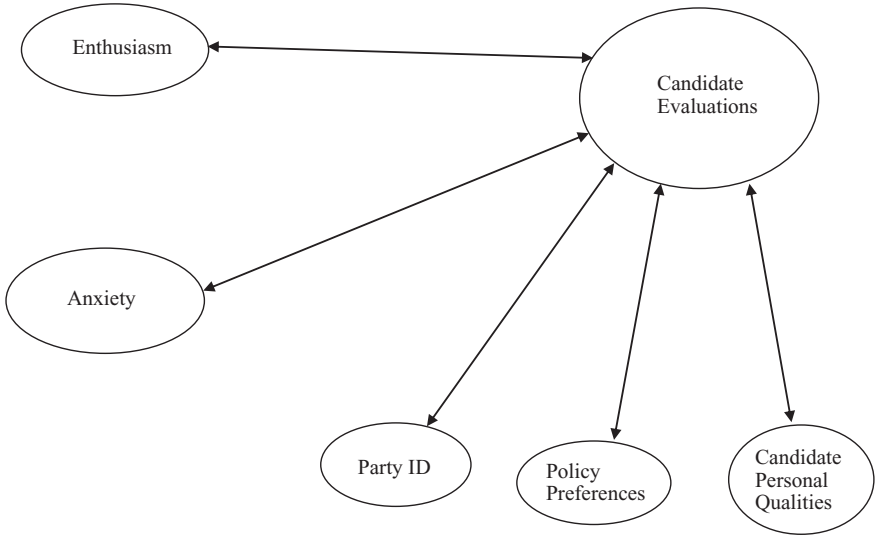

Figure 2. Alternative explanations—endogenous affect and affect transfer.

related) are strongly associated with both vote choice and candidate thermometer ratings (pp. 280–282). This result is undisputed by MMN (2011).

However, MMN (2011) contend that this finding is actually consistent with AI because direct reactions to specific candidates are a source of anxiety in their theory. To our reading, this aspect of AI has evolved. This more complex depiction of anxiety allows it to be associated with vote choice both directly and indirectly. As MMN (2011) point out, a direct association is not necessarily inconsistent with anxiety also having an indirect effect. But an important implication is that this complicates the interpretation of voting models, making findings vulnerable to alternative explanations, as we review in the next section.

Direct Accounts of Anxiety's Role Can Explain the Interactions in MNM's (2000) Voting Model

The second piece of evidence from our reassessment casts doubt on AI's claim that anxiety improves voting decisions. We showed the interactions in MNM's (2000, pp. 118) voting model could be artifacts, that is, could arise without anxiety indirectly influencing voting decisions. As we explained,

> There are also several plausible explanations consistent with Affect Transfer or Endogenous Affect for the positive interaction between anxiety and both policy preferences and candidate qualities. One possibility, consistent with Endogenous Affect, is that some people care deeply about a policy

> issue, but disagree with their party's candidate on the issue. This disagreement leads them to dislike the candidate and, by Endogenous Affect, report feeling anxious about the candidate. In this case, anxious individuals should appear more likely to vote consistently with their policy preferences, precisely MNM's finding, even though anxiety played no indirect (or direct) causal role. Another explanation, consistent with Affect Transfer, is that a candidate's actions or attributes lead an individual to feel anxious (angry or afraid or both) and therefore to vote against that candidate, give negative open-ended comments about the candidate, and dislike whatever policies she advocates. (2008, p. 285)

These simpler views of anxiety can explain MNM's interactions because anxiety is measured using reactions to the candidate of one's own party. Since citizens classified as high in anxiety tend to dislike their own party's candidate (because of Affect Transfer or Endogenous Affect), they should naturally be less likely to vote for the candidate they dislike. Thus, we would expect party identification to be less related (or even unrelated) to vote among those high in anxiety, precisely the interaction MNM (2000) find and attribute to AI.

To test this explanation, we used a straightforward approach. If the interactions in MNM's (2000, pp. 118) voting model solely result from direct relationships between anxiety and vote, they should also appear when we substitute other variables correlated with support for the candidates. As substitutes for own candidate anxiety, we used enthusiasm about the other party's candidate, which MNM (2000) contend directly affects candidate choice, and reversed feeling thermometer ratings of one's own party's candidate. When we substituted these variables into MNM's voting model, each produced similar results to those produced by own-candidate anxiety (Ladd & Lenz, 2008, Table 3).

MMN (2011) make two main claims about these findings. First, they contend that we fail to replicate their original results. Second, they claim we fail because we use a different dependent variable, *comparative feeling thermometer,* instead of *vote*. Neither is true.

We do replicate the central findings of their original analysis (see Ladd & Lenz, 2008, Table 3 and Table 4). Moreover, we do so with both *comparative feeling thermometers* and *vote* as the dependent variable.[4] MMN (2011) write at some length about our failure to replicate their results, but since we did replicate them, we do not have much to say.

More important to our conclusions is that MMN (2011) fail to replicate a key finding from our paper. They fail to find that enthusiasm produces interactions similar to those of anxiety. To show that our findings do replicate, Table 1 reruns

[4] Although we made slightly different coding decisions (e.g., we used postelection vote combined with the postelection vote intention of nonvoters, while they use only preelection vote intention), these differences do not substantially affect the results.

Table 1. Replication of Ladd and Lenz (2008) following MMN's (2011) specification

	(1)	(2)	(3)
	Vote Intention	Vote Intention	Vote Intention
	Anxiety Interactions	Enthusiasm Other Interactions	Thermometer Own Reversed interactions
Anxiety × Partisanship	–0.54***		
	(0.03)		
Anxiety × Comparative Policy	0.60***		
Preferences	(0.08)		
Anxiety × Comparative Personal	–0.02		
Qualities	(0.07)		
Enthusiasm Other × Partisanship		–0.36***	
		(0.01)	
Enthusiasm Other × Comparative		0.21***	
Policy Preferences		(0.03)	
Enthusiasm Other × Comparative		0.13***	
Personal Qualities		(0.03)	
Thermometer Own Reversed ×			–1.36***
Partisanship			(0.05)
Thermometer Own Reversed ×			1.40***
Comparative Policy Preferences			(0.12)
Thermometer Own Reversed ×			0.03
Comparative Personal Qualities			(0.12)
Partisanship	0.74***	0.37***	1.03***
	(0.01)	(0.01)	(0.02)
Comparative Policy Preferences	0.82***	0.58***	0.45***
	(0.03)	(0.02)	(0.04)
Comparative Personal Qualities	0.77***	0.45***	0.62***
	(0.03)	(0.02)	(0.04)
n	9596	9596	9596
R^2	0.65	0.71	0.67
Standard Error of Regression	0.280	0.132	0.272

***p < 0.01, **p < 0.05, *p < 0.1

Note. Columns present OLS regression parameter estimates with the dependent variable indicated at the top. Standard errors are in parentheses. Each model includes year dummy variables, not shown. Vote Intention is coded 1 Republican, third-party or undecided .5, and Democrat 0. See MMN (2011) footnote 2 for the coding of all variables.

the analysis from Ladd and Lenz (2008, pp. 282–285). It does so following MMN's (2011) model specification, including using *vote intention* from the pre-election survey as the dependent variable.

Table 1 begins by again replicating MNM's (2000, p. 118) original results, which indicate that anxiety reduces the effect of partisanship and increases the effects of policy preferences and candidate qualities. To that end, the first column regresses vote intention on partisanship, comparative policy preferences, comparative personal qualities, and the interactions between anxiety about the candidate of

one's party and these three variables. As in Ladd and Lenz (2008, Table 3), the estimates are similar to MMN's findings (compare with 2011, Table 1). Anxiety appears to reduce the effect of partisanship by more than half while increasing the effect of policy preferences.

Next, Columns 2 and 3 replicate our analysis in Ladd and Lenz (2008, Table 3, Columns 3 and 5), now with MMN's (2011) specification. As before, if the interactions are artifacts of the direct connection between anxiety and candidate preference, then replacing anxiety with a similarly coded measure of support for the candidates could produce the same pattern of interactions in the vote choice models. We again substitute enthusiasm about the other party's candidate (Column 2) and own-candidate feeling thermometers (Column 3), with the thermometer coding reversed so that high values indicate poor evaluations. Despite substituting enthusiasm or feeling thermometers for anxiety, the results are similar to those in Column 1. Among those who are enthusiastic about the other party's candidate, for instance, the effect of partisanship drops to almost nothing. Similarly, the effect of policy preferences increases significantly. Thus, the minor changes in model specification recommended in MMN (2011) leave our findings unchanged.

How then do MMN (2011) fail to replicate this result? The answer is that they change the coding of enthusiasm. The problem we originally pointed out with MNM's anxiety variable is that it codes anxiety as only about the candidate of the respondent's own party. Consequently, citizens classified as high in anxiety tend to dislike their own party's candidate. Instead of coding enthusiasm in a similar fashion, as we did, MMN code enthusiasm merely as the reversed comparative enthusiasm scale, calling it "disappointment." In contrast with their anxiety variable's orientation, it is therefore not higher when individuals are unenthusiastic about their own party's candidate (or enthusiastic about the other party's candidate). Instead, it is higher when individuals are more enthusiastic about the Democrat than the Republican. We would not thus expect party identification's effect to be weaker among those high in "disappointment" and so are not surprised by MMN's findings. When enthusiasm or candidate feeling thermometers are coded in a manner similar to anxiety, as in Ladd and Lenz (2008), we again find that they produce similar (or even larger) interaction coefficients.

In sum, our findings hold. Simpler depictions of anxiety's role in voting decisions can explain the interactions in MNM's (2000) voting model. They can do so regardless of whether the dependent variable is vote intent, vote choice, or comparative feeling thermometers. These interactions are therefore not strong evidence that anxiety indirectly affects voting by improving the decision making process.

Panel Data Supports Alternatives, Not AI

These cross-sectional results do not disprove AI. They simply show that competing explanations are observationally equivalent. In our reassessment, we

therefore went a step further. We attempted to adjudicate with panel data, using the 1980 ANES Major Panel. Because the panel data allow us to test predictions that are not observationally equivalent, they can potentially distinguish between AI and the alternative causal claims. As we showed, these analyses provide little support for AI, some support for Affect Transfer, and considerable support for Endogenous Affect (see Ladd & Lenz, 2008, Tables 4 and 5).[5] Since our reassessment presents and explains these tests at length, we do not review them here. We simply note that neither reply disputes this evidence.

Does the Broader Literature Support AI's Depiction of Voting?

Taken together, these results fail to support AI's depiction of anxiety's role in vote choice, while supporting the simpler alternative claims (see Figure 2). Yet we agree with Brader (2011) and MMN (2011) that scholars should consider the cumulative weight of the evidence. The broader evidence for AI's claims about anxiety and voting, however, is sparse.

Brader (2011) and MMN (2011) primarily cite two bodies of research that are consistent with AI. They cite evidence indicating that emotions are multidimensional. They also cite evidence that emotions play central roles in decision making and attitude formation.

They are absolutely correct to cite these and other literatures as broadly consistent with AI. Some of the studies they cite even validate aspects of AI. However, these studies do not directly test AI's claims about voting, which was the focus of our reassessment. Specifically, they do not evaluate AI's key claim that anxiety improves voting decisions by leading people to eschew heuristics like partisanship and rely more on policy preferences and candidate characteristics.

Besides MNM's findings and our analysis, the only study directly testing AI's claim that anxiety indirectly affects voting is Brader's experiment (2005, 2006, chap. 5).[6] In a laboratory setting, Brader randomly assigns subjects to see political advertisements that are either very fear inducing or less fear inducing. Consistent with AI, he finds that fear-inducing commercials increase the association of issue and trait evaluations of the candidates with vote intentions.[7]

[5] While our analysis of the 1980 ANES Panel was more supportive of Endogenous Affect than Affect Transfer (Ladd & Lenz, 2008, pp. 286–292), one study certainly does not settle the issue and the broader literature documents both. All things considered, we suspect that causation usually flows in both directions (see Figure 2).

[6] Some other studies are broadly consistent with AI, without testing its depiction of voting. For instance, Druckman and McDermott (2008) find that anger reduces framing effects, while MacKuen, Wolak, Keele, and Marcus (2010) find that anxiety is associated with willingness to politically compromise.

[7] Brader's (2005, 2006, chap. 5) experiment also finds that fear and enthusiasm treatments have no detectable direct effect on candidate choice. With the usual caveats about over-interpretation of null findings, these results constitute evidence against Affect Transfer.

Randomly assigning these conditions means these effects cannot be attributed to Endogenous Affect. Detecting an indirect effect therefore represents a major advance. For this reason, Brader's study is the best available evidence that anxiety improves voter decision making.

Nevertheless, a single study rarely settles a question, even when expertly executed. In Brader's (2005, 2006, chap. 5) case, the findings could be vulnerable to some of the same biases as MNM's (2000, p. 118) vote findings. Although Brader's (2005, 2006, chap. 5) study randomly assigns anxiety, and so is not vulnerable to Endogenous Affect, it does not (and probably cannot) randomly assign the other independent variables: the policy and trait evaluations. Instead, it observes these variables after the fear-inducing treatment. As a result, the findings could arise because anxiety affects these variables, a problem called posttreatment bias. This bias could be eliminated by measuring policy and trait evaluations pretreatment, which Brader does for most variables, but avoids for these because of concerns about demand (Brader, 2005, p. 391).[8] When we measured these variables "pretreatment" in the 1980 ANES Panel, we found no support for AI. Thus, while Brader's work is a major advance, more research is needed.

We make two more points about the broader literature on emotions. First, though it is consistent with AI, the literature does not necessarily support AI's view of emotions. For instance, though many studies undoubtedly support multidimensional emotions,[9] they do not clearly support AI's depiction of how the dimensions relate to voting.[10] Second, numerous studies also support the direct alternatives. In fact, a large share of political psychology scholarship posits direct connections between emotions and decisions.[11]

[8] However, several studies avoid this potential problem by measuring attitudes weeks or months earlier (e.g., Mendelberg, 2001).

[9] See Abelson, Kinder, Peters, and Fiske (1982), Cacioppo & Berntson (1994), Huddy, Feldman, & Cassese (2007), Huddy, Feldman, Taber, & Lahav (2005), and Tellegen, Watson, & Clark (1999).

[10] See the literatures on negativity bias (e.g., Cacioppo & Berntson, 1994; Cacioppo & Gardner, 1999; Ito, Larsen, Smith, & Cacioppo, 1998; Taylor, 1991) and the effects of different negative emotions (Conover & Feldman, 1986; Druckman & McDermott, 2008; Huddy, Feldman, & Cassese, 2007; Small & Lerner, 2008). Other traditions posit multidimensional emotionality and indirect relationships between emotions and political preferences, but not as specified in AI. For instance, ambivalence theory incorporates some Endogenous Affect as well as different types of indirect effects of emotions on voting (see Johnston, Lavine, Lodge, & Woodson, 2010; Lavine, Steenbergen, & Johnson, forthcoming). Also, Way and Masters (2005) find evidence that negative affect can have indirect effects, including causing Republicans to "rally around the flag" by increasing their support for President Clinton. Yet while this certainly is an example of negative emotions reducing the influence of party identification, it seems ambiguous whether a heightened tendency to rally around the president is necessarily evidence of more thoughtful decision making.

[11] See the literatures on the "likability heuristic" (Sniderman, Brody, & Tetlock, 1991), the affect infusion model (Forgas, 1995, 2002, pp. 611–613), automatic activation (Fazio, 2001), fear conditioning (LaBar & LeDoux, 2002; LeDoux, 1995, 1996; Pavlov, 1927), and the interconnected literatures on affective tagging, affect-as-information (or "how-do-I-feel-about-it" heuristic), appraisal, hot cognition, online processing, motivated reasoning, and symbolic politics (Cassino & Lodge, 2007; Ellsworth & Scherer, 2002; Forgas, 2002, pp. 600–601; Just, Crigler, & Belt, 2007; Lazarus, 1991; Lodge, McGraw, & Stroh, 1989; Lodge & Stroh, 1993; Lodge & Taber, 2000; Lodge & Taber, 2005; McGraw, Lodge, & Stroh, 1990; Roseman & Smith, 2001; Scherer, 2002; Scherer,

Despite widespread scholarly interest in AI, why is there only one published experimental test of its voting claims? We cannot be sure, but one possibility is a "file drawer" effect. Researchers may have conducted studies, but unlike Brader (2006), failed to find AI's predicted vote interactions, and filed them away. Consistent with this possibility, MacKuen, Wolak, Keele, and Marcus describe their attempts to experimentally test the indirect effects of anxiety.

> See Brader (2006) for an excellent example of such a direct manipulation in the context of political campaign advertisements. However, things may not always turn out so clearly. Our further experimentation, conducted over several years, indicates that such a manipulation is a much more difficult and uncertain enterprise than one might suppose. (MacKuen, Wolak, Keele, and Marcus 2010, p. 444, note 10)

Again, we cannot be certain why published experimental tests of AI are so rare—this footnote may be open to interpretation. Still, file drawer problems are a common source of bias, and may be here.

Taking a broader perspective, the notion that anxiety improves political decision making seems inconsistent with key moments in history. For example, the worldwide Great Depression of the 1930s and its consequences are among the most significant events of the twentieth century. A desire to explain them motivated much of subsequent social science.[12] These pivotal events, however, seem inconsistent with anxiety improving voting decisions. The Great Depression's hardships undoubtedly induced extreme anxiety, but this appears not to have produced more thoughtful voting based on careful reevaluations of government's role in the economy. Instead, the trauma induced a near-panicked abandonment of incumbents and an embrace of whatever alternatives were available. As Bartels puts it,

> In the United States, voters replaced Republicans with Democrats in 1932 and the economy improved. In Britain and Australia, voters replaced Labor governments with conservatives and the economy improved. In Sweden, voters replaced Conservatives with Liberals, then with Social Democrats, and the economy improved. In the Canadian agricultural province of Saskatchewan, voters replaced Conservatives with Socialists

Schorr, & Johnstone, 2001; Schwarz & Clore, 1983; Sears, 2001; Shwarz, 1990; Taber & Lodge, 2006). Several recent studies specifically document direct links between anxiety and political choices (Brader, Valentino, & Suhay, 2008; Huddy et al., 2005; Steenbergen & Ellis, 2006).
Of all the research they cite, studies on the effects of negative emotions seems, to us, the most supportive of AI's voting claims. In a review of this literature, Forgas (2002, 601) writes that "negative affect seem[s] to trigger a more effortful, systematic, analytic, and vigilant processing style" (see also Isbell, Ottati, & Burns, 2006; Isen, 1984; Mackie & Worth, 1989). Again, however, none of these studies directly test AI's claim that anxiety improves voting decisions.

[12] See for instance, Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950), Friedman and Schwartz (1963), Galbraith (1954 [1997]), Hamilton (1982), Key (1955, 1968), and Milgram (1963, 1974).

> and the economy improved. In the adjacent agricultural province of Alberta, voters replaced a socialist party with a right-leaning party created from scratch by a charismatic radio preacher peddling a flighty share-the-wealth scheme, and the economy improved. In Weimar Germany, where economic distress was deeper and longer lasting, voters rejected all of the mainstream parties, the Nazis seized power, and the economy improved. . . . It seems far-fetched to imagine that all these contradictory shifts represented well-considered ideological conversions. (2008, p. 50)

Consistent with this, U.S. voting patterns in the 1930s can be largely explained by retrospective economic voting (Achen & Bartels, 2004, 2005, 2008). Anxiety's role in the Great Depression, if any, thus seems more consistent with Affect Transfer than AI.

All told, the evidence on anxiety improving voting seems sparse and vulnerable to alternative explanations. These alternatives can explain MNM's (2000, p. 118) cross-sectional vote choice interactions. Brader's (2005, 2006, chap. 5) study constitutes an important advance, but remains vulnerable to alternative explanations. The only study not vulnerable to these alternatives is our analysis of the 1980 ANES Major Panel (Ladd & Lenz, 2008). It found no support for AI, but ample support for the alternatives. Neither response addresses those findings. To our knowledge, these are the only published studies that directly bear on anxiety's indirect effect on voting. We wish we could agree with AI that anxiety improves voters' judgment and the overall performance of democracy. Unfortunately, the evidence leaves us pessimistic. Yet, we can all agree that more research is needed.

ACKNOWLEDGMENTS

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