

# On the Perpetuation of Ignorance: System Dependence, System Justification, and the Motivated Avoidance of Sociopolitical Information

Steven Shepherd  
University of Waterloo

Aaron C. Kay  
Duke University

How do people cope when they feel uninformed or unable to understand important social issues, such as the environment, energy concerns, or the economy? Do they seek out information, or do they simply ignore the threatening issue at hand? One would intuitively expect that a lack of knowledge would motivate an increased, unbiased search for information, thereby facilitating participation and engagement in these issues—especially when they are consequential, pressing, and self-relevant. However, there appears to be a discrepancy between the importance/self-relevance of social issues and people's willingness to engage with and learn about them. Leveraging the literature on system justification theory (Jost & Banaji, 1994), the authors hypothesized that, rather than motivating an increased search for information, a lack of knowledge about a specific sociopolitical issue will (a) foster feelings of dependence on the government, which will (b) increase system justification and government trust, which will (c) increase desires to avoid learning about the relevant issue when information is negative or when information valence is unknown. In other words, the authors suggest that ignorance—as a function of the system justifying tendencies it may activate—may, ironically, breed more ignorance. In the contexts of energy, environmental, and economic issues, the authors present 5 studies that (a) provide evidence for this specific psychological chain (i.e., ignorance about an issue → dependence → government trust → avoidance of information about that issue); (b) shed light on the role of threat and motivation in driving the second and third links in this chain; and (c) illustrate the unfortunate consequences of this process for individual action in those contexts that may need it most.

*Keywords:* system justification, dependence, government, motivated audience, economy

No you will not teach or show that propagandist Al Gore video to my child, blaming our nation – the greatest nation ever to exist on this planet – for global warming. (Frosty E. Hardison, outraged parent; cited in Harden, 1997, para. 4)

In the 2006 documentary *An Inconvenient Truth*, Al Gore uses an especially dramatic method for conveying to his audience the potential effects of rising carbon dioxide levels on global temperature. Positioned beside a slide with the atmosphere's forecasted carbon dioxide (CO<sub>2</sub>) levels plotted along the vertical axis of a graph, Gore places himself on an automated lift that takes him nearly to the ceiling of the lecture hall. He does this so that he can

illustrate just how sharp and unprecedented of a rise in CO<sub>2</sub> levels are predicted a mere 50 years into the future.

Al Gore's reason for using these theatrics is no doubt to hammer home the magnitude of the problem humankind faces, with the hope that forcing people to recognize the complexity of the problem will motivate them to take action—an idea that, on the surface, makes intuitive sense. The more powerfully one conveys the severity of a given problem, the logic goes, the more motivated people should be to address this problem. Recent research on processes of system justification, however, suggests this may not be the case.

People do not passively evaluate the political systems and institutions within which they function; rather, they rely and depend on these types of external systems to cope with a host of existential and epistemic psychological fears and threats (Jost & Hunyady, 2005; Kay, Gaucher, Napier, Callan, & Laurin, 2008). In the same way that people turn to interpersonal others and social groups to help them cope with various psychological needs and problems (e.g., Fritzsche, Jonas, & Fankhänel, 2008; Harkins, Latané, & Williams, 1980; Latané, Williams, & Harkins, 1979; Murray & Holmes, 2009; Tajfel & Turner, 1986), so too do they turn to their political and institutional systems. As such, to the extent that an important issue is presented to people in a way that makes it appear especially complex, rather than motivating increased individual effort at addressing that issue, it may elicit increased dependence on the government. In other words, the fact that *An Inconvenient Truth* promises troubling information about climate change might motivate people unfamiliar with climate

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Steven Shepherd, Department of Psychology, University of Waterloo, Waterloo, Ontario, Canada; Aaron C. Kay, Department of Management & Organizations and Department of Psychology & Neuroscience, Duke University.

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Correspondence concerning this article should be addressed to Steven Shepherd, Department of Psychology, University of Waterloo, 200 University Avenue West, Waterloo, Ontario, Canada N2L 3G1 or Aaron Kay, Department of Management & Organizations and Department of Psychology & Neuroscience, Duke University, 100 Fuqua Drive, Box 90120, Durham, NC, 27708-0120. E-mail: s2shephe@uwaterloo.ca or aaron.kay@duke.edu

change—that is, those who see it as a complex problem—to avoid seeing it, because maintaining unfamiliarity is an ideal way to protect the psychologically comfortable (even if inaccurate) belief that the government is taking care of the problem.

In the present research, we draw from system justification theory (Jost & Banaji, 1994) and compensatory control theory (a theory that builds on system justification; Kay et al., 2008) to understand the development and function of this “ignorance is bliss” approach to social issues, and how it may hinder messages regarding important social issues from gaining traction in the minds of the public. We propose that when an important issue is cast as increasingly complex, people will respond by psychologically “outsourcing” the issue to the government (Kay et al., 2008), causing them to, in turn, feel more dependent on the government, place more trust in the government, and, ultimately, avoid behaviors (such as learning about the issue) that could shatter this faith in the government. We provide five studies illustrating this psychological chain of effects and how they may manifest in a number of domains, including the economy, energy, and natural resources.

### **The Prevalence and Consequences of Unfamiliarity Surrounding Important Social Issues**

Individuals are often confronted with information that they do not know how to comprehend or evaluate, even though this information can be of critical importance to the self (or society as a whole). In the case of energy, nearly 40% of respondents in a Public Agenda (2009) survey could not identify a fossil fuel. Nearly one third could not identify a renewable energy source and incorrectly believed that solar energy contributes to global warming. This lack of knowledge should be of concern to these individuals, as 89% of respondents worry about increasing fuel costs, and 71% worry about global warming.

The economy serves as another example. Approximately half of surveyed adults did not know what an increase in gross domestic product meant and thought that “money holds its value well in times of inflation” (National Council on Economic Education, 2005). Worse still, in a national survey of American adults, 54% of respondents did not know what a subprime mortgage was (Center for Economic and Entrepreneurial Literacy, 2009), despite the fact that the subprime mortgage crisis was a significant contributor to the economic recession that began in 2008, and almost certainly affected some substantial portion of those surveyed. In short, it is apparent that a solid grasp of the basics (let alone the complexities) of these domains elude many people, and there appears to be a discrepancy between how much people know about social issues and their importance and relevance to one’s day-to-day life.

Energy and the economy represent just two self-relevant domains that people can feel uncertain about, both in terms of how they operate at a societal level and how people should act on them. This kind of unfamiliarity can be problematic for day-to-day functioning, and can also be psychologically stressful. Epistemic uncertainty compromises our ability to predict the future (Hogg, 2007) and our ability to act and engage in relevant issues. Furthermore, actions that are made under these circumstances are at an increased risk of being inappropriate or costly (Dunning, Johnson, Ehrlinger, & Kruger, 2003; Maki & Berry, 1984; Sinkavich, 1995). Research has powerfully illustrated that a lack of knowledge in domains such as energy and the environment can lead to bad

decisions and erroneous beliefs that hinder a society’s ability to create change in domains that require it (Attari, DeKay, Davidson, & Bruine de Bruin, 2010; Larrick & Soll, 2008).

The need to manage uncertainty, therefore, has been identified as a critical motive that determines behavior (Hogg, 2007; Kruglanski & Webster, 1996; Neuberg, Judice, & West, 1997; van den Bos, 2009). How do people react, then, when they find themselves unfamiliar or unknowledgeable about a specific domain? Logically, one might imagine they would simply try to learn more, thereby making themselves familiar and knowledgeable. A considerable amount of research, however, suggests that people often engage in more psychologically defensive, and less work-intensive, processes when confronted with uncertainty (Hogg, 2007; Kruglanski & Webster, 1996; McGregor, Nash, Mann, & Phillips, 2010). Drawing our inspiration from system justification theory, we propose a novel way in which this defensiveness may manifest itself. Feeling unknowledgeable in the context of broad social issues, we contend, may breed a unique form of psychological coping—one that holds the potential to powerfully undermine individual action. Namely, feeling unknowledgeable should instigate feelings of dependence on those who manage the system (i.e., the government) and, in turn, increase trust in the government and the status quo, which can then be protected by the intentional avoidance of the issue at hand. The logic underlying each of these links is explained below.

### **From Unfamiliarity to Dependence**

Given the psychological discomfort associated with epistemic uncertainty, one appealing way to deal with the anxiety of being unable to comprehend or manage information is to simply outsource personal responsibility to supposed qualified others. This strategy may, at times, be considerably more appealing than seeking out knowledge and information for oneself, which assumes that people have the time and ability to sieve through challenging, and potentially threatening, information. The amount of information available to us to sort, comprehend, and assimilate has substantially increased due to technological advances, all of which compete for our time and attention. As a result, trade-offs have been made over time whereby society’s members have forfeited a certain amount of autonomy to have these burdens placed onto systems of power composed of knowledgeable others. Society has prescribed that, for example, our health is managed by health professionals, our buildings by engineers and contractors, and, relevant to the present research, our social and economic security is managed by the government. Indeed, survey data show that 88% of adult respondents thought it was very important for politicians to have a good understanding of economics, whereas only 62% thought the same about average citizens (National Council on Economic Education, 2005). Therefore, despite an increase in freedoms available to us, we are increasingly dependent on institutions and other people (Schwartz, 1994), and are willing to give up personal control to experts in the hopes that they can make better decisions for us (de Charms, 1968; Deci & Ryan, 1985; Iyengar & Lepper, 2000; Langer & Rodin, 1976; Lepper, 1983; Malone & Lepper, 1987; Schulz, 1976; Taylor, 1989; Zuckerman, Porac, Lathin, Smith, & Deci, 1978).

Although this form of outsourcing may be psychologically liberating in some ways, it may not be an optimal arrangement

when it comes to issues that require behavior and change at the level of the individual. The bystander effect (Darley & Latané, 1968) and diffusion of responsibility (Latané & Darley, 1970) serve as examples of what can happen when people too vociferously outsource responsibility onto others. Furthermore, whereas an unstable building or a tumor can only be effectively managed by the capable hands of an expert engineer or doctor, respectively, it can be argued that only the collective can help to resolve issues such as global warming or economic recessions, to the extent that these issues are caused, at least in part, by the collective. But, to the extent people feel overwhelmed or confused by social issues, they may come to feel as dependent on the government to solve environmental and economic problems as they are on their engineers to fix an unstable structure.

### From Dependence to Trust

When the complexity of a domain renders an individual unable to feel they can exert any control over it, and they instead defer to the government to manage that issue, how do they respond to this dependence? Intuitively, one might assume that feelings of dependence would lead people to hold authorities to a higher standard and scrutinize their actions more fervently, as their actions and decisions may be relevant to the self. However, the system justification and compensatory control literatures (Jost & Banaji, 1994; Kay et al., 2008, 2009; Laurin, Shepherd, & Kay, 2010; van der Toorn, Tyler, & Jost, 2011), as well as the interpersonal relationships literature (Murray & Holmes, 2009), suggest just the opposite, and instead predict that dependence will lead to *increased* trust.

Being actively critical of something one is dependent on is thought to be psychologically uncomfortable, and therefore avoided in favor of increased perceptions of legitimacy, trust, and desirability. System justification theory posits that people are motivated to justify and legitimize the status quo and the system in which one lives (Jost & Banaji, 1994). Many mechanisms for this motive have been proposed and studied, including threats to the system (Kay, Jost, & Young, 2005), decreases in personal control (Kay et al., 2008), feelings of restricted exit (Laurin et al., 2010), and feelings of dependence on the system (Kay et al., 2009). In such situations, instead of becoming increasingly critical of a system that one is dependent on, which would cause considerable dissonance and psychological discomfort, people have been shown to become increasingly motivated to justify and legitimize that system. For example, following a manipulation that reminded participants of the difficulties in leaving a given system, people became more forgiving of that system's faults and more critical of those who criticized it (Laurin et al., 2010). Likewise, increasing participants' perceived dependence on their country or their university led them to increasingly support the funding decisions made by their country or their university, respectively (Kay et al., 2009, Study 2), and increasingly defend the demographics of their governing body (Kay et al., 2009, Study 3).

Research on interpersonal relationships also suggests a causal link from perceived dependence to trust (Holmes & Rempel, 1989; Murray, Derreck, Leder, & Holmes, 2008; Murray & Holmes, 2009). In their risk regulation model, Murray and colleagues posit that people manage their concerns over dependence and commitment by bolstering the value of their partner, both by emphasizing

their positive traits and construing their negative traits so as to be positive (Murray et al., 2009). Workplace relationships are also characterized by a similar dependence–trust link, such that perceptions of dependence on a work partner predict higher levels of trust in that partner (de Jong, Van der Vegt, & Molleman, 2007). Thus, there is good reason to believe that once something (such as unfamiliarity) increases the extent to which people feel dependent on the government, they will place more trust in its operation, rather than seeking independence or finding faults in the government's abilities

### From Trust to Avoidance

To the extent that people increasingly trust or justify the legitimacy of an authority to cope with their dependence on it, they should be motivated to avoid information that could potentially rupture this trust. For example, an individual may be quick to turn the page upon seeing the headline, "Recession is Over, but the Future is Still Grim" because in reading the article, they run the risk of learning that the government is not as capable as they would like to believe. Even a news story with the innocuous title, "Tracking the US Economy" may contain challenging information, and thus be avoided. By doing so, one can protect the psychologically comforting idea that the government has everything under control.

As cognitive dissonance theory would predict, people tend to avoid information that is dissonant with their current beliefs and seek consonant information (Adams, 1961; Rhine, 1967), especially when they are already committed to a particular position (Frey & Rosch, 1984) and/or the information is self-relevant (Jonas, Schulz-Hardt, & Frey, 2005). For example, smokers are less likely than nonsmokers to seek out information that disputes the link between smoking and cancer, religious individuals are less inclined to clarify and listen to a message attacking Christianity than nonreligious individuals (Brock & Balloun, 1967), and both supporters and opponents of gun control and affirmative action seek out confirming information and avoid attitude-incongruent information (Taber & Lodge, 2006). In the same vein, we suggest, once people have placed increased trust in the government to deal with a specific issue (especially one that is threatening), they should increasingly avoid any information that may potentially challenge this psychologically comforting perspective.

This final prediction—that people will actively avoid learning about issues that they trust in the government to handle—adds a feedback loop to our model. That is, to the extent that unfamiliarity with a domain or an issue leads people to avoid issue-relevant information that could threaten their trust in the government, this process should further reinforce their unfamiliarity or disengagement with the issue at hand. This is particularly troublesome for domains like the environment and the economy that require increased knowledge and action to thrive (Attari et al., 2010; Larrick & Soll, 2008).

### Overview of the Present Research

A diagram of our model, in its entirety, is presented in Figure 1. Specifically, we propose that feeling unknowledgeable will lead to feelings of government dependence, which will then predict increased trust in the government and the status quo. The belief that the government has things under control can then be maintained by

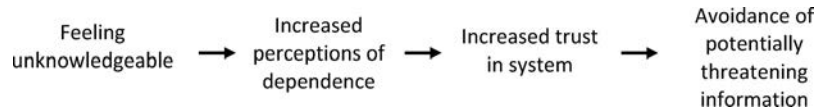


Figure 1. Overview of proposed model.

avoiding potentially negative information about that domain. Across five studies, we provide evidence for the various links in this model in the context of several different domains, such as natural resources, the environment, and the economy. In Study 1, we explore the extent to which feeling unknowledgeable about a domain increases government trust. In Study 2, we explore whether or not this effect is due to an increase in perceived government dependence. In Studies 3 and 4, we investigate the extent to which feeling unknowledgeable also produces a motivation to avoid relevant information. Finally, In Study 5, we test the entire model at once.

### Study 1

In Study 1, we use the domain of energy to examine whether feeling unknowledgeable in a given domain will increase participants' level of trust in those who manage that domain. Participants read either simple or complex descriptions of energy sources and then, for each energy source, indicated their level of trust in the government to manage that source of energy. We predicted that those in the complex condition would report higher trust in the government to manage that energy source, despite the fact that, all else equal, one should have less trust in someone to effectively manage something that is more complex.

### Method

**Participants.** Forty-eight (27 men, 20 women, one unidentified) undergraduates completed the study in a public space on campus in exchange for a chocolate bar.

**Procedure and materials.** Participants were invited to participate in a study entitled, "Opinions on New Energy Technologies." Participants read about two novel energy sources: Plasma Toroid Fusion and Electrodynamical Fusion. These technologies are only experimental and were thus chosen because of their obscurity. In the "simple" condition, the description of how these two energy sources worked was explained in fairly simple terms, with as little jargon and technical wording as possible. In contrast, in the "complex" condition, the two descriptions used more technical jargon and made little attempt to help the uninformed reader.

As a manipulation check, each description was followed by two items assessing participants' understanding of the description: "I can easily understand how this method of supplying energy works" and "This is a difficult idea to grasp" (reverse scored). Responses were made on a 9-point scale ranging from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*). Scores were coded such that higher scores indicate more perceived understanding. These items formed a four-item composite (two items per energy source;  $\alpha = .84$ ).

To introduce our dependent variables, participants read the following preamble:

In Canada, there are a number of agencies that deal with Canada's national energy plan, including The Canadian National Energy Board

(NEB), Natural Resources Canada, and the Ministry of Energy. These groups are made up of various scientists, politicians, policymakers, etc. The questions below pertain to these groups as a whole.

Participants were then asked to indicate how much they trust these groups to manage each energy source on the following four items, created for the purposes of the present research: "To what extent do you trust these groups to appropriately deal with any issues that are associated with this source of energy?"; "To what extent do you trust these groups to manage this source of energy properly?" (1 = *Not at All*, 9 = *Entirely*); "While this method of energy may have some faults, I think that these groups can deal with them accordingly"; and "Even though there are some important issues that may come with using this technology as a source of energy, I think that these groups will be able to deal with them" (1 = *Strongly Disagree*, 9 = *Strongly Agree*). These eight items (four per energy source) formed a reliable composite ( $\alpha = .96$ ).

### Results and Discussion

**Manipulation check.** A one-way analysis of variance (ANOVA) revealed that those in the complex condition understood the two energy sources less well ( $M = 3.28$ ,  $SD = 1.65$ ) than those in the simple condition ( $M = 5.24$ ,  $SD = 1.71$ ),  $F(1, 46) = 16.11$ ,  $p < .001$ ,  $d = 1.18$ .

**Primary results and discussion.** We used a one-way ANOVA to test the effect of condition (simple vs. complex) on trust. As predicted, those in the complex condition trusted the government more to manage the two energy sources ( $M = 6.31$ ,  $SD = 1.43$ ) than did those in the simple condition ( $M = 5.39$ ,  $SD = 1.57$ ),  $F(1, 46) = 4.37$ ,  $p = .04$ ,  $d = 0.61$ . These results provide preliminary support for our hypothesis that when people do not understand the complexities of a domain, they will show increased levels of trust in the government to manage that domain. Why did this effect occur? The model we presented in the introduction (see Figure 1) presumes that changes in government and system trust are driven by intervening changes in feelings of dependence on the government. Via the inclusion of a measure of government dependence, we tested this assumption in Study 2.

### Study 2

Study 2 builds on the findings of Study 1 in a number of ways. First, we used a different form of energy (cellulosic biofuel) in Study 2 that is more familiar to people, thus allowing for a replication of our findings in a different context. Second, a measure of government dependence preceded our measures of government trust. Finally, in addition to the straightforward measure of government trust, we also included a measure of support for a specific governmental procedure that gives governmental officials, not scientists, the final say on matters of energy.

## Method

**Participants.** Forty-six undergraduates (22 men, 24 women) completed the study online for partial course credit.

**Procedure and materials.** Similar to Study 1, participants read either a simple or a complex description of an energy source—in this case, cellulosic biofuel. As a manipulation check, participants completed three items assessing their understanding of this description. Two items were the same as those in Study 1, as well as, “Understanding this is beyond my capability” (1 = *Strongly Disagree*, 9 = *Strongly Agree*;  $\alpha = .88$ ). Items were coded so that higher scores indicate more understanding.

Participants were then presented with a screen with the following instructions:

The relationship between the government and the public can be summarized in a number of ways. One unique way is to use the themes, symbols, and metaphors in images. Please rate the following pictures according to how well you think they represent/symbolize the relationship between the government and the public, as you see it.

Participants were then presented with a series of images depicting various actors interacting in various ways, with the relevant characters in the image labeled *public* and *government* so that participants could gauge the theme depicted by the images, and how it might represent the relationship between the government and the public (1 = *Not at all representative*, 9 = *Very representative*). Five critical images depicted themes of dependence (see Appendix A) ( $\alpha = .66$ ). Other images depicted themes of caring/affection, conflict, and equality.<sup>1</sup>

Following this, participants completed our two separate measures of trust in the government. Participants read about the different government groups responsible for making decisions regarding energy in Canada (as in Study 1) and then completed six items assessing their level of trust in the government to manage cellulosic biofuel if it was implemented in Canada. These items included the same four trust items from Study 1, with the addition of, “These groups would only use cellulosic biofuel if they were 100% sure they could manage it effectively” and “When it comes to managing cellulosic biofuel, these groups know what they are doing” (1 = *Strongly Disagree*, 9 = *Strongly Agree*;  $\alpha = .86$ ).

Participants then completed a series of items serving to measure their endorsement of (what we said were) extant governmental procedures regarding energy. First, participants were shown the following preamble:

As mentioned, government decisions regarding energy are determined by a number of government groups, agencies, and Ministries. These groups are informed by both academic and applied biologists, chemists, and engineers. The role of these experts is to provide information to these government-run groups. However, the final decisions regarding energy are determined by the politicians who make up these groups.

Then, participants were presented with five items assessing their opinion on this state of affairs: “To what extent should decisions regarding energy be made by politicians?” (1 = *Not at All*, 9 = *Entirely*); “How much say should scientists and engineers have in the decision-making process when it comes to energy?” (reverse coded; 1 = *None*, 9 = *All*); “It is reasonable for politicians to make the final decisions on matters related to energy”; “Decisions re-

garding energy should be left to politicians” (1 = *Strongly Disagree*, 9 = *Strongly Agree*); and “How desirable is it for the government to be the ones who manage and regulate Canada’s energy?” (1 = *Not at All*, 9 = *Very*;  $\alpha = .81$ ).

## Results

**Manipulation check.** As in Study 1, participants who read the complex description felt less knowledgeable about cellulosic biofuel ( $M = 4.51$ ,  $SD = 1.76$ ) than those who read the simple description ( $M = 7.23$ ,  $SD = 1.68$ ),  $F(1, 44) = 28.78$ ,  $p < .001$ ,  $d = 1.62$ .

**Primary results.** One-way ANOVAs revealed that, as predicted, condition significantly predicted both measures of government trust. Those in the complex condition trusted the government more to manage cellulosic biofuel ( $M = 5.37$ ,  $SD = 1.39$ ) than those in the simple condition ( $M = 4.53$ ,  $SD = 1.43$ ),  $F(1, 44) = 4.06$ ,  $p = .05$ ,  $d = 0.61$ . Similarly, those in the complex condition were also more supportive of the government’s current decision-making procedures regarding energy ( $M = 4.17$ ,  $SD = 1.19$ ) than those in the simple condition ( $M = 3.37$ ,  $SD = 1.39$ ),  $F(1, 44) = 4.46$ ,  $p = .04$ ,  $d = 0.64$ .

**Dependence as a mediator between complexity and trust.** To test whether or not perceived dependence mediated the relation between complexity and trust, we first tested whether a simple versus complex framing of cellulosic biofuel influenced perceptions of dependence on the government. A one-way ANOVA revealed that participants in the complex condition found dependence-themed images more representative of the relationship between the government and the public ( $M = 5.13$ ,  $SD = 1.36$ ) than did those in the simple condition ( $M = 4.28$ ,  $SD = 1.17$ ),  $F(1, 44) = 5.14$ ,  $p = .03$ ,  $d = 0.68$ . We then tested whether or not dependence predicted trust in the government. Because trust in the government and support for the government’s current decision-making procedures were significantly correlated with one another ( $r = .49$ ,  $p = .001$ ), we collapsed them into a single variable for the mediational analyses. We then used the bootstrapping procedure (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004; Shrout & Bolger, 2002) to test the indirect pathway from condition, to perceived dependence, to trust in the government. The bootstrapping procedure tests whether or not this indirect path is significantly different from zero, with significant mediation occurring when the upper and lower limits of the 95% confidence interval (CI) do not cross zero. Standardized coefficients and significance values are presented in Figure 2. Percep-

<sup>1</sup> Our domain complexity manipulation did not have any effect on ratings of images that had themes of caring/affection between the government and the public, or equality between the government and the public ( $F_s < .10$ ,  $p_s > .75$ ). Our manipulation did have a marginal effect on ratings of images depicting themes of conflict/combativeness, such that participants in the complex condition found conflict-themed images marginally less representative of the relationship between the government and the public ( $M = 4.61$ ,  $SD = 1.60$ ) than did those in the simple condition ( $M = 5.50$ ,  $SD = 1.78$ ),  $F(1, 44) = 3.20$ ,  $p = .08$ . Seeing conflict images as more representative of the relationship between the government and the public did not predict scores on our collapsed government trust measure ( $r = -.23$ ,  $p = .12$ ). Furthermore, our mediation effect was still significant when controlling for ratings of combative images in each step of the mediation model.

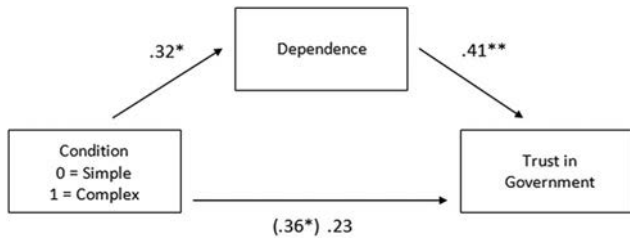


Figure 2. Effect of energy source complexity on government trust, mediated by perceptions of government dependence (Study 2). \*  $p < .05$ . \*\*  $p < .001$ .

tions of dependence on the government did indeed predict increased trust in the government, and the indirect path from condition, to dependence, to trust was significant (95% CI [.03, .31],  $p = .01$ ). In other words, perceived dependence significantly mediated the relation between feeling unknowledgeable in a domain and trusting those who manage that domain.

## Discussion

In Study 2, we found that feeling unknowledgeable in a given domain can lead people to perceive the public as increasingly dependent on the government. Building on Study 1, the results of Study 2 show that the effect of domain complexity on trust is driven, at least in part, by feelings of dependence on the government.

## Study 3

Study 3 departs from our previous studies in a number of ways. First, the issue of interest in Study 3 is the possibility of a future oil shortage. Second, we recruited a public sample of Americans for participation as opposed to Canadian university students. Third, we measured participants' self-reported level of perceived issue complexity opposed to manipulating it, so as to ensure that our effects are not limited to something idiosyncratic about our manipulations or the act of manipulating complexity in general. Fourth, and most importantly, in Study 3 we examined the extent to which domain complexity also predicts motivated avoidance, or in other words, the desire to avoid potentially disconfirming information.

If perceived domain complexity leads people to feel dependent on the government—thus increasing their investment in seeing the government as capable and competent—then it follows that people may be motivated to protect this comforting view from potentially conflicting information. In contrast, when an issue is seen as rather simple and comprehensible, then these dependence-related concerns should be less prevalent (Study 2), and thus there should be less reason to avoid potentially threatening information. We begin to test this hypothesis in Study 3 by testing the link between perceived domain complexity and the desire to avoid potentially troubling information about America's oil supply.

In Study 3, we also sought to provide evidence in support of the defensive, motivational nature of this process. If issue complexity leads people to depend on the government and, in turn, trust in their government more so as to protect them from threat, then we would expect the effect of complexity on avoidance to emerge

when an issue is seen as especially serious and urgent. In other words, we expect domain complexity to increase avoidance most significantly under the precise conditions that, intuitively, you would expect issue complexity to motivate increased understanding and engagement: when an issue is framed as most pressing or imminent.

In the present study, we manipulated the imminence of a potential oil shortage by framing the issue as more versus less urgent (only 40 vs. 240 years of recoverable oil left, respectively). We predicted increased levels of avoidance by those who see the issue as more (vs. less) complex, and that this effect will be moderated by threat, such that this effect will emerge when the issue is urgent and immediate as opposed to in the distant future. Again, this is a counterintuitive prediction, in that one would assume that the desire to engage in a complex, poorly understood issue should only *increase* as that issue becomes more urgent. But our prediction, which hinges on defensive, motivational processes of threat management, is the exact opposite.

## Method

**Participants.** A sample of 163 Americans (70 men, 93 women; mean age = 32.5,  $SD = 10.79$ ) were recruited using an online recruitment website.

**Procedure and materials.** Participants were first asked for their opinions regarding the complexity of natural resource management and extraction via three items: "The detailed workings of managing an energy resource like oil or coal at a national level is 'above my head'"; "The economics of balancing energy resource extraction and use seems incredibly technical and complex"; and "When I really think about it, the sheer number of things to take into consideration when deciding how to manage our energy resources is overwhelming" (1 = *Strongly Disagree*, 9 = *Strongly Agree*;  $\alpha = .84$ ). Scores were coded so that higher scores reflected increased perceptions of complexity, and lower scores reflected perceived simplicity.

Participants were then presented with a passage titled "Are we running out of oil?" (ostensibly taken from an energy website). This served as our manipulation of urgency. The manipulation read as follows (italicized content in brackets differs by condition):

The United States uses more oil than just about any industrialized nation in the world at about 20 million barrels of oil per day. 98% of cars in the United States use gasoline. Oil appears to be the bedrock upon which power for our cars, trucks, farming equipment, etc., is generated in this country. Of course, there is only so much oil to go around. It is a finite resource. One day, we will run out of it. As recently as 2007, the government estimated that the United States has upwards of 240 years [*only 40 years*] of economically recoverable oil available to us. [*Of course, the strain will be felt much sooner.*]

Participants then completed four items assessing their desire to avoid learning more about a potential oil shortage. These items were carefully worded so as to reflect a motivation to actively avoid information pertaining to the issue, as opposed to a general lack of interest in learning about the issue. These items included, "When it comes to running out of oil, I would be more comfortable to just turn a blind eye to the issue"; "When it comes to America's oil situation, I would rather not know just how bad it is"; "I would prefer to know the whole story when it comes to America's energy

concerns regardless of how much the truth hurts” (reverse scored); and “While there may be problems with how much oil we have left, I would rather not know just how serious those problems are” (1 = *Strongly Disagree*, 9 = *Strongly Agree*;  $\alpha = .86$ ).

## Results

We submitted a Condition (immediate problem vs. distant problem)  $\times$  Perceived Issue Complexity (continuous: less vs. more complex) interaction to regression analysis. We submitted perceived complexity (centered) and condition to the first step of the analysis and the interaction between these variables to the second step. As predicted, perceived complexity predicted avoidance ( $\beta = .27$ ),  $t(160) = 3.52$ ,  $p = .001$ , such that those who saw resource management as more complex reported an increased desire to avoid learning about a potential future oil shortage. The main effect of the urgency manipulation was not significant ( $\beta = .06$ ),  $t(160) = 0.74$ ,  $p = .46$ . Importantly, however, the predicted two-way interaction between the urgency manipulation and perceived complexity emerged significant ( $\beta = .27$ ),  $t(159) = 1.95$ ,  $p = .05$ ,  $d = 0.31$  (see Figure 3). We then analyzed the simple slopes for perceived complexity predicting avoidance within each of the urgency framing conditions. Critically, and as predicted, perceived complexity was a significant predictor of avoidance when the issue was framed as being an immediate problem ( $\beta = .41$ ),  $t(159) = 3.90$ ,  $p < .001$ ,  $d = 0.62$ , such that those who saw resource management as complex avoided the issue more than those who saw it as being simple. Complexity was not a significant predictor of avoidance when the oil shortage was framed as being in the distant future ( $\beta = .12$ ),  $t(159) = .110$ ,  $p = .27$ ,  $d = 0.17$ . In addition, we analyzed the simple effects of urgency among those high and low in perceived complexity. Perceived complexity was recentered at one standard deviation above and below the mean, and the interaction term was recomputed using these new centered variables (Aiken & West, 1991). Among those who saw resource management as more complex, the desire to avoid the issue was higher when the issue was framed as immediate as opposed to distant ( $\beta = .20$ ),  $t(159) = 1.89$ ,  $p = .057$ ,  $d = 0.30$ . The effect of condition among those who saw resource management as more simple was not significant ( $\beta = -.10$ ),  $t(159) = -0.92$ ,  $p = .36$ ,  $d = 0.15$ .

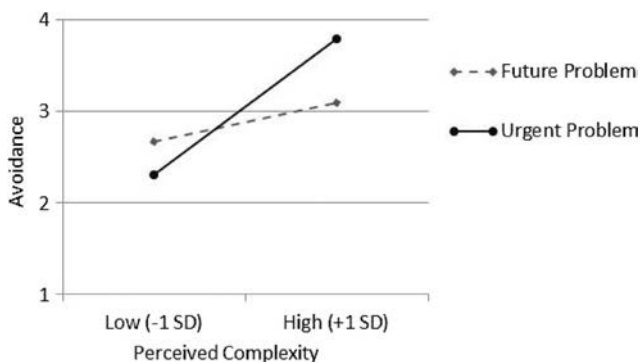


Figure 3. Desire to avoid learning about a future oil shortage, as a function of perceived domain complexity and urgency (Study 3).

## Discussion

We have shown thus far that (a) feeling unknowledgeable predicts increased trust in the government (Study 1) and (b) feelings of government dependence mediate this effect (Study 2). Study 3 builds on this by illustrating that feeling unknowledgeable (vs. knowledgeable) about a given domain predicts an increased motivation to avoid learning more about an issue within that domain when it is especially immediate. When the issue was framed as distant and nonurgent, lack of knowledge did not predict avoidance. This pattern of moderation, which points to the defensive nature of this process, has important ramifications, as it suggests that unfamiliarity drives avoidance specifically for those social problems that are, ironically, most in need of immediate redress.

The avoidance items used in Study 3 were intended to explicitly gauge motivation to actively avoid information, giving credence to the hypothesis that participants do not simply lose interest in an issue that they do not understand, but rather that they have a heightened desire to avoid the issue at hand. However, these items do not assess the desire to avoid information in general; rather, they assess the desire to avoid *negative* information about the issue, specifically. Although avoiding only negative information can bias an individual's perspective on an issue (especially when the reality of a situation offers little in the way of positive information), and may lead to inaction and defense of the status quo, it is not ignorance per se. Therefore, in Study 4 we aimed to show that individuals will not simply avoid negative information when they feel unknowledgeable but that they will also avoid information where the valence of that information cannot be determined. We also examined whether the avoidance of negative (and even vague) information relates to the motivation to protect the comforting belief that the government has everything under control. Finally, because Study 3 only included hypothetical avoidance measures, Study 4 includes a behavioral measure of avoidance.

## Study 4

In Study 4, we manipulated participants' felt understanding of the economy via a complexity manipulation (similar to Studies 1 and 2) and measured the extent to which participants felt that the current recession affected them directly. We then assessed participants' interest in reading various news articles about the economy, based on their title. Titles were intended to either imply positive information, negative information, or simply “information” that could be either positive or negative. We, therefore, explored in Study 4 the extent to which people will avoid three different categories of domain-relevant information: positive, negative, and vague. These article titles were pretested for their level of perceived positivity/negativity, as well as the extent to which they were perceived to challenge the idea that the government can manage the economy. The results of this pretesting (below) informed our predictions.

## Pretest Results

Sixty-two individuals rated the article titles to be used in Study 4. Valence was rated on a 9-point scale ( $-4 = \textit{Very Negative}$ ,  $0 = \textit{Neutral}$ ,  $+4 = \textit{Very Positive}$ ), as were ratings of whether or not each article sounded like it would challenge the idea that the

government can manage the economy (1 = *Not At All*, 9 = *Definitely*). Results revealed that article titles intended to suggest positive, optimistic information about the economy were indeed seen as more positive ( $M = 1.83$ ,  $SD = 0.95$ ) than vague article titles ( $M = -0.22$ ,  $SD = 0.87$ , not significantly different from zero), whereas vague titles were seen as being more positive than negative titles ( $M = -2.10$ ,  $SD = 0.84$ ; all  $t_s > 14.00$ , all  $p_s < .001$ ). There was also a significant relationship between article title valence and the expectation that the article would challenge the government's ability to manage the economy; positive article titles were seen as challenging the government the least ( $M = 3.03$ ,  $SD = 2.03$ ), followed by vague titles ( $M = 3.46$ ,  $SD = 1.70$ ), and finally negative titles were seen as the most likely to challenge the government's ability to manage the economy ( $M = 4.80$ ,  $SD = 2.05$ ; all  $t_s > 2.31$ , all  $p_s < .03$ ,  $d_s > 0.60$ ).

Recall that we predict that one of the reasons why feeling unknowledgeable leads people to avoid issue-relevant information is because feeling unknowledgeable leads to increased perceptions of government dependence, which then leads people to bolster and protect the psychologically comforting idea that the government has everything under control. This may be achieved by not only avoiding clearly negative information but also avoiding any information, such as vague information, that holds the potential to be negative, and thus threatening to the idea that the government can manage the issue. Only information that is clearly expected to be positive should be immune from this defensive response. On the basis of these pretest results, therefore, we predict that when the issue of the economy is more self-relevant, those in the complex (vs. simple) condition should increasingly avoid articles with negative titles and vague titles. However, we predict no such avoidance of articles with titles that are clearly positive, as these titles assure the participants that its content will be less, if at all, threatening to the government.

Study 4 also contains a self-report measure of general avoidant tendencies in this domain, similar to that of Study 3. Again, we predict that when the issue of the economy is more self-relevant, those in the complex condition should report a stronger desire to avoid hearing about the economy in general, relative to those in the simple condition.

## Method

**Participants.** One hundred ninety-seven American participants (86 men, 111 women, mean age = 35.72,  $SD = 12.64$ ; 97 employed, 18 freelance/self-employed, seven retired, 18 homemaker, 25 unemployed, 30 student, two unidentified) participated in Study 4 online via an online recruitment website in early 2011 while the economy was still recovering from a recession. Issues regarding the recession may have been especially relevant and urgent to this group, as opposed to undergraduates who may generally feel less affected, or be less interested, in economic issues.

**Procedure and materials.** Participants were first asked to read some information about the economy and how it operates, which served as our manipulation of domain complexity. In the simple condition, the description of the economy came from a blog, and explained the economy in simple, straightforward terms. In the complex condition, the description of the economy came from an economics book chapter and explained the economy as a

complex, nonlinear dynamic system. As a manipulation check, participants were then asked, "Overall, the detailed workings of the economy is something that I just 'don't get'" (1 = *Strongly Disagree*, 9 = *Strongly Agree*). To be consistent with previous studies, this item was reverse coded so that higher scores reflected an increased sense that one understands how the economy operates.

To measure self-relevance, participants were asked to complete the item, "the current economic recession affects me directly" (1 = *Strongly disagree*, 9 = *Strongly agree*).

As our first measure of avoidance, participants were asked to rate their interest in reading a series of articles. First, participants were given the following instructions:

Later in this survey, you may be randomly selected to help us by reading a very short article about the economy. Please rate the article titles below to determine your preferences, so that we can select one of your more preferred articles (they are about the same length). For each article title, please rate whether or not this sounds like an article you would like to read, using your first "gut-level" response.

Therefore, when participants were rating their interest in reading different news articles about the economy, they were under the impression that their ratings would determine which article they would be assigned. Participants were then presented with articles titles from our pretesting, in random order (three titles for each of the three categories: positive, negative, and vague, nine total; see Appendix B for article titles) and rated their interest in reading each article (1 = *Not at All*, 9 = *Definitely*). To be consistent with our other avoidance measures, scores were reverse coded so that higher scores mean more avoidance of that article. Composite scores were formed for positive ( $\alpha = .82$ ), negative ( $\alpha = .81$ ), and vague article ratings ( $\alpha = .83$ ).

As a second measure of avoidance, participants also completed a series of items assessing their desire to avoid negative information about the recession, at the cost of not being fully informed. These items paralleled those of Study 3: "There are issues with the economy that I would just prefer to NOT know about," "When it comes to the economy, I would be more comfortable to just turn a blind eye to it"; "If the economy was worse than I thought, I would certainly want to know about it" (reverse coded); "I would prefer to know the whole story when it comes to economy, regardless of how much the truth hurts" (reverse coded); "I want to be entirely informed when it comes to the economy" (reverse coded); "I don't like thinking about how the struggling economy could/does affect me"; "Because the news on the economy is often so bleak, I often just stay away from hearing about it all together"; "The economy is such a depressing topic that I tend to just ignore it"; and "Even with the current economic troubles, I am still interested in staying up to date with what is going on in the economy" (reverse coded) (1 = *Strongly Disagree*, 9 = *Strongly Agree*;  $\alpha = .91$ ).

## Results

**Main analyses.** We ran a series of regression analyses predicting participants' interest in reading versus avoiding the three different types of article titles (i.e., positive, negative, and vague). We submitted feelings of being affected by the recession (centered) and condition (simple vs. complex) to the first step of the analysis and the interaction between these variables to the second step.



**Avoidance of negative and vague articles.** A main effect of self-relevance emerged, predicting avoidance of negative articles ( $\beta = -.26$ ,  $t(193) = -2.69$ ,  $p < .01$ ,  $d = 0.39$ , and vague articles ( $\beta = -.38$ ,  $t(193) = -4.13$ ,  $p < .001$ ,  $d = 0.59$ , such that those who felt more affected by the recession showed less avoidance of these articles than those who reported feeling less affected—an intuitive response to a self-relevant issue. Critically, however, the predicted two-way interaction emerged for negative articles ( $\beta = .62$ ,  $t(193) = 3.22$ ,  $p = .001$ ,  $d = 0.46$ , and for vague articles ( $\beta = .38$ ,  $t(193) = 2.03$ ,  $p = .04$ ,  $d = 0.29$ ).

To analyze the simple effects, we tested the slopes for article interest as a function of reported self-relevance of the recession for each condition. To test the effect of condition on article interest versus avoidance among those high and low on self-relevance, we recentered reported self-relevance at one standard deviation above and below the mean and recomputed the interaction term using these new centered variables.

First, predicting avoidance of negative articles, simple slopes analyses revealed that in the simple condition, feeling affected by the recession was a significant predictor of article interest ( $\beta = -.52$ ,  $t(193) = -4.19$ ,  $p < .001$ ,  $d = 0.60$ , such that participants most affected by the recession reported less avoidance. Again, this is an intuitive reaction when faced with a sufficiently understandable, self-relevant issue. However, the effect was undone when the economy was framed as being complex ( $\beta = -.04$ ,  $t(193) = -0.15$ ,  $p = .88$ ,  $d = 0.02$ ). Critically, as predicted, among those who reported being most affected by the economic recession, those in the complex condition reported more avoidance of negative articles, as compared with those in the simple condition ( $\beta = .93$ ,  $t(193) = 2.39$ ,  $p < .02$ ,  $d = 0.34$ —the very people who, intuitively, should be engaging more in the issue. In other words, the tendency to want to learn more about a self-relevant issue was undermined by framing the issue as complex. Conversely, among those less affected by the recession, the opposite pattern was found ( $\beta = -.85$ ,  $t(193) = -2.19$ ,  $p = .03$ ,  $d = 0.32$ , such that those in the complex condition wanted to read the negative articles more than those in the simple condition).

Next, predicting avoidance of vague articles, the same pattern of results emerged. Simple slopes analyses revealed that in the simple condition, feeling affected by the recession was a significant predictor of article avoidance ( $\beta = -.55$ ,  $t(193) = -4.48$ ,  $p < .001$ ,  $d = 0.64$ , such that participants most affected by the recession reported less avoidance. Again, this effect was undone when the economy was framed as being complex ( $\beta = -.17$ ,  $t(193) = 1.18$ ,  $p = .24$ ,  $d = 0.17$ ). As predicted, among those who reported being most affected by the economic recession, those in the complex condition reported more avoidance of vague articles, as compared with those in the simple condition ( $\beta = .92$ ,  $t(193) = 2.44$ ,  $p < .02$ ,  $d = 0.35$ ). Among those less affected by the recession, no significant effect of condition was found ( $\beta = -.17$ ,  $t(193) = -0.45$ ,  $p = .65$ ,  $d = 0.06$ ).

**Positive articles.** So far, we have seen that when participants are induced to feel less knowledgeable about the economy, those who feel especially affected by the recession are more likely to avoid negative and vague articles about the economy. But what about positive articles? When testing the interaction between condition and self-relevance, we again found a main effect of self-relevance ( $\beta = -.42$ ,  $t(193) = -4.42$ ,  $p < .001$ ,  $d = 0.64$ , such that those most affected by the recession reported less avoidance of

positive articles about the economy. However, no two-way interaction between condition and self-relevance emerged ( $\beta = -.10$ ,  $t(193) = -0.52$ ,  $p = .61$ ,  $d = 0.07$ ; increased self-relevance was related to less avoidance within the simple condition ( $\beta = -.47$ ,  $t(193) = -3.67$ ,  $p < .001$ ,  $d = 0.53$ , and in the complex condition ( $\beta = -.37$ ,  $t(193) = -2.49$ ,  $p = .01$ ,  $d = 0.36$ ). Furthermore, there was no effect of condition among those who felt more affected by the recession ( $\beta = -.1$ ,  $t(193) = -1.18$ ,  $p = .24$ ,  $d = 0.17$ ). In short, although people affected by the recession avoided negative and vague articles more when the economy was experienced as complex as opposed to simple, no such effect emerged for positive articles (see Figure 4 for results for all three article types).

**General desire to avoid hearing about the economy.** Turning to our second measure of avoidance, we submitted the same interaction as above to regression, predicting participants' scores on our nine-item self-report measure of a general desire to avoid information about the economy. These results paralleled those of our negative and vague article rating measures. A significant main effect of self-relevance emerged ( $\beta = -.29$ ,  $t(193) = -3.93$ ,  $p < .001$ ,  $d = 0.57$ , such that those more affected by the economy reported less desire to avoid hearing about the economy, which was qualified by the predicted interaction ( $\beta = .46$ ,  $t(193) = 3.20$ ,  $p < .01$ ,  $d = 0.46$  (see Figure 5). Among those who reported being more affected by the recession, those in the complex condition wished to avoid hearing about the economy more than those in the simple condition ( $\beta = .74$ ,  $t(193) = 2.53$ ,  $p = .01$ ,  $d = 0.36$ ). Conversely, among those less affected by the recession, the opposite effect was found; those in the complex condition reported less desire to avoid the economy, compared with those in the simple condition ( $\beta = -.59$ ,  $t(193) = 2.02$ ,  $p < .05$ ,  $d = 0.29$ ). Furthermore, simple slopes analyses revealed that self-relevance predicted less desire to avoid in the simple condition ( $\beta = -.48$ ,  $t(193) = 2.02$ ,  $p < .05$ ,  $d = 0.29$ ; however, this intuitive reaction disappeared in the complex condition ( $\beta = -.02$ ,  $t(193) = -0.21$ ,  $p = .84$ ,  $d = 0.03$ ).

## Discussion

Studies 1–3 demonstrated that feeling unknowledgeable about an issue predicted (a) increased trust in the government to manage that issue (Studies 1 and 2) and (b) increased avoidance of negative information when the issue was more, as opposed to less urgent (Study 3). Our model, however, proposes that these two outcomes are related, such that when people avoid negative information in response to feeling unknowledgeable about an issue, they are doing this at least in part to protect the idea that the government has everything in control. Study 4 provides initial evidence for this prediction. When participants felt increasingly unknowledgeable about the economy, and also felt that the economy affected them directly, we saw increased avoidance of information that, in pre-testing, was shown to challenge the government's ability to manage the economy. In contrast, unambiguously positive information, which had less potential to condemn the government, was not avoided in this way. Study 4, therefore, lends credence to the idea that the link between feeling unknowledgeable about an issue and avoiding negative and ambiguous issue-relevant information is at least partly due to a motivation to protect perceptions of government competence. This idea, and our model in its entirety, is further tested in Study 5.

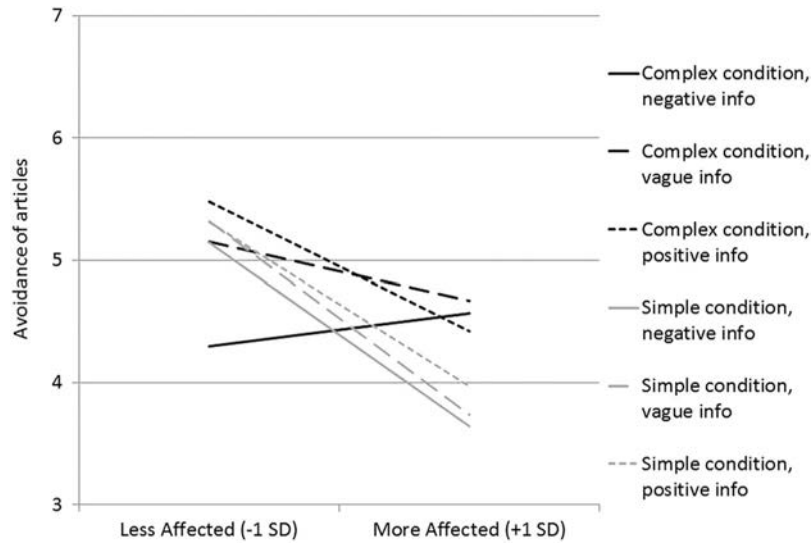


Figure 4. Avoidance of positive, negative, and vague articles, as a function of domain complexity and self-relevance of the economic recession (Study 4). info = information.

### Study 5

Across the previous four studies, we have empirically tested specific components of our model. Feeling unknowledgeable was shown to increase government trust (Studies 1 and 2), which was driven by feelings of dependence (Study 2). Feeling unknowledgeable also increased avoidance among those most motivated to avoid potentially threatening information (i.e., when the issue was especially imminent or self-relevant; Studies 3 and 4). Furthermore, Study 4 demonstrated that this conditional effect of feeling unknowledgeable (which increases trust in the government) on the avoidance of issue-related information only occurs in the context of information that participants believe could potentially rupture government trust. However, we have

yet to test whether the path from dependence to avoidance is statistically mediated by government trust, nor have we tested our entire model at once. In our final study, we address these remaining research questions in the context of the economy.

In Study 5 we also introduce a measure of perceived helplessness—that is, feeling unable to manage the problem individually—as a predictor of the link between feeling unknowledgeable and dependence. We propose that people feel dependent on the government because they feel helpless to do anything about issues that they do not understand, and feel unable to manage them on an individual level, thus the need to see something (i.e., the government) as in control as well as the need to protect this belief. Therefore, feeling unknowl-

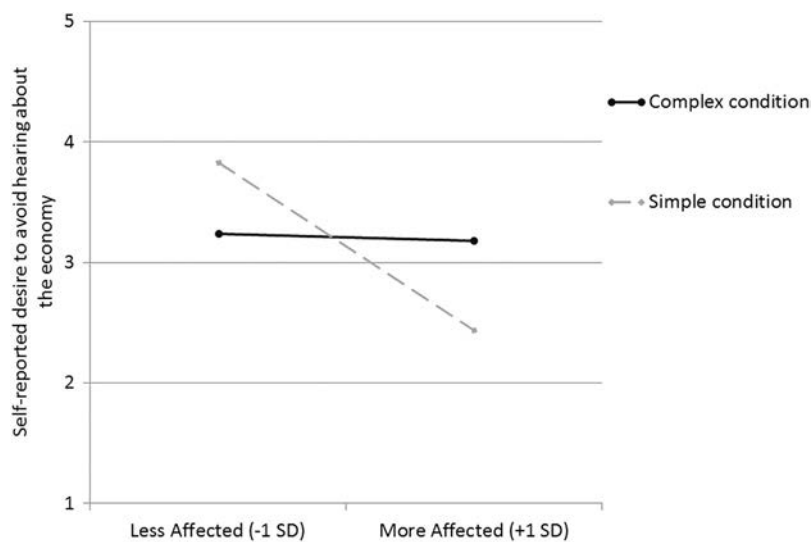


Figure 5. Self-reported desire to avoid hearing about the economy, as a function of domain complexity and self-relevance of the economic recession (Study 4).

edgeable about an issue should lead people to feel helpless, and this should in turn lead people to believe that they are dependent on the government to deal with the issue.

In this study, we manipulate perceived complexity of the economy and then observe the effects on, in turn, (a) participants' perceptions that they themselves can do little to help themselves during the recession, (b) perceived government dependence, (c) trust in the government to manage the economy, and, finally, (d) the desire to avoid negative information about the economy. Using structural equation modeling, we test a model whereby the effect of complexity on perceived dependence is mediated by perceptions of helplessness, and the effect of dependence on avoidance is mediated by trust in the government, such that when the economy is seen as complex, people will feel more helpless and, in turn, report more government dependence, which should then predict increased trust in the government and avoidance of economic issues.

## Method

**Participants.** As in Study 4, a sample of people who are more likely to experience the impact of the economy and the economic downturn the country was experiencing during the time of data collection (spring 2010) were recruited. A public sample of 58 (20 men, 38 women; mean age = 42.88  $SD$  = 12.24; 35 employed, eight retired, six disabled, five homemaker, two unemployed, two not reported) Canadian participants volunteered to participate via an online recruitment company.

**Procedure and materials.** Participants were first given the same manipulation and manipulation check as in Study 4. Next, measures of perceived helplessness, perceived government dependence, trust in the government, and avoidance followed in that order. To measure perceived helplessness, participants were presented with a list of things they could do to help them get through the recession (e.g., changing driving habits, shopping at thrift stores, growing food in your own garden, freelance sales, babysitting, dog walking, etc.). Participants were asked to check any items that they felt they could do to help get through the recession. The total number of checked items was computed for each participant to create our helplessness variable (maximum score of 18), with lower scores reflecting more perceived helplessness.

Two items measured perceived dependence on the government: "When this recession hits people hard, there is really nothing they can do but hope the government can fix things for them" and "To get through this recession, we are pretty much dependent on the government to improve things for us." Responses were made on a 9-point scale (1 = *Strongly Disagree*, 9 = *Strongly Agree*;  $\alpha$  = .89).

Participants then read a similar preamble as in Studies 1 and 2 (this time about the agencies responsible for the economy) and then completed four items assessing their level of trust in the government to manage the economy: "To what extent do you trust these groups to appropriately deal with any issues associated with the economy?"; "To what extent do you trust these groups to manage the economy properly?" (1 = *Not at all*, 9 = *Entirely*); "While the economy may have some issues right now, I think that these groups can deal with those issues accordingly"; and "The people in these political groups would only be there if they were 100% sure they could manage the economy effectively" ( $\alpha$  = .89).

Finally, participants completed four items assessing their desire to avoid hearing about or learning more about the economy (e.g., "When it comes to the economy, I would be more comfortable to just turn a blind eye to it" and "I would prefer to know the whole story when it comes to economy, regardless of how much the truth hurts"). Responses were made on a 7-point scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*;  $\alpha$  = .86).

## Results

**Manipulation check.** A one-way ANOVA revealed that participants who read the complex description of how the economy operates reported feeling less knowledgeable about the economy ( $M$  = 4.00,  $SD$  = 1.33) than those who read a simple description of how the economy operates ( $M$  = 4.97,  $SD$  = 1.98),  $F(1, 56) = 4.64$ ,  $p = .04$ ,  $d = 0.57$ .

**Effects of complexity manipulation.** A series of one-way ANOVAs revealed that our experimental manipulation had a significant effect on all dependent measures. As predicted, those in the complex condition checked off fewer items on our checklist ( $M$  = 5.07,  $SD$  = 2.03) than those in the simple condition ( $M$  = 7.23,  $SD$  = 3.55),  $F(1, 56) = 7.68$ ,  $p = .01$ ,  $d = 0.74$  (thus suggesting increased perceptions of helplessness in the complex condition); perceived the public as more dependent on the government to manage the economy ( $M$  = 4.83,  $SD$  = 1.93) than those in the simple condition ( $M$  = 3.64,  $SD$  = 1.71),  $F(1, 56) = 6.16$ ,  $p = .02$ ,  $d = 0.66$ ; trusted the government more ( $M$  = 4.94,  $SD$  = 1.72) than those in the simple condition ( $M$  = 3.66,  $SD$  = 1.77),  $F(1, 56) = 7.57$ ,  $p = .01$ ,  $d = 0.75$ ; and reported a greater desire to avoid hearing about economic issues ( $M$  = 3.12,  $SD$  = 0.90) than those in the simple condition ( $M$  = 2.40,  $SD$  = 1.10),  $F(1, 56) = 7.34$ ,  $p = .01$ ,  $d = 0.72$ .

To test whether the effect of condition on dependence was mediated by perceived helplessness, and whether the effect of dependence on avoidance was mediated by trust in the government, we used AMOS 18.0 structural equation modeling software (Arbuckle, 2009). The results of this model (see Figure 6 for standardized coefficients) supported our predictions. Using the bootstrapping procedure, the indirect path from condition, to helplessness, to dependence was found to be significant (95% CI [.06, .28],  $p < .01$ ). Similarly, the indirect path from dependence, to trust, to avoidance was also significant (95% CI [.02, .30],  $p = .02$ ). The overall model fit the data well,  $\chi^2(4, N = 58) = 7.05$ ,  $p = .13$ , comparative fit index (CFI) = 0.94, root-mean-square error of approximation (RMSEA) = .12.<sup>2</sup>

## Discussion

Studies 1–4 offered support for individual components of our model. Study 5 adds to this by testing the link between dependence, trust, and avoidance, as well as our entire model in one experimental design. When participants read a complex description of how the economy operates, they exhibited increased per-

<sup>2</sup> Importantly, alternative models did not fit the data as well. Condition (simple vs. complex) to dependence, to avoidance, then trust,  $\chi^2(4, N = 58) = 8.64$ ,  $p = .003$ , CFI = 0.77, RMSEA = .37. Condition to avoidance, to dependence, and trust,  $\chi^2(4, N = 58) = 16.02$ ,  $p = .007$ , CFI = 0.78, RMSEA = .20.

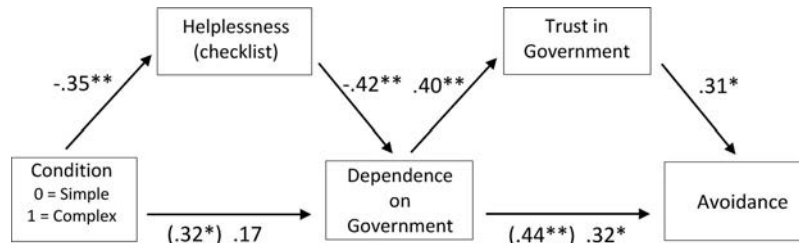


Figure 6. Model testing the associations between domain understanding, helplessness, perceived dependence on the government, trust in the government, and avoidance (Study 5). Lower scores on our checklist reflect higher levels of helplessness. \*  $p < .05$ . \*\*  $p < .001$ .

ceptions of helplessness in getting through the economic downturn, and this in turn predicted an increase in perceived dependence on the government to manage the economy. This sense of dependence then predicted increased trust in the government to deal with the economy, which in turn predicted an increased desire to “turn a blind eye” to economic issues and ignore the problem.

### General Discussion

Across five studies in which diverse methodologies were used, we have provided evidence for a psychological chain of events that serves to increase system support and status quo maintenance in two related ways: first, through increased government trust and support for extant government procedures and, second, through the avoidance of information that would challenge this trust and might otherwise educate the individual and lead to action as opposed to inaction. Evidence for this model was found in the context of both novel and familiar issues, including energy technology, the management and depletion of oil reserves, and the 2008 economic recession.

In the domain of energy, Studies 1 and 2 demonstrated that when individuals feel unknowledgeable about an issue, participants increasingly trusted in the government to manage various environmental technologies (Studies 1 and 2), and increasingly supported the status quo in how the government makes decisions regarding the application of those technologies (Study 2). Study 2 also highlighted the important role of dependence in this process; when people felt unknowledgeable with social issues, they felt more dependent on the government, which lead to increased trust (see also Kay et al., 2009; Murray & Holmes, 2009; van der Toorn et al., 2011).

However, not only do people trust in the government more when they feel unknowledgeable about a threatening social issue, but they also appear motivated to avoid learning new information about it. In Study 3, we observed that in the context of an imminent oil shortage—as opposed to a distant one—participants who felt that the issue was “above their heads” reported an increased desire to adopt an “ignorance is bliss” mentality toward that issue, relative to those who saw oil management as a relatively simple issue.

This effect, according to Studies 4 and 5, is at least partly due to participants’ desire to protect their faith in the capable hands of the government. Among those who felt more affected by the recession, experimentally increasing domain complexity eliminated the tendency to seek out information. These individuals avoided not only negative information but also vague information, that is, the types

of information that held the potential (according to pretesting) to challenge the idea that the government can manage the economy. Positive information was not avoided in the same way (Study 4). Finally, Study 5 illustrated the mediating role of government trust in the relation between unfamiliarity and avoidance in a test of our model in its entirety.

### Evidence for Motivation

Two key links in our model are proposed to be motivational in nature. These are (a) the link from feelings of government dependence to government trust and (b) the link from feelings of government trust to avoidance of new information.<sup>3</sup> Although past research has suggested that system justification effects tend to be motivational (Jost et al., 2010; Kay et al., 2008, 2009; Laurin et al., 2010), none has investigated the types of phenomena we have focused on here. A number of features of the present data, however, provide support for our motivational argument.

In Study 3, participants who saw resource management as a complex issue showed an increased desire to avoid negative information about a future oil shortage; however, this only occurred when the shortage was said to be in the very near future and thus more pressing and self-relevant to the participants. When it was described as unlikely to be relevant for centuries, participants did not show any increased avoidance as a function of knowledge. Likewise, in Study 4, participants induced to see the economy as a complex issue avoided negative and ambiguous information and reported wanting to avoid hearing about the economy, as compared with when the economy was framed as a simple issue. Critically, this effect only emerged if participants a priori reported that they have been directly affected by the recession. What is more, our items that explicitly assessed motivated avoidance (in Studies 3, 4, and 5) were very face-valid measures of motivation to avoid information about the relevant issues as opposed to disinterest. Last, in Study 5, the link between government trust and avoidance only emerged in the complex condition.

### Implications and Future Directions

The present data provide evidence for what may be a significant barrier to getting people involved and engaged in social issues. Not

<sup>3</sup> It is entirely conceivable that the link from lack of knowledge to dependence, which is the first link in the model, is nonmotivational.

only are people motivated to avoid social issues when they feel issues are complex—thus maintaining their present level of unfamiliarity—but this effect appears strongest for those issues believed to be most urgent and serious. It is at times when change is most needed, therefore, that people may become the most likely to defend the status quo and agents of sociopolitical systems. As such, the present studies suggest that rather than ensuring those in charge are maximally qualified to be in charge, and rather than remaining especially attuned to any limitations of the system, the psychological processes that are instigated when issues are seen as both severe and complex may limit any criticism of the current system and its decision-making process. And, perhaps even more critically, they may also prevent the types of behaviors, such as information gathering, that are necessary to efficacious social action (Attari et al., 2010; Larrick & Soll, 2008).

This may help to shed light on why some people may have avoided seeing movies like *An Inconvenient Truth*, and why it has received a great deal of backlash and criticism along with its praise and admiration. In both the United States and United Kingdom, attempts have been made to ban the film from schools, as evidenced by the quote that introduced this article. Such criticisms, although likely due to many factors, may stem at least in part from a motivated attempt to protect the comforting belief that the government and system as a whole can be trusted, especially in the context of important issues that people feel unfamiliar and unknowledgeable about.

To fully realize the implications of this research and the model we present herein, however, a good deal of future research is needed. First, although we propose a feedback loop in our model, whereby a lack of knowledge can lead to avoidance and avoidance ultimately reinforces a lack of knowledge, we do not provide any longitudinal data to demonstrate this circular process. Rather, our argument rests on the logic that so long as people are not exposing themselves to information about a given domain, they are less able and willing to learn about it. Future research in which the long term, cyclical effects of avoiding information on the perpetuation of ignorance are investigated would nicely complement these laboratory studies.

In addition, a deeper understanding of the boundary conditions surrounding the data we provide may help to shed some light on which domains are more susceptible and less susceptible to these types of effects. Although we have shown our predicted effects across a variety of domains, some minor differences emerged between domains. For example, in Study 3, our predicted effect seemed to be driven by those who saw oil management as complex and when the issue was urgent. In Study 4, our predicted effect appeared to occur when the rational behavior of wanting to learn more about the economy when it was self-relevant was eliminated by our domain complexity induction (critically, however, the predicted effect of domain complexity vs. simplicity emerged among those who were most motivated to avoid the issue—that is, when the issue was urgent and self-relevant). These effects may speak to an inherent difference between issue urgency and issue self-relevance as motivators of avoidance and, therefore, incremental changes in urgency (e.g., current/long-standing issues vs. imminent issues vs. distant issues), degree of self-relevance, and other domain characteristics may play a more complex role in our model than can be explored in the present research. Therefore, tests of our model to other domains and issues such as food safety, national

security, health, social inequality, poverty, and even perceived moral and ethical conflicts may be worthwhile. The specific features of these different domains and their idiosyncrasies may help to illustrate more clearly when and why the various links in our model take place.

Protesters, the recent increase in “tea-party” and “Occupy Wall Street” rallies in the United States, and people who freely confront issues, exist. Clearly, some people do seek more information when they feel unknowledgeable about a specific issue and/or when problems become more severe, and some people show reactance to feelings of government dependence. Therefore, identifying the personality characteristics that may serve as boundary conditions to the phenomena we have reported here is an important future direction, as they almost surely moderate these phenomena. Recent research by Feinberg and Willer (2010), for example, has noted that belief in a just world predicts denial of the severity of global warming (especially when it is described as apocalyptic). Although that work focused on belief in global warming, and not the interrelation between feelings of system dependence, government trust, and motivated avoidance, as we have done here, it may suggest that variables related to needs for order, justice, and certainty may moderate the types of effects we have observed. As such, personal need for structure (Neuberg & Newsom, 1993), need for cognition (Cacioppo & Petty, 1982), and need for closure (Webster & Kruglanski, 1994) may be likely candidates.

Differences between people’s judgments of their understanding and their actual level of understanding may also play different roles in the processes that we have outlined in the present research. For example, individuals who are truly unknowledgeable or unskilled in a domain are poor judges of their own performance, erring on the side of overestimating their skill level (Dunning et al., 2003). In the present research, we highlight the importance of felt understanding and the experience of feeling unknowledgeable versus knowledgeable in a domain. However, differences may exist between people who are unknowledgeable but overestimate their level of knowledge and those who are accurate judges of their own knowledge, whether it is high or low.

Finally, the present research may ultimately help provide some important information for those who seek to educate the public about various issues. These studies demonstrate that when people feel that they do not understand a domain or an issue, they will disengage from it and outsource the solution to the agents of the system. As such, beyond just downplaying the catastrophic, doomsday aspects to their messages (Feinberg & Willer, 2010), educators may want to consider explaining issues in ways that make them easily digestible and understandable, with a clear emphasis on local, individual-level causes. This may speak to the importance of lay theories (Dweck & Leggett, 1988) regarding social change. That is, people may perceive themselves as only able to offer so much in terms of addressing national or global questions. People may assume, for example, that individual behaviors are only effective at enacting change for problems that seem very straightforward and easily addressable. Problems that involve complex economic rules or the chemical properties of the earth’s atmosphere may not fit lay theories of what people can accomplish. As such, when confronted with these types of problems—or problems that are framed in this way—people may withdraw from the issue. Uncovering the nature of people’s lay theories about the role of individuals in affecting social change,

therefore, may help researchers further understand the antecedents to the types of effects we have observed here.

## Concluding Remarks

A burgeoning literature has begun to establish the dynamic relationship between people and the external systems (i.e., governments, institutions) within which they operate (e.g., Jost, Banaji, & Nosek, 2004; Kay, Whitson, Gaucher, & Galinsky, 2009). This literature, although diverse, paints a picture of a social animal who acts not like a dispassionate observer and judge of her or his governmental systems, or one who relies on the government and other institutional systems solely for the provision of tangible, physical goods (e.g., safety, roads, water), but of someone who also leans on the government and other organizations to cope with various psychological needs—needs traditionally thought to be handled by the individual alone or, at the very most, via the individual's connections to others (Baumeister & Leary, 1995). It has become clear that people turn to their external systems to regulate a number of relational, existential, and epistemic threats (Jost et al., 2004; Kay et al., 2009; Sullivan, Landau, & Rothschild, 2010). In the present article, we leveraged this past research to develop a novel explanation for how people's tendency to trust in their social systems, and outsource their worries and fears to these systems, can lead to the propagation of ignorance in the context of important social issues.

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Appendix A

Dependence-Themed Images (Study 2)



(Appendices continue)



**Appendix B****Article Titles (Study 4)**

Positive article titles:

Economy: The Worst is Behind Us

Economy Improves in 2010 into 2011

Economic Boom in 2011: Experts

Negative article titles:

Economy, Jobs Expected to Remain Weak Through 2014

Recession is Over, but the Future is Still Grim: Experts

7 Problems That Could Derail the Global Recovery

Vague article titles:

Tracking the US Economy

Update on the US Economy

2011 Economy 101: Where the Economy is and Where it is  
Going

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**Correction to Shepherd and Kay (2011)**

Due to a production error, the article “On the Perpetuation of Ignorance: System Dependence, System Justification, and the Motivated Avoidance of Sociopolitical Information” by Steven Shepherd and Aaron C. Kay (*Journal of Personality and Social Psychology*, Advance online publication, November 7, 2011. doi:10.1037/a0026272) was published with the images omitted from Appendix A. All versions of this article have been corrected.

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