

THE ANXIOUS AND AMBIVALENT PARTISAN THE EFFECT OF INCIDENTAL ANXIETY ON PARTISAN MOTIVATED RECALL AND AMBIVALENCE

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Abstract Affective Intelligence Theory (AIT) asserts that anxiety reduces the effect of party identification on candidate preferences (Marcus, Neuman, and MacKuen 2000), but recent studies have raised doubts about this causal claim. Rather than functioning as a moderator of party identification, perhaps anxiety has a direct effect on preferences, or perhaps the relationship is reversed and preferences drive emotions (Ladd and Lenz 2008). Alternatively, Marcus et al.'s measure of anxiety may simply be capturing partisan ambivalence, so the posited relationship is spurious (Lavine, Johnston, and Steenbergen 2012). This paper addresses each of these questions by examining the effect of experimentally induced emotions on the types of considerations that came to mind when a national sample of adult Americans was asked what they liked and disliked about Barack Obama. By directly manipulating anxiety, this experiment avoids the causal ambiguity plaguing this debate and ascertains the true nature of the relationship between anxiety and ambivalence. Consistent with AIT, anxiety led respondents to recall more contemporary considerations, whereas enthusiasm brought to mind more long-standing considerations. Because the political context at the time of the study (fall 2013) was a very tumultuous time for the Obama administration, the increased accessibility of contemporary considerations led Democratic participants to experience more ambivalence in the anxiety condition. This effect was concentrated among those Democrats who were exposed to the most newspaper coverage.

In recent decades, researchers have made strides in understanding the relationship between emotion and cognition. In contrast to the classic notion of emotion as the enemy of reason, it is now widely accepted that affective and

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cognitive systems have coevolved to complement each other, and together enhance humans' fitness for survival. Affective Intelligence Theory (AIT) applies this insight to understand how citizens process political information. The theory claims that anxiety signals a need for greater processing accuracy, thereby increasing the effect of contemporary considerations and decreasing the effect of long-standing partisan predispositions on candidate preference. On the other hand, enthusiasm signals that all is going according to plan and that predispositions can be relied upon to guide cognitive processing and behavior. Thus, enthusiastic partisans are expected to follow their partisan predispositions, out of either loyalty or cognitive miserliness. However, when a stimulus provokes anxiety, individuals shed their predispositions, access a wider variety of considerations, and behave more like "rational voters" (Marcus, Neuman, and MacKuen 2000).

From an evolutionary standpoint, this sort of processing flexibility makes good sense. The ability to adapt to one's circumstances doubtlessly provides an enormous survival advantage. By prioritizing group (or partisan) loyalty in the absence of some anxiety-evoking threat, individuals are able to sustain cooperative relationships that increase their likelihood of survival (Baumeister and Leary 1995). Likewise, by conserving bodily resources when vigilance is unnecessary, they can prevent valuable calories from being wasted. Then, once an anxiety-provoking threat is detected, different goals can be immediately prioritized and resources reallocated to serve those goals.

Of course a strong theory deserves strong evidence, and this is where AIT has encountered criticism. Ladd and Lenz (2008, 2011) have offered a stout challenge to one of AIT's most important empirical findings, positing two alternative pathways by which anxiety might relate to candidate evaluations. AIT claims that anxiety moderates the effect partisan predispositions and contemporary considerations have on candidate evaluations. In contrast, Ladd and Lenz hypothesize that anxiety may have a direct effect on candidate evaluations (affect transfer). In other words, anxiety may simply help inform individuals' judgments rather than tilting the balance between the effects of contemporary information and partisan predispositions. Another possibility is that candidate evaluations are a cause rather than a consequence of anxiety (endogenous affect). Using the 1980 ANES Major Panel, Ladd and Lenz (2008) find evidence of endogenous affect and, to a lesser extent, evidence of affect transfer. They find no support for AIT.

Marcus et al. (2011) and Brader (2011) have disputed Ladd and Lenz's (2008) claims, but acknowledge that additional experiments are needed to verify the causal arguments underlying AIT. All parties agree that Brader's (2005, 2006) experimental test of AIT provides the strongest available evidence that anxiety *causes* increased reliance on contemporary information while reducing the effect of prior candidate evaluations on current evaluations. However, Brader's experiment was conducted in the context of a Democratic primary election. Therefore, while he is able to show that anxiety increases

reliance on contemporary information relative to prior evaluations, the question remains as to whether this result would hold in a general election where anxiety would have to overcome the effect of party identification. This is an important distinction, because party identification serves not just as a cognitive shortcut but also as a powerful source of directional motivation (see, e.g., Gaines et al. [2007]; Slothuus and de Vreese [2010]; Bang Petersen et al. [2013]; Groenendyk [2013]; Bolsen, Druckman, and Lomax Cook [2014]). To update opinions about candidates within the context of a party primary is relatively painless, but to go against one's party in the context of interparty conflict has real social psychological costs. For anxiety to reduce the effect of party identification in this context requires not only cognitive effort but also a shift in the balance of one's motivations (Groenendyk 2013). As a result, this is a more difficult test for AIT to pass, and a challenge that will be taken up in the pages that follow.

Anxiety and Ambivalence

In addition to the causal debate described above, controversy has also arisen with regard to the relationship between anxiety and partisan ambivalence. In their recent book, Lavine, Johnston, and Steenbergen (2012) contend that partisan motivation declines and individuals become more objective as their ambivalence toward their party increases. They operationalize ambivalence as conflict between party identity and attitudes toward that party. Similarly, Marcus, Neuman, and MacKuen (2000) argue that anxiety felt toward one's own party causes individuals to process information more carefully and objectively, thereby reducing the effect of party identification on candidate preferences. Thus, it is quite possible that what Lavine et al. believe to be an ambivalence effect is actually an anxiety effect, or vice versa.

To rule out the possibility that their results are spurious, Lavine et al. use the 2008 ANES panel study to test AIT's claim that anxiety reduces the effect of party identification and increases the effect of contemporary considerations (issue positions) on candidate evaluations. However, rather than just examining the effect of emotions felt toward the in-party candidate, they examine the effects of in-party and out-party anxiety and in-party and out-party enthusiasm. Within this framework, anxiety appears to matter little. What affects the relative influence of issue positions versus party identification on candidate evaluations is whether the valence of emotions toward one's party conflicts with one's party identification. In other words, ambivalence (i.e., conflict between one's party identity and feelings toward that party) appears to be the real driver of this effect. Nonetheless, Lavine et al. do not take this as an indication that AIT is necessarily wrong, stating:

both theories may be "correct" but under different circumstances. AIT may provide a better explanation of heterogeneity in the moments when anxiety is experienced as a full-throttle, physiological event (as opposed

to indicating in a survey whether a candidate has “ever made you anxious”). When in the active throws of anxiety, it is adaptive to set aside habit and focus on the most important information (e.g., [Kahneman 2011](#)). Over time, however, the urgency of an emotional reaction decays, leaving a residual *evaluative* response.

Are Lavine et al. right? Might AIT fare better in a context where emotions are actually experienced on a visceral level? One might even speculate that anxiety could provide the spark that ignites ambivalence in the first place, setting in motion a chain reaction of downstream consequences that leads to an enduring reduction in partisan motivation and, eventually, even a change in party identification, as Lavine et al. demonstrate. Such a result would be consistent with both theories and provide a stepping-stone on which to build a more general theory of political information processing that incorporates both anxiety and ambivalence. The experiment described in the coming pages is designed for precisely this purpose.

Motivation, Recall, and Attitude Formation

In hopes of shedding new light on the causal debates discussed above, I tackle the issue of causation head-on by experimentally inducing anxiety (along with anger and enthusiasm) and examining its effects on the attitude-formation process. If attitudes depend on the balance of considerations accessed from long-term memory ([Zaller 1992](#); [Zaller and Feldman 1992](#)), the key to understanding attitudes is to understand what affects the retrieval of some considerations and not others. The motivated reasoning literature provides important insight into this process by showing that directional motivation biases memory retrieval and thus skews evaluative outcomes in favor of directional goals ([Kunda 1990](#); [Kunda and Sanitioso 1989](#); [Redlawsk 2006](#)). In other words, we tend to recall considerations that support the conclusions we wish to draw, and we use those considerations to construct our attitudes. This process occurs outside the reach of consciousness, and unlike motivated processes that occur at the time of encoding (e.g., selective exposure [[Stroud 2011](#)] or motivated counter-arguing [[Taber and Lodge 2006](#)]), it requires little or no effort. Thus, directional motivation is likely to exert its most potent influence during attitude construction.

Because party identification constitutes a particularly powerful source of directional motivation, it should generally encourage individuals to retrieve partisan-consistent considerations (what [Lavine, Johnston, and Steenbergen \[2012\]](#) call univalent considerations). However, if AIT is correct, anxiety should dampen this effect by leading individuals to be more evenhanded in the considerations they access from memory. Thus, anxious individuals should exhibit greater ambivalence, especially after exposure to a heavy dose of partisan-inconsistent messages.

Several studies have shown that anxiety felt at the time of message encoding influences information seeking (Valentino et al. 2008; Valentino et al. 2009; MacKuen et al. 2010), persuasion (Marcus et al. 2005), and subsequent recall (Brader 2006; Civettini and Redlawsk 2009). Though these studies have some overlap with the present analysis, this paper makes a distinct contribution by focusing on the effect of anxiety felt at the time of attitude expression (rather than at the time of encoding) on the selectivity of recall (rather than recall ability). Thus, it speaks directly to the effects of anxiety and partisan motivation on attitude construction. And it focuses on the point in the evaluative process when partisan motivation is likely to exert its most powerful influence. Even if individuals are objective during encoding, motivated reasoning may still influence the construction of attitudes during the retrieval stage. Therefore, this is a critical test of whether anxiety is truly capable of reducing partisan bias.

Based on AIT, I predict that anxiety will increase the accessibility of contemporary considerations. As Marcus, Neuman, and MacKuen (2000) explain, “When anxious...people will rely far less on their political habits to guide contemporary choices, will pay far more attention to contemporary affairs, and...act very much like rational voters depicted by theories of public choice” (64). In other words, rather than disregarding incoming information in favor of older considerations that may be more congenial to their predispositions, anxious individuals will attend to contemporary considerations, allowing them to evaluate candidates more accurately and without bias. I define contemporary considerations as recently encoded reactions to unfolding events. These considerations may not be closely linked to the attitude object, or well integrated into one’s schema, and may therefore fade from memory over time. In the context of candidate evaluations, these are likely to include considerations of issues recently discussed in the news and assessments of current performance.

H1: Anxiety will increase the accessibility of contemporary considerations.

On the other hand, because enthusiasm signals the body to rely on habits and “subconscious scripts” (Marcus, Neuman, and MacKuen 2000, 46), this emotion should increase the accessibility of non-contemporary considerations. These are considerations that individuals are predisposed to recall because they are stable and closely linked to the attitude object in memory. These chronically accessible considerations are likely to include candidates’ character traits and ideological affiliation.

H2: Enthusiasm will increase the accessibility of non-contemporary considerations.

These accessibility effects should occur across the entire sample. Whether anxiety leads to ambivalence will depend on the accessibility of contemporary

information and political context. If contemporary considerations are consistent with partisan predispositions, then ambivalence is unlikely. But if contemporary considerations run counter to partisan predispositions, increased accessibility of such considerations should lead to ambivalence.

One might speculate that anxiety should have the opposite effect as that implied in H1: individuals might rely on contemporary considerations as an availability heuristic to reduce processing effort (see [Tversky and Kahneman \[1974\]](#)). From this perspective, if anxiety triggers *increased* processing effort, it should *decrease* rather than increase reliance on contemporary considerations. This paper seeks to test AIT as it is currently understood in the literature, and supporters of AIT are quite clear in asserting that anxiety should heighten the influence of contemporary considerations on candidate evaluations. [Brader \(2006\)](#) cites [Marcus, Neuman, and MacKuen \(2000\)](#) in arguing that “The purpose of anxiety is to disrupt this reliance on routine and thereby encourage greater consideration of that flood of details or ‘contemporary evaluations’” (129). While a full-scale examination of this point of potential confusion is beyond the scope of this paper, it may be a useful topic for future works to address and clarify.¹

Political Context and Ambivalence

Studies show that political context can have a powerful effect on the level of ambivalence that citizens feel toward candidates ([Keele and Wolak 2008](#)). Exposure to contradictory messages ([Mutz 2002](#); [Rudolph 2011](#)) and cross-pressures ([Berelson, Lazarsfeld, and McPhee 1954](#); [Hillygus and Shields 2008](#); [Vavreck 2009](#); [Brader, Tucker, and Theriault 2014](#)) raises conflicting considerations in the minds of potential voters. As one might imagine, this is particularly likely to occur during highly competitive and well-funded campaigns, as citizens are subjected to a barrage of messages that push and pull them in different directions ([Keele and Wolak 2008](#)).

1. The key point seems to lie in the vital distinction between processing effort and accuracy motivation (what [Marcus, Neuman, and MacKuen \[2000\]](#) refer to as “rationality”). The architects of AIT suggest that anxiety leads to increased processing effort *for the purpose of increasing the accuracy* of one’s evaluations in times of threat. This implies that processing effort will be increased only if it facilitates processing accuracy, and not just for its own sake. This, of course, makes good sense from an evolutionary standpoint. It also helps explain why anxiety would increase consideration of contemporary information rather than causing individuals to expend effort on consideration of well-rehearsed thoughts and arguments favoring one’s predispositions. Few works have attempted to disentangle the effect of anxiety on processing effort versus processing motivation (though the works of [Marcus et al. \[2005\]](#), [Brader \[2006\]](#), [Valentino et al. \[2008\]](#), and [MacKuen et al. \[2010\]](#) make progress in this direction). This paper helps shed additional light on this issue. By showing that anxiety increases Democrats’ willingness to express ambivalence toward Barack Obama, it suggests that anxiety can heighten accuracy motivation (i.e., rationality) without necessarily increasing processing effort.

However, campaigns are about much more than just persuasion. Besides presenting potential voters with a variety of competing messages, candidates and campaign workers do their best to activate the partisan predispositions of their supporters. Candidates hold rallies and give rousing speeches to crowds along the campaign trail, with the primary goal of securing the votes of latent supporters and ensuring that they show up on Election Day (Gelman and King 1993). They recognize that, especially in the wake of intense primary battles, many partisans may feel ambivalent toward their party's nominee. To overcome this ambivalence, campaigns appeal to party loyalty, provide individuals with reasons to feel enthusiastic about their party's candidate, and help even the most skeptical voters remember that their party and its candidate remain the "lesser of two evils" (Groenendyk 2012, 2013). As a result, campaigns may actually help reduce ambivalence among partisans (Rudolph and Popp 2007; Rudolph 2011).

In sum, context effects are likely to be heterogeneous, increasing ambivalence for some and decreasing ambivalence for others. This study is no exception. It was conducted in fall 2013, which was not an election year but was perhaps the most tumultuous time in Barack Obama's presidency up to that point. Obama supporters were hit with wave after wave of information conflicting with their partisan predispositions.

The President faced intense criticism for his response to Syrian president Bashar al-Assad's use of chemical weapons against his own people. At the same time, due to information leaked by Edward Snowden, revelations continued to emerge about American surveillance programs. While these issues may not have been at the top of every American's agenda, each is particularly likely to have raised concerns among Democrats. In the wake of the wars in Iraq and Afghanistan, Obama's initially hawkish reaction to Assad ran contrary to most Democrats' desire to stay out of foreign conflicts. And though he had made no election promises regarding Syria specifically, he had assured voters that his administration would work for peace and refocus government attention on domestic policy. Eventually, the administration decided not to take military action in Syria, thereby assuaging these concerns. Nonetheless, the President's lack of follow-through after acknowledging that Assad had used chemical weapons, and therefore crossed his "red line," may have undermined faith in his leadership.

Similarly, the Snowden revelations likely stoked Democrats' concerns that the administration was infringing on Americans' civil liberties in the name of national security, thus continuing the types of Bush-era policies that Obama had campaigned against. This worry was surely reinforced by the fact that the Guantanamo Bay military prison remained open despite Obama's campaign pledge to close it.

From a performance standpoint, Democrats also had reason for ambivalence. The botched rollout of the healthcare exchange may have weakened their confidence in Obama's signature policy accomplishment. For years

Republicans had been claiming that government inefficiency and bureaucratic incompetence would doom the program, and the rollout played directly into these concerns. Likewise, though the economy was continuing to recover, the pace of recovery had slowed during the summer months, and unemployment rates remained relatively high. This was particularly true among minorities and recent college graduates—both key groups of Obama supporters.

In sum, fall 2013 was a period when ambivalence potential was high for Democrats (due to the prevalence of negative messages about Obama) and relatively low for non-Democrats (due to the consistency between these messages). From his inauguration in January 2013 to the completion of my study, Obama's job approval ratings fell from 56 to 41 percent, and his disapproval ratings rose from 39 to 52 percent (Gallup 2014a). Democrats, in particular, became more disillusioned over this period. From November 2012 to November 2013, the percentage of Democrats who reported satisfaction with the way things were going in the United States dropped from 64 to 31 percent. In comparison, Independents' and Republicans' impressions remained relatively constant (and negative), declining from 26 to 20 percent and rising from 5 to 6 percent, respectively (Gallup 2014b).

Of course, the prevalence of negative messages about the Obama administration cannot, in and of itself, explain changes in Democrats' attitudes or underlying considerations. This depends on message reception *and message acceptance given reception* (Zaller 1992). In the analyses presented below, newspaper readership serves as a proxy for likelihood of message reception. Motivation to accept the dominant message, given reception, is hypothesized to depend on party identification and anxiety.

- H3: Anxiety will increase ambivalence toward Barack Obama among Democrats.
- H4: Anxiety will exert its most powerful effect on ambivalence toward Obama among those Democrats who habitually read the newspaper.

Methods

SAMPLE

During fall 2013, a total of 326 adult respondents took part in an emotion-induction experiment conducted through Amazon.com's Mechanical Turk (MTurk). Participants were paid \$1.50 for their participation in the study. The study was administered in English, and participation was restricted to respondents in the United States. MTurk is a crowdsourcing Internet marketplace that links "requesters" (researchers) looking for assistance to "workers" (participants) looking to provide assistance in return for payment. MTurk is commonly used for survey experiments, because it provides researchers with access to national samples that are considerably more diverse than traditional

student samples, even though they are clearly not demographically representative of the US population. As one might expect, participants in this study tended to be young (average age = 35), white (79 percent), female (60 percent), well-educated (50 percent had more than a high school degree), Democratic-leaning (63 percent leaned toward or identified as Democrats), and engaged (read newspaper 3.5 days per week on average). Nonetheless, this sample does contain considerable variation across each of these dimensions. And despite their lack of demographic representativeness, MTurk samples have been shown to be capable of replicating results originally obtained with national probability samples (Berinsky, Huber, and Lenz 2012). The key to assessing whether a sample is likely to produce externally valid results is not necessarily its demographic representativeness. Rather, the crucial question is whether the experimental treatment interacts with the dimensions on which the sample differs from the population (Druckman and Kam 2011). On one hand, because anxiety is a universal human emotion, and this study seeks to understand the “hardwired” psychological process through which anxiety affects cognition, one would not expect the treatment to affect this sample any differently than a national probability sample. On the other hand, because this sample leans Democrat and contains a disproportionate number of individuals who are highly engaged in politics, the political context of fall 2013 will likely have a larger effect on this sample than it would have on a national probability sample. Thus, average treatment effects in this sample might differ from those of the population. To address this, the study examines variation in treatment effects along these dimensions (party identification and political engagement). This ensures that any variation in treatment effects across dimensions that differ from the population are transparent, allowing readers to infer the size of treatment effects in the population.

PROCEDURE

After completing a short battery of pretest questions, participants were randomly assigned to one of four experimental conditions: anxiety, anger, enthusiasm, or baseline (relaxed). Participants were given the following instructions:

We would like you to describe in general things that make you feel [AFRAID/ANGRY/HAPPY/RELAXED]. It is okay if you don't remember all the details, just be specific about what exactly it is that makes you [AFRAID/ANGRY/HAPPY/RELAXED] and what it feels like to be [AFRAID/ANGRY/HAPPY/RELAXED]. Please describe the events that make you feel MOST [AFRAID/ANGRY/HAPPY/RELAXED]. These experiences could have occurred in the past or will happen in the future. If you can, write your description so that someone reading it might even feel [AFRAID/ANGRY/HAPPY/RELAXED].

This emotion-induction method has been used successfully in several studies of emotion and politics (Valentino et al. 2008; Valentino et al. 2009; Valentino et al. 2011; Banks and Valentino 2012). This particular wording is borrowed from Banks and Valentino (2012).

To ensure that these stimuli actually elicited the intended emotions, a graduate research assistant who was blind to experimental condition coded participants' responses. The scale for each emotion ranged from 0 (no emotion) to 3 (intense emotion). Findings show that the emotion-induction procedure worked quite cleanly. Results of this content coding suggest that only a small amount of affect bled into unintended conditions. Each of the emotion manipulations (including the relaxed condition) evoked a large and statistically significant amount of the emotion intended (Fear (M) = 2.58; Anger (M) = 2.48; Happy (M) = 2.12; Relaxed (M) = 2.49. The happiness prime also evoked a significant amount of relaxation (M = .541, SE = .089, p < .01), suggesting that the effect of this manipulation may be muted. The relaxation condition also evoked a much smaller but still statistically significant amount of happiness (M = .104, SE = .040, p < .05). Readers will notice that in neither condition did the unintended emotion reach a level anywhere near the level of the intended emotion. The fear prime led only to fear, and did not induce a significant amount of any other emotion. Likewise, the anger prime elicited anger, but did not induce a significant amount of any other emotion. When the models were rerun with these measures substituted for the stimulus exposure dummy variables (see MacKuen et al. [2010]), the pattern of results remained nearly identical to those reported in the paper.

I manipulate these three emotions (fear, anger, and enthusiasm) because they allow me to test competing hypotheses. AIT implies that given the preponderance of negative stories about Obama at the time of the study, anxiety should lead to increased ambivalence among Democrats (Marcus, Neuman, and MacKuen 2000). In contrast, the affect transfer hypothesis (Ladd and Lenz 2008) suggests that emotional valence is all that matters, so anxiety and anger should have similar effects to each other and opposite effects from enthusiasm. The endogenous affects hypothesis (Ladd and Lenz 2008) suggests a null result.²

Following emotion induction, participants were asked to report things they liked and things they disliked about Barack Obama. The question format was

2. Participants' responses to the emotion-induction questions were coded for allusions to politics, government, or the economy. This was done to ensure that the emotion stimuli were not unintentionally eliciting semantic concepts that might confound interpretation of experimental effects. Of the 326 participants in the study, only 25 mentioned politics, government, or economic considerations (7.7 percent) when asked to discuss things that made them feel a particular emotion. Of these 25 study participants, 15 were assigned to the anger condition, 9 were assigned to the anxiety condition, and 1 was assigned to the relaxed condition. After creating a dichotomous variable to capture any mention of politics, government, or the economy in the stimulus response, all of the tests were rerun, first controlling for these mentions and then excluding these respondents from the analysis altogether. In both cases, results were virtually identical to those reported in the paper.

borrowed directly from the American National Election Studies, and the order of the “likes” and “dislikes” batteries was randomized. Responses to these items were coded into subject categories by a research assistant and used to construct the *contemporary considerations* and *non-contemporary considerations* dummy variables. Contemporary considerations include mentions of job performance, campaign promises, healthcare, Syria, or the NSA revelations brought to light by Edward Snowden. Non-contemporary considerations include mentions of Obama’s personality, patriotism, race, and liberalism. If a respondent mentioned any of these topics, her response was coded 1. If she mentioned none of these topics, her response was coded 0.

Building on a technique pioneered by Thompson, Zanna, and Griffin (1995), researchers often use these “likes” and “dislikes” measures to tap ambivalence toward candidates (Lavine 2001; Keele and Wolak 2008; Yoo 2010). This measurement strategy captures the balance of positive relative to negative considerations, as well as the intensity of ambivalence using the following equation:

$$\text{Ambivalence} = \frac{P + N}{2} - |P - N|.$$

This measure is usually constructed using counts of the number of things respondents report liking and disliking about each candidate in the American National Election Studies. However, word counts (which are not available in the ANES data set) tap the same underlying concept while also capturing recall effort and providing much more variability. This variability is illustrated in figure 1, which displays the distribution of ambivalence toward Barack Obama when the measure is constructed using “likes” word counts and “dislikes” word counts. A Democrat who uses 100 words to explain five things she dislikes about Barack Obama is clearly engaging in more effortful reflection than a Democrat who uses five words to list the same five things she dislikes, and this variation is captured in my measure. Nonetheless, all tests have also been conducted using the traditional variable construction method to ensure robustness. Results of these analyses are virtually identical to those presented. Results are also robust to various transformations of the word count variable, including consolidating the tails of the distribution to reduce the leverage of outliers and removing indifferent participants from the middle of the scale.³

Lavine, Johnston, and Steenbergen (2012) point out that measures based on counts (of any type) have a built-in confound with political engagement, because individuals exposed to more information will tend to recall more information. They therefore designed a (partisan) ambivalence measure constructed from survey questions asking respondents to rate the degree to which they felt favorably and the degree to which they felt unfavorably toward an attitude object (party)

3. Yoo (2010) shows that the relationship between ambivalence and turnout is nonlinear, because indifferent citizens turn out at lower rates than ambivalent or univalent citizens.

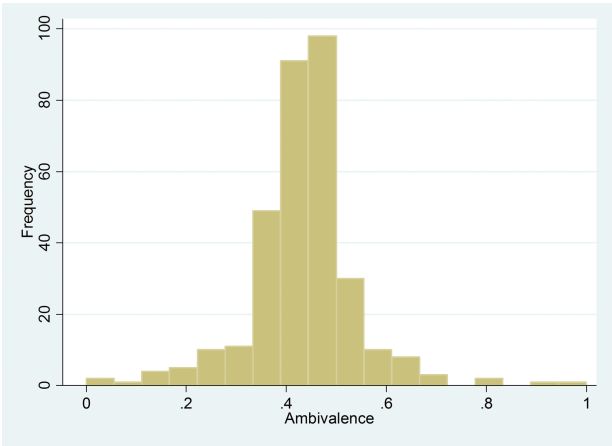


Figure 1. The Distribution of Cognitive Ambivalence toward Barack Obama (Full Sample).

on a five-point scale. Unfortunately, this measure captures both cognition and affect (by design). Because I am interested in determining how emotional states affect the types of considerations retrieved from long-term memory and brought into conscious awareness, the “cognitive flavor” of the count-based measure actually suits my purpose much better than their alternative measure. Moreover, because I make comparisons between randomly assigned conditions, any difference in ambivalence levels observed can be attributed only to the dimension manipulated and not to any confounding variable (such as engagement).

Party identification and newspaper readership were measured in the pretest using standard ANES items. Researchers sometimes worry that pretest measures could affect later responses by priming particular considerations. However, because such effects are necessarily constant across conditions, they cannot explain differences between conditions. Moreover, to the degree partisan motivation was heightened across conditions by measuring party identification in the pretest, the test is only made more conservative. More specifically, if anxiety leads partisans to recall partisan-inconsistent considerations *despite* having heightened their motivation to maintain partisan consistency during the pretest, any effect of anxiety on ambivalence appears all the more impressive.

Results

Do anxiety and enthusiasm influence the types of considerations that come to mind when individuals are asked what they like and dislike about Barack Obama? Results displayed in figure 2 and table 1 suggest that they do. Participants assigned to the anxiety condition showed a higher likelihood of mentioning contemporary considerations, such as Obama’s job performance,

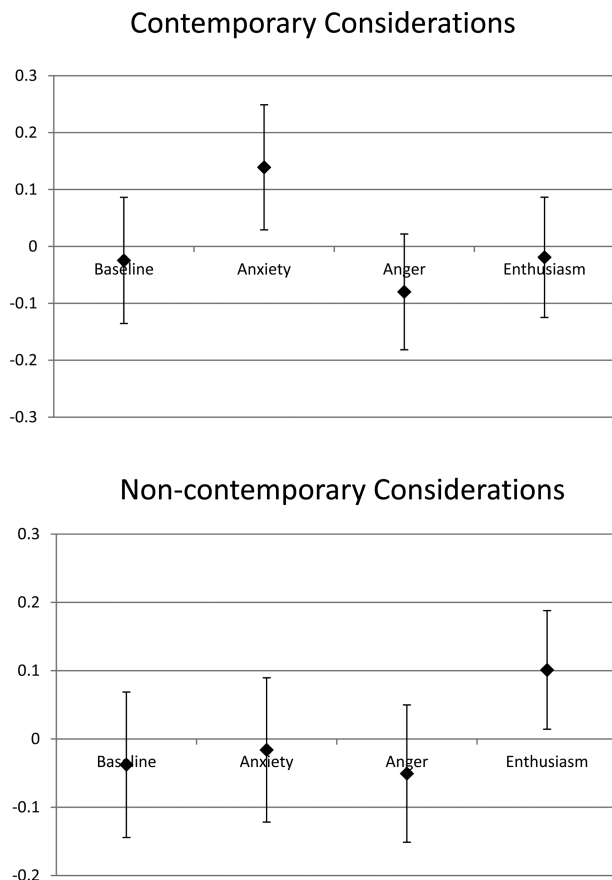


Figure 2. The Effect of Incidental Emotions on Salience of Contemporary and Non-Contemporary Considerations about Barack Obama. Each marker represents the effect of a given treatment on respondents' considerations. Results are reported as deviations from the overall sample mean.

whether he was keeping campaign promises, or an issue that had recently been in the news (e.g., healthcare policy, the Syria crisis, or the NSA scandal). No such effects emerged in either the anger or enthusiasm conditions, and each is significantly different from the anxiety condition.

In contrast, those assigned to the enthusiasm condition were significantly more likely to mention non-contemporary considerations, such as Obama's personality, patriotism, race, or ideology. These results suggest that whereas anxiety leads individuals to access a wider and less biased array of considerations, enthusiasm leads individuals to rely on easily accessible considerations that are likely to reinforce predispositions. This is consistent with [Marcus, Neuman, and MacKuen's \(2000\)](#) AIT.

Table 1. The Effect of Incidental Emotions on Salience of Contemporary and Non-Contemporary Considerations about Barack Obama

	Contemporary considerations (<i>N</i> = 326)		Non-contemporary considerations (<i>N</i> = 326)	
	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)
Anxiety	.414*	(.204)	.059	(.209)
Anger	−.142	(.197)	−.035	(.200)
Enthusiasm	.014	(.198)	.417*	(.212)
Constant	−.147**	(.143)	.384**	(.147)

NOTE.—Results were obtained using probit regression. Anxiety, anger, and enthusiasm are dummy variables representing exposure to one of the three experimental treatment conditions. The contemporary and non-contemporary considerations variables are each coded 1 if a contemporary [noncontemporary] issue was mentioned and otherwise coded 0.

p* < .05; *p* < .01

Does anxiety increase ambivalence? Results presented in [figure 3](#) and [table 2](#) show that it can. According to AIT, anxiety should lead individuals to become more motivated to engage in careful, accurate assessment. Given the political context at the time of this study and the fact that anxiety led individuals to recall more contemporary considerations, one would expect to see higher levels of ambivalence toward Barack Obama among Democrats. Results support this hypothesis. While ambivalence levels appear to be slightly higher than the baseline (relaxed) group in each of the treatment conditions, only anxiety exposure achieves statistical significance. Note that this finding does not fit the pattern of mere affect transfer, and it certainly does not fit the pattern of endogenous affect ([Ladd and Lenz 2008](#)). If negative emotions were simply serving as negative information about Obama and positive emotions were serving as positive information about Obama, one would expect anger and anxiety to increase ambivalence and enthusiasm to decrease ambivalence among Democrats.⁴ If anxiety were merely an effect of candidate evaluations and had no influence itself, one would expect a null effect.

The third column of [table 2](#) shows results among non-Democrats. Here, the pattern is reversed. Each of the coefficients is negative, but none are significant. Again, however, the anxiety coefficient is largest. This suggests that non-Democrats exposed to the anxiety induction may have become less ambivalent. Again, given that the dominant message about Obama at the time of the study was negative, increased reliance on contemporary information

4. More recent additions to AIT suggest that anger (or aversion) should perhaps heighten the effect of partisan predispositions on recall ([Marcus 2002](#); [MacKuen et al. 2010](#)). This prediction is clearly not supported by the results. The coefficient for anger is nonsignificant and has the wrong sign. However, it is questionable whether such an effect should be expected with an incidental emotion prime. For anger to trigger defensive action and group solidarity, it may be necessary to link it more directly to the interpersonal or intergroup conflict.

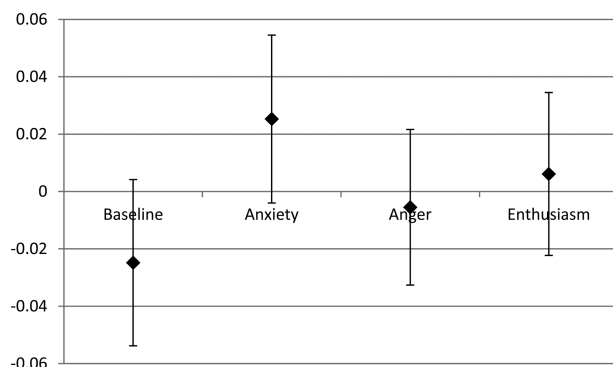


Figure 3. The Effect of Incidental Emotions on Cognitive Ambivalence among Democrats. Each marker represents the effect of a given treatment on respondents' level of ambivalence. Results are reported as deviations from the overall sample mean.

Table 2. The Effect of Incidental Emotions on Ambivalence toward Barack Obama

	Democrats (<i>N</i> = 204)		Non-Democrats (<i>N</i> = 122)		Full sample (<i>N</i> = 326)	
	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)
Anxiety	.050*	(.021)	-.034	(.029)	.005	(.019)
Anger	.019	(.020)	-.003	(.029)	.005	(.019)
Enthusiasm	.031	(.021)	-.014	(.027)	.005	(.019)
Party identification					-.005	(.021)
Anxiety*Party identification					-.057*	(.028)
Anger*Party identification					-.021	(.028)
Enthusiasm*Party identification					-.025	(.029)
Constant	.426**	(.015)	.414*	(.020)	.420	(.014)

NOTE.—Results were obtained using OLS regression. Anxiety, anger, and enthusiasm are dummy variables representing exposure to one of the three experimental treatment conditions. Ambivalence has been coded to run from 0 to 1, and party identification has been coded to run from -1 to 1.

* $p < .05$; ** $p < .01$

should have reinforced their prevailing considerations about the president. AIT would predict either a null effect or reduction of ambivalence, depending on non-Democrats' initial level of ambivalence toward Obama. Therefore, while the effect of anxiety does not reach statistical significance, the pattern is consistent with AIT.⁵

5. In this case, the anger coefficient is in the direction predicted by papers building on AIT (Marcus 2002; MacKuen et al. 2010), but the effect does not approach statistical significance.

Again, this result does not fit the pattern of affect transfer or endogenous affect. If the emotion primes merely served as a source of information in and of themselves, one would expect enthusiasm to heighten ambivalence among non-Democrats and both negative emotions to have either a negative or null effect on ambivalence (depending on participants' initial ambivalence levels). No such valence effects emerge.

The fourth column of [table 2](#) shows the interaction between party identification and each of the emotion treatments. The first thing to notice is that the coefficient associated with party identification is negative but quite small relative to its standard error. This suggests that, absent emotion induction, those on the Republican side of the scale tended to be less ambivalent toward Barack Obama, but not significantly less ambivalent. The only significant coefficient is the negative interaction between anxiety and party identification. This means that exposure to the anxiety condition increased the difference in ambivalence levels between strong Republicans and strong Democrats, leading to significantly more ambivalence among Democrats relative to Republicans.

Thus far, results have been quite consistent with AIT. Anxiety appears to have caused individuals to recall more contemporary considerations, which aroused more cognitive ambivalence toward Barack Obama among Democrats. However, I have assumed that this result is attributable to the prevalence of negative stories about the Obama administration at the time of the study. If this assumption is correct, the effect of anxiety should be concentrated among those Democrats who were exposed to the most contemporary information. To test this, I examine the interaction between newspaper readership and exposure to each of the emotion inductions. As expected, [table 3](#) shows a significant

Table 3. The Effect of Incidental Emotions on Ambivalence toward Barack Obama by Newspaper Readership

	Democrats (N = 204)		Non-Democrats (N = 122)	
	<i>B</i>	(<i>SE</i>)	<i>B</i>	(<i>SE</i>)
Anxiety	.003	(.029)	-.035	(.047)
Anger	.006	(.027)	.009	(.043)
Enthusiasm	-.022	(.031)	-.008	(.040)
Newspaper	.0004	(.040)	.002	(.056)
Anxiety*Newspaper	.106*	(.053)	.003	(.077)
Anger*Newspaper	.036	(.054)	-.029	(.076)
Enthusiasm*Newspaper	.104	(.054)	-.020	(.076)
Constant	.426**	(.020)	.414**	(.032)

NOTE.—Results were obtained using OLS regression. Anxiety, anger, and enthusiasm are dummy variables representing exposure to one of the three experimental treatment conditions. Ambivalence and newspaper have been coded to run from 0 to 1.

***p* < .01; **p* < .05

positive interaction between anxiety and newspaper readership. This suggests that Democrats who read about Obama's handling of the Syria crisis, the NSA surveillance scandal, and the healthcare rollout likely encoded this dissonant information in their long-term memory. Absent anxiety induction, they were motivated to ignore this information and recall considerations consistent with party identification. However, once they were made to feel anxious, they became more objective about accessing these considerations from long-term memory.

Surprisingly, the interaction between enthusiasm and newspaper readership is also relatively large and marginally significant ($p < .10$). This is not consistent with AIT, nor does it constitute evidence of affect transfer. Enthusiasm is generally thought to be associated with heuristic processing (Marcus, Neuman, and MacKuen 2000), and I have already shown that enthusiasm induction increased the accessibility of the sorts of non-contemporary considerations one would expect. Likewise, there is no reason why affect transfer should be confined to those who read the newspaper, so this finding does not appear to fit either of the competing theories being tested.⁶

Again, no such pattern was evident among non-Democrats. None of the coefficients in the third column of table 3 are significant. Moreover, the tiny coefficient associated with *anxiety*newspaper* suggests that this cannot merely be attributed to a lack of statistical power. As AIT predicts, reading the newspaper had no effect on the ambivalence levels of non-Democrats, even when they were made to feel anxious.

Discussion

As a whole, the results presented in this paper provide strong evidence in support of AIT while also providing some important new insights about memory search, motivated reasoning, and ambivalence. First, because I experimentally induced emotions, I am able to make strong causal claims about the effect of anxiety on the attitude formation process. I have shown that anxiety increases the salience of contemporary considerations, while enthusiasm increases the salience of non-contemporary considerations (i.e., those which individuals

6. One possible explanation is that this stems from the self-affirming effect of the enthusiasm prime (Steele and Liu 1983). Induced happy thoughts may have bolstered individuals' self-esteem, providing them with enough of a boost to handle a little cognitive dissonance. Alternatively, the cognitive broadening and inclusive categorization effects often associated with positive emotion may have shifted individuals' focus away from dissonance avoidance (Fredrickson 2001). According to Fredrickson's Broaden-and-Build Theory, positive emotions signal to the body that it is safe to ponder new ideas and think creatively, rather than focusing narrowly on threats and abnormalities in one's environment. This sort of thinking allows individuals to learn and build resources that may prove useful in the future. This interpretation is broadly consistent with AIT, but additional research would be required to determine whether this is indeed what is happening. The result might also be due to chance.

are predisposed to call to mind). I have also shown that anxiety reduces the effect of partisan bias on memory retrieval, thereby increasing ambivalence among Democrats. As one would expect, this effect is concentrated among those Democrats who read the newspaper and were therefore most likely to be exposed to information dissonant with their party identity. Based on these findings, future works seeking to understand the process of candidate evaluation should keep emotions in mind or risk mis-specifying their models.⁷

Second, given that anxiety (Marcus, Neuman, and MacKuen 2000) and partisan ambivalence (Basinger and Lavine 2005; Lavine, Johnston, and Steenbergen 2012) have each been shown to decrease the effect of party identification on political evaluations, scholars have debated whether these effects are indeed independent (see Lavine, Johnston, and Steenbergen [2012], chapter 8). One might speculate that measures of partisan ambivalence merely capture the effect of anxiety toward one's party, or that anxiety toward one's party affects evaluations by increasing ambivalence. Lavine et al. partially resolve this concern by persuasively demonstrating that partisan ambivalence, and not anxiety, drives their results. But does anxiety still have a role? As Lavine et al. speculate, anxiety appears to produce a much more powerful effect when it is experimentally induced (and therefore experienced viscerally) than when it is measured in a survey (and therefore recalled as a memory). The findings presented here suggest that anxiety may provide the spark that ignites ambivalence in the first place. If Lavine et al. are correct, this initial ambivalence may snowball, eventually reducing directional motivation, increasing the objectivity of evaluations, and even producing party identification change.

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7. While these experimental results support the theory of causality underlying AIT, it is also quite possible that candidate preferences could influence the emotions citizens report in the context of public opinion surveys. Moreover, in addition to influencing processing motivation and considerations that are brought to mind during candidate evaluation, emotions might also have a direct effect on candidate evaluations. In short, this paper finds strong support for AIT, but additional studies are needed to verify whether affect also influences candidate evaluations via other routes, such as those posited by Ladd and Lenz (2008).

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