

On the Perpetuation of Ignorance:  
System Dependence, System Justification, and the Motivated Avoidance of Socio-Political  
Information  
by  
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## Abstract

How do people cope when they feel uninformed or unable to understand important social issues, such as the environment, energy concerns, or the economy? 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. Drawing from the literature on System Justification Theory (Jost & Banaji, 1994), I hypothesized that, rather than motivating an increased search for information, a lack of knowledge about a specific socio-political 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, I suggest that ignorance – as a function of the system justifying tendencies it may activate – may, ironically, breed more ignorance. The rational for these predictions is discussed in Chapter 1. Then, in the contexts of energy, environmental, and economic issues, I present seven 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.

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## Chapter 1: Introduction

*“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, quoted in The Washington Post, January 25, 2007)

In the 2006 documentary *An Inconvenient Truth*, Al Gore employs 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 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 employing 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 needs and threats (Jost & Hunyady, 2005; Kay, Gaucher, Napier, Callan, & Laurin, 2008). Just as close others and social groups help individuals cope with various psychological needs and problems (e.g., Fritzsche, Jonas, & Fankhänel, 2008; Harkins, Latané , & Williams, 1980; Latané, Williams, & Harkins, 1979; Tajfel & Turner, 1986), so too do political and institutional systems. System justification theory (Jost & Banaji, 1994)

proposes that individuals are motivated to see the systems that they live in as legitimate, fair, and just. This is in part because of our dependence on these systems (Kay et al., 2009; van der Toorn et al., 2010) to fulfill various psychological needs, such as creating order and structure in the world (compensatory control theory; Kay et al., 2008). When one is dependent on a given system, and when it helps to satisfy various psychological needs, it is threatening to think of it as unfair, or illegitimate. 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, and this dependence may translate into increased system support, and increased avoidance of information that might challenge this comforting view of the government as being capable, fair, and legitimate. Thus, the fact that *An Inconvenient Truth* promises troubling information about climate change might motivate people unfamiliar with climate 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 current research, I draw from system justification theory (Jost & Banaji, 1994) and compensatory control theory (a theory that builds upon 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 greater public attention. I propose that when an important issue is cast as increasingly complex, people will respond by psychologically “outsourcing” responsibility for understanding and handling 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 behaviours, such as

learning about the issue, that could shatter this faith in the government. I provide seven studies illustrating this psychological chain of effects across a number of domains, including the economy, energy, and natural resources.

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

Research shows that even as the average education level of Americans has increased, the public's knowledge of politics have stagnated, or even decreased over the latter half of the twentieth century (Delli Carpini, & Keeter, 1991). Individuals are often confronted with political, economic, and scientific information that they do not comprehend or know how to evaluate, even though this information can be of critical personal and societal importance. For example, in the case of energy resources, nearly 40% of respondents in a Public Agenda (2009) survey could not identify a fossil fuel. Nearly a 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 report that they 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 is sometimes a discrepancy between how much people know about social issues and the importance and relevance of those issues to people's day-to-day lives.

Energy and the economy represent just two important, self-relevant domains about which people can feel uncertain, 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 take relevant actions. 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 behaviour (Hogg, 2007; Kruglanski & Webster, 1996; Neuberg et al., 1997, van den Bos, 2009). How do people react, then, when they find themselves unknowable about a specific domain? Feeling unknowable might emerge from one's unfamiliarity with the domain or issue at hand, or because of the technical complexity and sophistication of the domain or issue at hand. 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, & Phills, 2010). Drawing inspiration from system justification theory, I

propose a novel way in which this defensiveness may manifest itself. Feeling unknowledgeable in the context of broad social issues 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 learning more about 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 sift 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 individual citizens have forfeited a certain amount of autonomy by placing the burden onto systems of power comprising 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 current research, our social and economic security is managed by agencies of the government. Indeed, survey data shows 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 cede 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 behaviour 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 eagerly 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 collaborative efforts of individual citizens 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 engineers to fix an unstable physical structure.

### *From Dependence to Trust*

When the complexity of a domain causes people to feel unable to exert any control over it, and they instead defer to the government to manage that issue, how do they respond to this dependence? 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; Kay et al., 2009; Laurin, Shepherd, &

Kay, 2010; van der Toorn et al., 2010) suggest just the opposite, and instead predict that dependence will lead to *increased* trust.

Being actively critical of something one is dependent upon is thought to be psychologically uncomfortable, and therefore avoided in favor of increased perceptions of legitimacy, trust, and desirability. System justification theory posits that individuals are motivated to justify and legitimize the status quo and the systems in which they live (Jost & Banaji, 1994). Many contextual triggers 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, Shepherd, & Kay, 2010), and feelings of dependence on the system (Kay et al., 2009; van der Toorn et al., 2010). In such situations, instead of becoming increasingly critical of a system that one is dependent on, which would cause considerable dissonance and psychological discomfort, individuals 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, participants became more forgiving of that system's faults and more opposed to critics of the system (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). Thus, there is good reason to believe that once something (such as feeling unknowledgeable about an issue) causes people to feel more dependent on the government, they will then defensively place more trust in the government, rather than seeking independence or finding faults in the government's performance.

### *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, “Economy Flounders, Despite the Federal Stimulus?” 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.

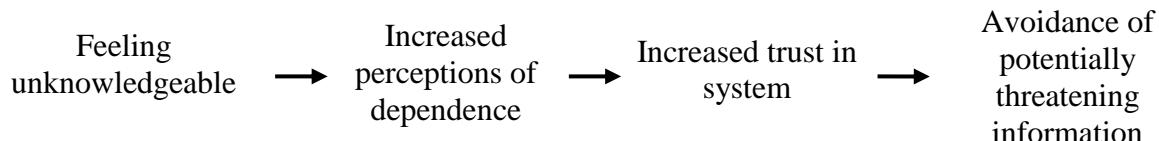
As cognitive dissonance theory would predict, people tend to avoid information that is dissonant with their current beliefs and seek consonant information (Adams, 1961; Rhine, 1967), especially when they are already committed to a particular position (Frey & Rosch, 1984) and/or the information is self-relevant (Jonas, Schulz-Hardt, & Dieter, 2005). For example, smokers are less likely than non-smokers to seek out information that bolsters the link between smoking and cancer, religious individuals are less inclined to clarify and listen to a message attacking Christianity than non-religious 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). Drawing on this evidence of dissonance-motivated information avoidance, I suggest that once people have placed their 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 my model. That is, I suggest that unfamiliarity with a domain or issue will lead to the avoidance of issue-relevant information that could threaten one's trust in the government, and as such, maintain one's level of unfamiliarity and disengagement with the issue at hand. This is particularly troublesome for domains like the environment and the economy that require increased public knowledge and coordinated individual action to thrive (Attari et al., 2010; Larrick & Soll, 2008).

#### *Overview of the Present Research*

I propose that feeling unknowledgeable will enhance 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 avoiding potentially negative information about that domain. Across seven studies, I provide evidence for the various links in this model in the context of several different domains, such as natural resources, the environment, natural disasters, and the economy.

*Figure 1:* Overview of proposed model.



Study 1 explores the extent to which feeling unknowledgeable about a domain or issue increases trust in the government to manage that domain or issue. Study 2 explores whether or not this effect is due to an increase in perceived government dependence. Studies 3 and 4 investigate the extent to which feeling unknowledgeable also produces a motivation to avoid relevant information. Studies 5 and 6 explore the link between trust and confidence in the

government and the avoidance of potentially threatening information. Finally, Study 7 tests the entire motivated avoidance model within a single study.

## Chapter 2: Feeling Unknowledgeable Motivates Trust in Authorities

In Study 1, I tested the hypothesis that 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. I predicted that those in the complex condition would report higher trust in the government to manage that energy source because the perceived complexity of the domain should undermine confidence in their own personal understanding. This inflated trust in government is hypothesized to be the outcome of a psychologically defensive process because the more obviously rational response would be to trust any manager of a problem less as the perceived complexity of that problem increases.

### *Method*

*Participants.* Forty-eight (27 men, 20 women, 1 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 Electrodynamic Fusion. These technologies are only experimental, and were thus chosen because of their obscurity. Participants were randomly assigned to one of two conditions. 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, with the goal of inducing the feeling of being unknowledgeable in the participants (Appendix A).

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). Responses were made on a nine-point scale (1 = *Strongly Disagree*, 9 = *Strongly Agree*). Responses 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 the 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, policy makers, 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 4 items: "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 & Discussion*

*Manipulation check.* An independent samples t-test found 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 ( $M = 5.24$ ,  $SD = 1.71$ ),  $t(46) = 4.01$ ,  $p < .001$ ,  $d = 1.18$

*Primary results and discussion.* An independent samples t-test tested 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 ( $M = 5.39$ ,  $SD = 1.57$ ),  $t(46) = 2.09$ ,  $p = .04$ ,  $d = .61$ . These results provide preliminary support for the hypothesis that when people do not understand the complexities of a domain, they will show increased trust in the government to manage that domain. Why did this effect occur? The model 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. Study 2 included a measure of government dependence to test this assumption.

### Chapter 3: Does Dependence Mediate the Effect of Feeling Unknowledgeable on Trust?

Study 2 builds on the findings of Study 1 in a number of ways. First, I included a measure of government dependence before the measures of government trust which allowed me to test whether dependency mediated the effect of feeling unknowledgeable on trust. Second, in addition to the direct measure of government trust, I also included a measure of support for a specific governmental procedure that gives governmental officials, not scientists, the final say on matters of energy, thus aligning the current research even more directly with that of past system justification research showing that government dependences leads to increased support for the status quo (Kay et al., 2009). Finally, Study 2 uses a different form of energy (cellulosic biofuel) that is more familiar to people, thus allowing for a replication of Study 1 in a different context.

#### *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 complex description of an energy source – in this case, cellulosic biofuel (Appendix B). 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 rate 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,  $\alpha = .66$ . Other images depicted themes of caring/affection, conflict, and equality (Appendix C).

Following this, participants completed 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 were said to be extant governmental procedures regarding energy. First, participants read 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 regarding 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*). These ratings were averaged for a reliable composite measure of support for the status quo;  $\alpha = .81$ .

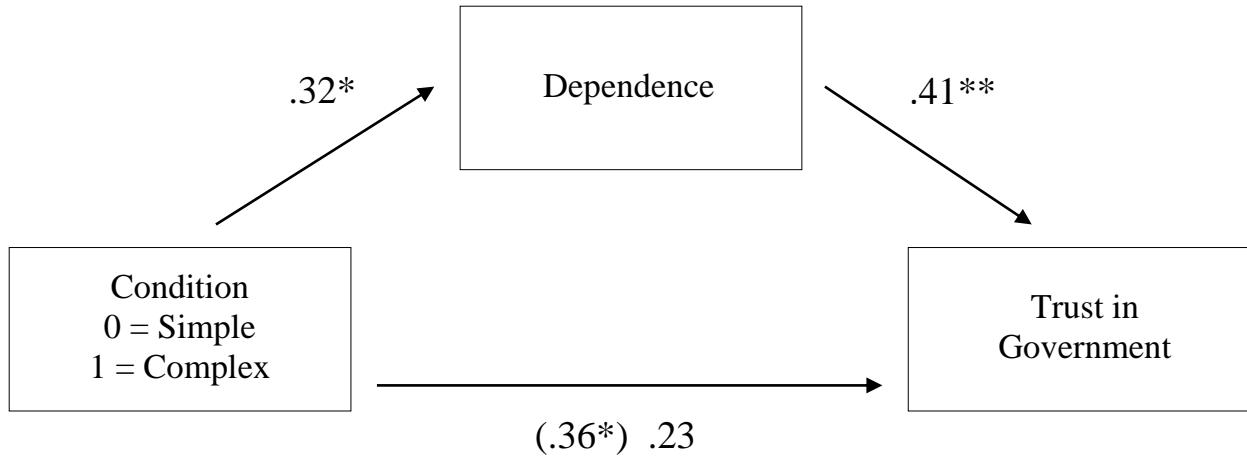
### *Results*

*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 ( $M = 7.23$ ,  $SD = 1.68$ ),  $t(44) = 5.36$ ,  $p < .001$ ,  $d = 1.62$ .

*Primary results.* An independent samples t-test 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 ( $M = 4.53$ ,  $SD = 1.43$ ),  $t(44) = 2.01$ ,  $p = .05$ ,  $d = .61$ . 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 ( $M = 3.37$ ,  $SD = 1.39$ ),  $t(44) = 2.11$ ,  $p = .04$ ,  $d = .64$ .

*Dependence as a mediator between complexity and trust.* To test whether or not perceived dependence mediated the relation between complexity and trust, I first tested whether a simple vs. 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 ( $M = 4.28$ ,  $SD = 1.17$ ),  $t(44) = 2.27$ ,  $p = .03$ ,  $d = .68$ . I 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 ( $r = .49$ ,  $p = .001$ ), they were collapsed into a single variable for the mediational analyses by averaging across all eleven items. Then, using a bootstrapping test of mediation (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004; Shrout & Bolger, 2002), the indirect pathway from condition, to perceived dependence, to trust in the government was tested. 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. Perceptions 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 (CI = .03 to .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.

*Figure 2: Effect of energy source complexity on government trust, mediated by perceptions of government dependence.*



\* $p < .05$ , \*\* $p < .001$  (two-tailed).

The 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,  $ts < .31$ ,  $ps > .75$ . Condition did have a marginal effect on ratings of images depicting themes of conflict/combative ness, 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 ( $M = 5.50$ ,  $SD = 1.78$ ),  $t(1,44) = 1.79$ ,  $p = .08$ . Seeing conflict images as more representative of the relationship between the government and the public did not predict scores on the composite government trust measure,  $r = -.23$ ,  $p = .12$ . Furthermore, the mediation effect was still significant when controlling for ratings of combative images in each step of the mediation model.

It is worth noting that reversing the mediator and the dependent variable, such that government trust mediates the relation between condition and dependence, also yielded a significant indirect effect (CI = .04 to .32,  $p = .01$ ). Despite this, I am confident that it is

dependence that mediates the effect of condition on trust, as opposed to trust mediating the effect of condition on dependence. This is because a) past research has provided evidence for the causal link between dependence and system justification processes (Kay et al., 2009; van der Toorn et al., 2010), and b) the results of Study 7 in the current thesis provide further evidence for the particular orientation of my model. A more general discussion of the role of dependence in my model is discussed in Chapter 9 (General Discussion).

### *Discussion*

Study 2 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 2 also found that perceptions of dependence that followed from feeling unknowledgeable also predicted increased support for the status quo, thus enhancing the link between the current research and past system justification research (Kay et al., 2009; van der Toorn et al., 2010). Together Studies 1 and 2 support my hypothesis that people defensively inflate their trust in the government's handling of a given problem when their confidence in their own understanding of that problem is undermined. Framing energy resources in a way that makes them seem more complex, and thus less comprehensible, make people feel more dependent on the government to manage energy resources, which in turn increases their trust in the quality of the government's handling of the problem. The fact that domain complexity undermines perceptions of personal competence within that domain but enhances perceptions of government competence within that domain suggests a psychologically defensive process because the more obviously rational pattern would be for increased domain complexity to undermine perceptions of both personal and government competence.

## Chapter 4: Does Feeling Unknowledgeable Predict Avoidance?

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

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. This hypothesis was tested in Study 3 by testing the link between perceived domain complexity and the desire to avoid potentially troubling information about America's oil supply.

Study 3 also sought to test whether or not this is a defensive process. If issue complexity leads people to depend on the government and, in turn, invest greater trust in the government so as to protect them from threat, then it is expected that the effect of complexity on information avoidance should emerge especially when an issue is serious and urgent. In other words, I expect domain complexity to increase avoidance most significantly under the precise conditions that,

intuitively, one might expect issue complexity to motivate increased desire for understanding and engagement: when an issue is framed as most pressing or imminent.

In the current study I manipulate the imminence of a potential oil shortage by framing the issue as more vs. less urgent (only 40 vs. 240 years of recoverable oil left, respectively). I predict 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 counter-intuitive 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. Indeed, when they decide what events to cover journalists routinely assume that the public will prefer information about the issues of most immediate, personal relevance over information about more remote matters (Hofstetter & Buss, 1978; Chang, Shoemaker, & Bredlinger, 1987). And when asked what influence the amount of attention they pay to news stories, people cite personal relevance and societal importance as two of the most important factors (Graber, 1988). However, my model, which postulates that information avoidance is a defensive processes of threat management, predicts the exact opposite.

### *Method*

*Participants.* A sample of 163 Americans (70 men, 93 women; age,  $M = 32.5$ ,  $SD = 10.79$ ) 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*);  $\alpha = .84$ . Responses were coded so that higher scores reflected perceptions of greater complexity.

Participants were then presented with a passage titled “Are we running out of oil?” (ostensibly taken from an energy website). This served as a manipulation of issue 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), and “While there may be problems with how much oil we have left, I would rather not know just

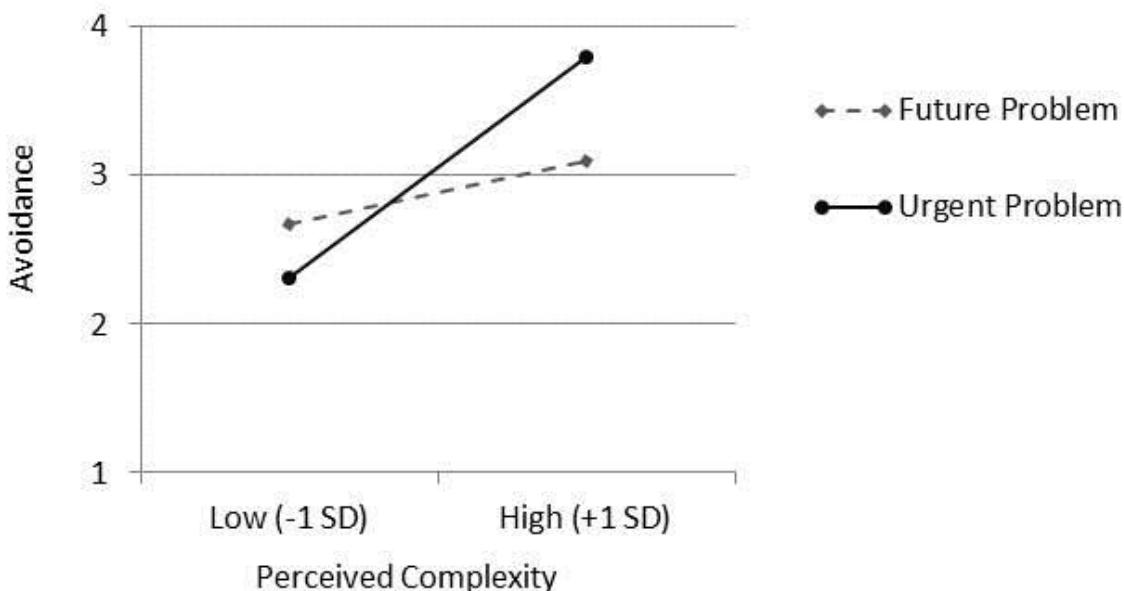
how serious those problems are" (1 = *Strongly Disagree*, 9 = *Strongly Agree*). These items were averaged together into a reliable composite measure of information avoidance,  $\alpha = .86$ .

### *Results*

A condition (immediate problem vs. distant problem) X perceived issue complexity (continuous: less vs. more complex) interaction was submitted to regression analysis. Perceived complexity (centered) and condition were submitted to the first step of the analysis, while the interaction between these variables was submitted 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,  $\beta = .06$ ,  $t(160) = .74$ ,  $p = .46$ . Importantly, however, the predicted two-way interaction between the urgency manipulation and perceived complexity emerged as significant,  $\beta = .27$ ,  $t(159) = 1.95$ ,  $p = .05$ ,  $d = .31$ . The simple slopes for perceived complexity predicting avoidance within each of the urgency framing conditions were then analyzed. Critically, and as predicted, perceived complexity was a significant predictor of avoidance when the issue was framed as being an immediate problem,  $\beta = .41$ ,  $t(159) = 3.90$ ,  $p < .001$ ,  $d = .62$ , such that participants avoided the issue of resource management more to the extent they saw the issue as more complex. Complexity was not a significant predictor of avoidance when the oil shortage was framed as being in the distant future,  $\beta = .12$ ,  $t(159) = .1.10$ ,  $p = .27$ ,  $d = .17$ . In addition, the simple effects of urgency among those high and low in perceived complexity were analyzed. Perceived complexity was re-centered 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

marginally higher when the issue was framed as immediate as opposed to distant,  $\beta = .20$ ,  $t(159) = 1.89$ ,  $p = .057$ ,  $d = .30$ . The effect of condition among those who saw resource management as more simple was not significant,  $\beta = -.10$ ,  $t(159) = -.92$ ,  $p = .36$ ,  $d = .15$ .

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



### Discussion

I 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 especially when it is an immediate problem. When the issue was framed as distant and non-urgent, feeling unknowledgeable about the domain at hand (i.e., resource management) 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 people'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 I aim to show that people will not simply avoid negative information when they feel unknowledgeable, but that they will also avoid information when the valence of that information cannot be determined. I also examine whether the avoidance of negative (and even ambiguous) 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 behavioural measure of avoidance.

## Chapter 5: What Kind of Information Do People Seek to Avoid?

In Study 4, I 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. Participants' interest in reading various news articles about the economy, based on their title, was then assessed. Titles were intended to either imply positive information, negative information, or simply "information" that could either be positive or negative ("ambiguous"). Study 4, therefore, explores the extent to which people will avoid three different categories of domain-relevant information: positive, negative, and ambiguous. These article titles were pre-tested 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 pre-testing (below) informed my predictions.

*Pre-test results.* Sixty-two individuals rated the article titles to be used in Study 4 (see Appendix E for article titles). Valence was rated on 9 point scale (-4 = *Very Negative*, 0 = *Neutral*, +4 = *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 ( $M = 1.83$ ,  $SD = .95$ ) than ambiguously valenced article titles ( $M = -.22$ ,  $SD = .87$ , not significantly different from zero), and ambiguous titles were seen as being more positive than negative titles ( $M = -2.10$ ,  $SD = .84$ ) (all  $ts > 14.00$ , all  $ps < .001$ ). There was also a significant relation 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

ambiguous 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  $ts > 2.31$ , all  $ps < .03$ ,  $ds > .60$ ).

According to my theoretical model one of the reasons why feeling unknowable should lead people to avoid issue-relevant information is because feeling unknowable 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 by avoiding any information – such as ambiguous information – that holds the potential to be threatening to the idea that the government can manage the issue. Only information that is clearly expected to be positive in its implications should be immune from this defensive response. Based on these pre-test results, therefore, it is predicted 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 ambiguous titles. However, I predict no such avoidance of articles with titles that are clearly positive, as these titles assure the participants that their content will be unthreatening.

Study 4 also contains a self-report measure of general avoidant tendencies in this domain, similar to that of Study 3. Again, when the issue of the economy is perceived to be 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, age,  $M_{age} = 35.72$ ,  $SD = 12.64$ ; 97 employed, 18 freelance/self-employed, 7 retired, 18 homemaker,

25 unemployed, 30 student) participated in the current study online via an online recruitment website in early 2011, while the U.S. economy was still recovering from a recession.

*Procedure and materials.* Participants were first asked to read some information about the economy and how it operates, which served as my manipulation of domain complexity. In the simple condition, the description of the economy was excerpted 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, non-linear dynamic system (Appendix D). 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 a first measure of avoidance, participants were asked to rate their interest in reading a series of articles. First, participants received 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 article titles from pretesting in random order (three titles for each of the three categories: positive, negative, and ambiguous, nine total; see Appendix E for article titles) and rated their interest in reading each article ( $1 = \text{Not at All}$ ,  $9 = \text{Definitely}$ ). To be consistent with my 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 ambiguous article ratings ( $\alpha = .83$ ).

As a second measure of economic news avoidance, participants reported their agreement with a series of nine statements 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), “I would prefer to know the whole story when it comes to economy, regardless of how much the truth hurts” (reverse), “I want to be entirely informed when it comes to the economy” (reverse), “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 interesting in staying up to date with what is going on in the economy” (reverse) ( $1 = \text{Strongly Disagree}$ ,  $9 = \text{Strongly Agree}$ ). Responses to the items were averaged together to form an internally reliable index of self-reported avoidance of economic news;  $\alpha = .91$ . Note that the final three items deal with the desire to avoid

economic information in general, as opposed to just overtly negative economic information.

### *Results*

*Manipulation check.* An independent samples t-test found that those in the complex condition reported understanding the economy less well ( $M = 5.55$ ,  $SD = 1.65$ ) than those in the simple condition ( $M = 6.10$ ,  $SD = 1.81$ ),  $t(195) = -2.13$ ,  $p = .04$ ,  $d = .31$ .

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

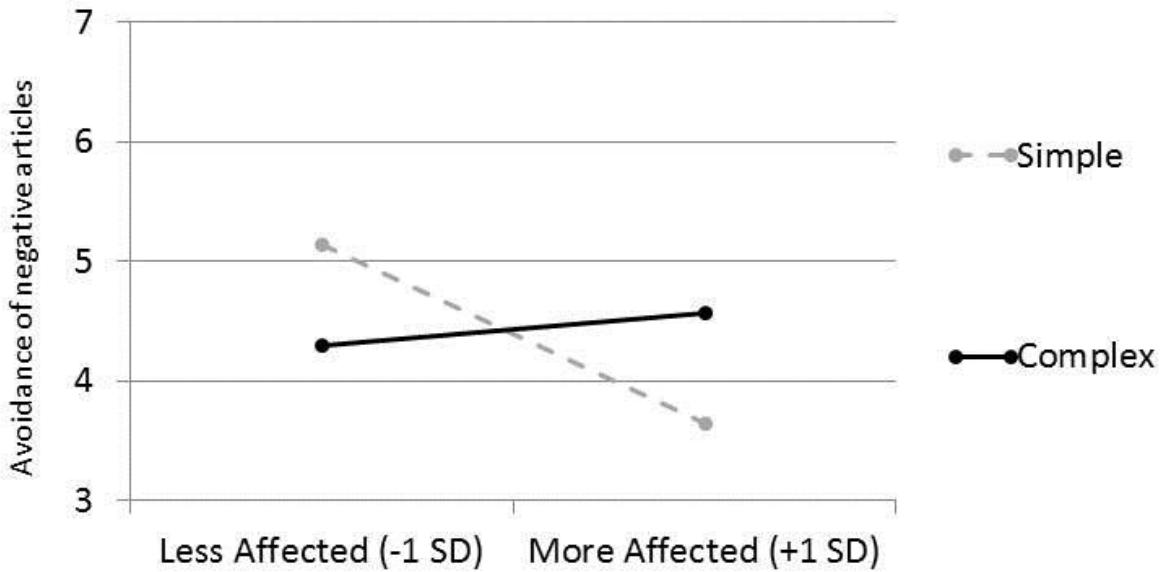
*Avoidance of negative and ambiguous articles.* A main effect of self-relevance emerged, predicting avoidance of negative articles,  $\beta = -.26$ ,  $t(193) = -2.69$ ,  $p < .01$ ,  $d = .39$ , and ambiguous articles,  $\beta = -.38$ ,  $t(193) = -4.13$ ,  $p < .001$ ,  $d = .59$ , such that those 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,  $\beta = .62$ ,  $t(193) = 3.22$ ,  $p = .001$ ,  $d = .46$ , and for ambiguous articles,  $\beta = .38$ ,  $t(193) = 2.03$ ,  $p = .04$ ,  $d = .29$ .

To analyze the simple effects, the slopes for article interest as a function of reported self-relevance of the recession were tested for each condition. To test the effect of condition on article avoidance among those high and low on self-relevance, reported

self-relevance was re-centered at one standard deviation above and below the mean, and the interaction term was recomputed using these new centered variables.

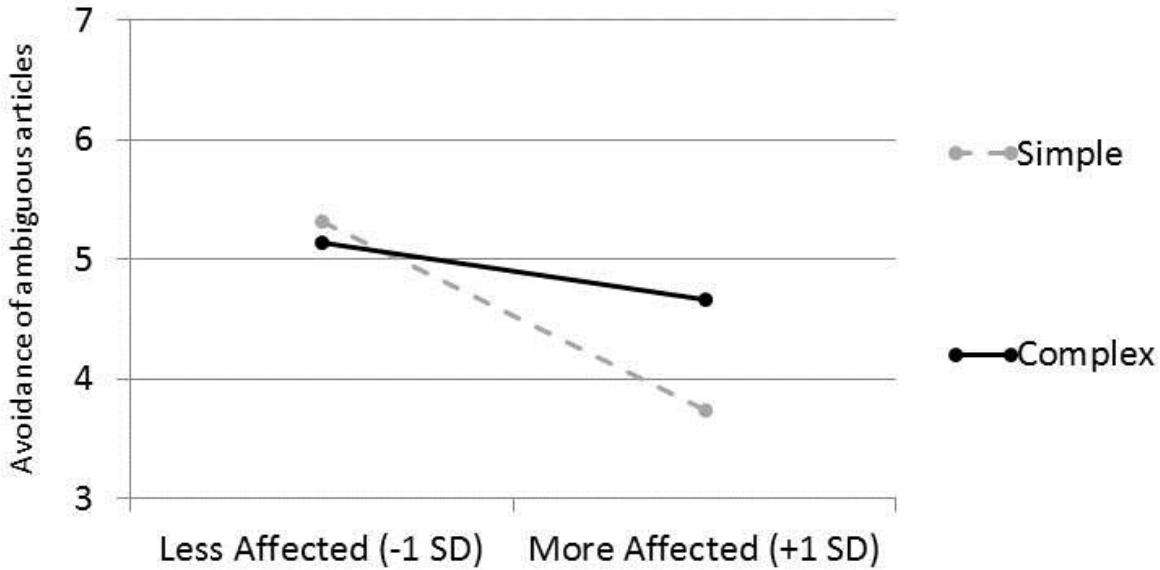
First, predicting avoidance of negative articles, simple slopes analyses revealed that in the simple condition, feeling affected by the recession was a significant predictor of article interest,  $\beta = -.52$ ,  $t(193) = -4.19$ ,  $p < .001$ ,  $d = .60$ , such that participants most affected by the 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,  $\beta = -.04$ ,  $t(193) = -.15$ ,  $p = .88$ ,  $d = .02$ . 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 to those in the simple condition,  $\beta = .93$ ,  $t(193) = 2.39$ ,  $p < .02$ ,  $d = .34$  – 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,  $\beta = -.85$ ,  $t(193) = -2.19$ ,  $p = .03$ ,  $d = .32$ , such that those in the complex condition wanted to read the negative articles more than those in the simple condition.

*Figure 4: Avoidance of negative articles as a function of domain complexity and self-relevance of the economic recession.*



Next, predicting avoidance of ambiguous 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,  $\beta = -.55$ ,  $t(193) = -4.48$ ,  $p < .001$ ,  $d = .64$ , such that participants most affected by the recession reported less avoidance. Again, this effect was undone when the economy was framed as being complex,  $\beta = -.17$ ,  $t(193) = 1.18$ ,  $p = .24$ ,  $d = .17$ . As predicted, among those who reported being most affected by the economic recession, those in the complex condition reported more avoidance of ambiguous articles, as compared to those in the simple condition,  $\beta = .92$ ,  $t(193) = 2.44$ ,  $p < .02$ ,  $d = .35$ . Among those less affected by the recession, no significant effect of condition was found,  $\beta = -.17$ ,  $t(193) = -.45$ ,  $p = .65$ ,  $d = .06$ .

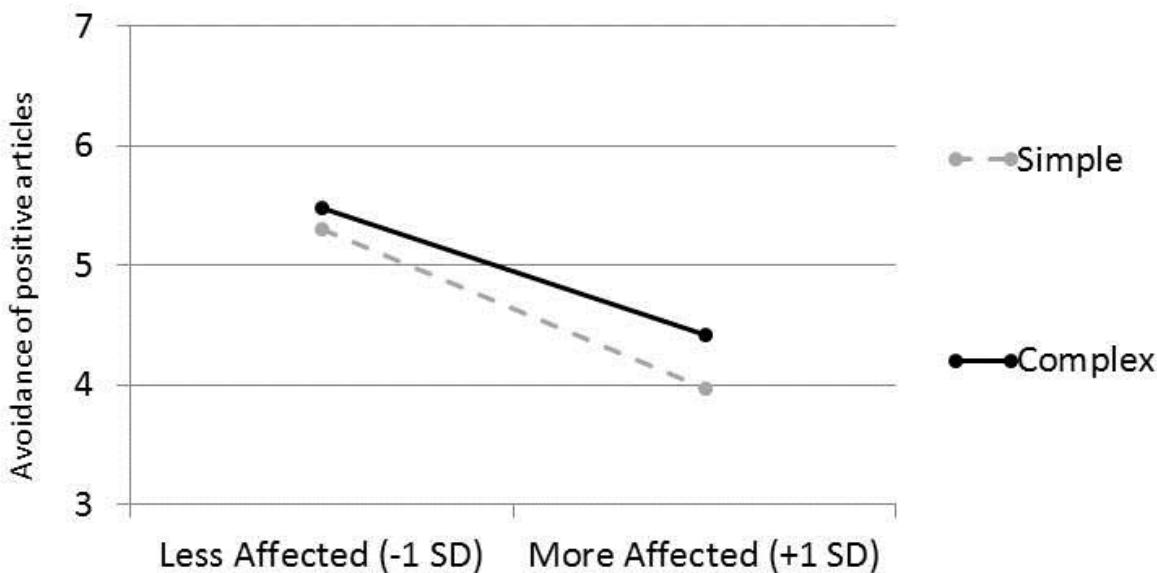
*Figure 5:* Avoidance of ambiguous articles, as a function of domain complexity and self-relevance of the economic recession.



*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 ambiguous articles about the economy. But what about positive articles? I again found a main effect of self-relevance,  $\beta = -.42$ ,  $t(193) = -4.42$ ,  $p < .001$ ,  $d = .64$ , 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,  $\beta = .10$ ,  $t(193) = .52$ ,  $p = .61$ ,  $d = .07$ ; increased self-relevance was related to less avoidance within both the simple condition,  $\beta = -.47$ ,  $t(193) = -3.67$ ,  $p < .001$ ,  $d = .53$ , and the complex condition,  $\beta = -.37$ ,  $t(193) = -2.49$ ,  $p = .01$ ,  $d = .36$ . Furthermore, there was no effect of condition among those who felt more affected by the recession,  $\beta = .11$ ,  $t(193) = -1.16$ ,  $p = .24$ ,  $d = .17$ . In short,

although people affected by the recession avoided negative and ambiguous articles more when the economy was experienced as complex as opposed to simple, no such effect emerged for positive articles.

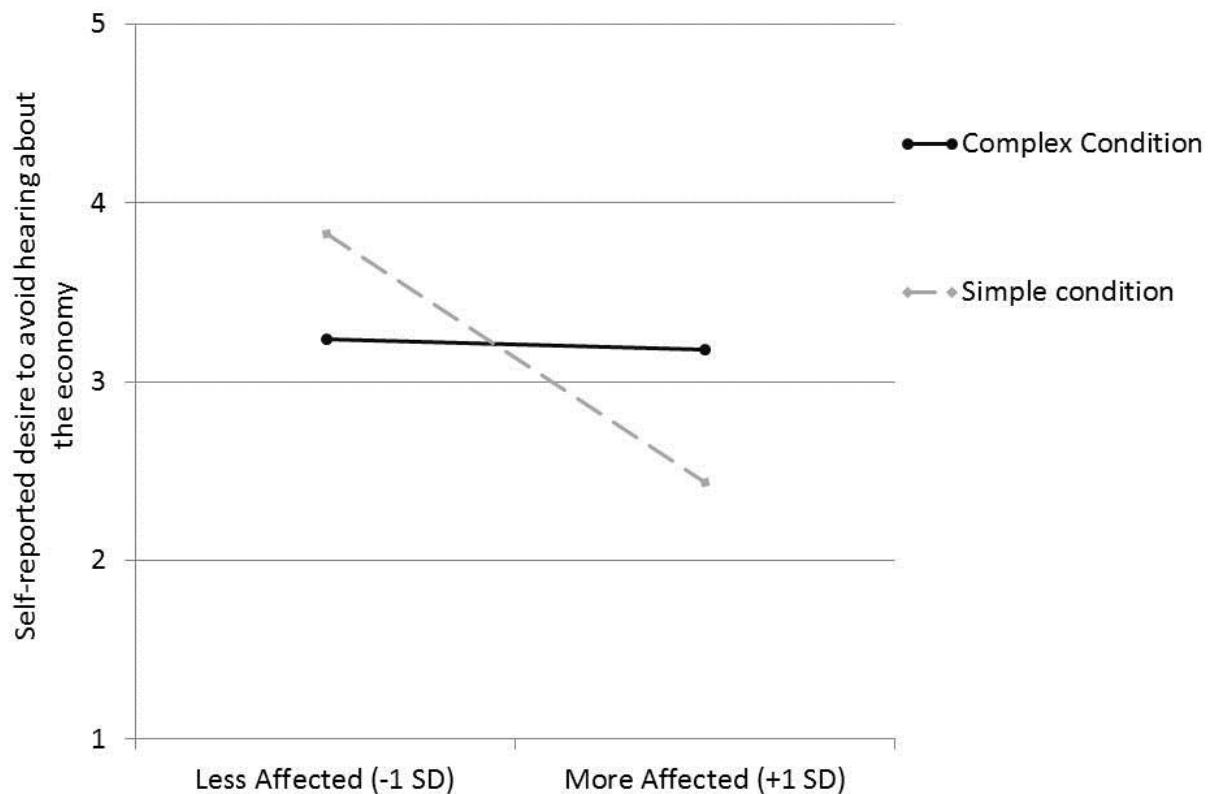
*Figure 6:* Avoidance of positive articles, as a function of domain complexity and self-relevance of the economic recession.



*General desire to avoid hearing about the economy.* Turning to the second measure of economic news avoidance, condition, self-relevance ratings, and their interaction, were submitted to regression predicting participants' scores on the nine-item self-report measure of a general desire to avoid information about the economy. These results paralleled those of the negative and ambiguous article rating measures. A significant main effect of self-relevance emerged,  $\beta = -.29$ ,  $t(193) = -3.93$ ,  $p < .001$ ,  $d = .57$ , such that those more affected by the economy reported less desire to avoid hearing

about the economy, which was qualified by the predicted interaction,  $\beta = .46$ ,  $t(193) = 3.20$ ,  $p < .01$ ,  $d = .46$ . Among those who reported being more affected by the recession, those in the complex condition wished to avoid information about the economy more than those in the simple condition,  $\beta = .74$ ,  $t(193) = 2.53$ ,  $p = .01$ ,  $d = .36$ . Conversely, among those less affected by the recession, the opposite effect was found; those in the complex condition reported less desire to avoid information about the economy, compared to those in the simple condition,  $\beta = -.59$ ,  $t(193) = 2.02$ ,  $p < .05$ ,  $d = .29$ . Furthermore, simple slopes analyses revealed that self-relevance predicted less desire to avoid in the simple condition,  $\beta = -.48$ ,  $t(193) = 2.02$ ,  $p < .05$ ,  $d = .29$ ; however, this intuitive reaction was eliminated in the complex condition,  $\beta = -.02$ ,  $t(193) = -.21$ ,  $p = .84$ ,  $d = .03$ .

*Figure 7: Self-reported desire to avoid hearing about the economy, as a function of domain complexity and self-relevance of the economic recession.*



### *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). My 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, they showed increased avoidance of information that, in pretesting, was shown to potentially challenge the government's ability to manage the economy. In contrast, unambiguously positive information, which had less potential to threaten confidence in 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 is further tested in Study 5.

## Chapter 6: Does Trust in the Government Predict Increased Avoidance? (I)

Is the avoidance process, as shown in Studies 3 and 4 driven by a motivation to preserve the psychologically comforting belief that the government can effectively manage social issues (that is, government trust), as I have suggested? Study 4 provides evidence suggesting that this is the case, in that when the recession was self-relevant, participants who saw the economy as a complex issue vs. simple issue avoided negative and ambiguously valenced information – the same information that was seen as more challenging to the idea that the government can manage the economy. Study 5 builds on these results by focusing specifically on the link between trust in government and avoidance. That is, to assess the role of trust in explaining the relation between feeling unknowledgeable and avoidance, I examine the effects of trust in the government on people's desire to seek out vs. avoid potentially challenging, negative information. To meet these ends, in Study 5 I manipulate the extent to which the government is seen as capable and trustworthy in managing the economy, and then measure how much time participants spend reading an educational article about the economy. I predict that when the government is seen as capable of managing the economy, participants will spend less time reading the informative article about the economy.

### *Method*

*Participants.* Thirty-five (11 men, 24 women) Canadian undergraduates participated in the current study for partial completion of course requirements. The study was run during the spring and summer of 2009 when Canada, like the United States and most of Western Europe, was in a recession.

*Procedure and materials.* Upon arrival at the laboratory, participants were told that they would be asked to complete three different computer tasks, which would be presented in a

random order: a reading comprehension task, a spatial skills task, and a mathematics task. This was all the information that participants were given about the tasks. They then read the following instructions:

“In the following study you will be able to complete a series of tasks. There are three tasks, and you have 12 minutes to do any number of them. You by no means have to do all of the tasks. Tasks will appear in a random order. If you do not like a given task, you may move on to another one; however, once you have left a task you cannot go back to it.”

In actuality, the reading comprehension task was always presented first and was the only task of interest to the current study. When participants began the reading comprehension task, they were told that they would be shown a series of articles, and to read the information carefully for however long they like, and to not skip sentences or paragraphs.

The first article titled “Canada’s Economic Collapse: Can it be Tamed?” served as a manipulation of government trust and capability. Participants read one of two versions of the article: one version framed the government as being capable of managing the economy, whereas the other framed them as being incapable. In the “capable” condition, the article stated that recent reports suggest that “our government, as a whole, stabilizes Canada in times of difficulty and instability,” and that, “the government plays a huge role in stabilizing the average Canadian’s income level, quality of life, cost of living, and investments in times of difficulty.” In the “incapable” condition, the article instead said that, “our government, as a whole, is unsuccessful at stabilizing Canada in times of difficulty and instability,” and that “the government plays a limited role in stabilizing the average Canadian’s income level, quality of life, cost of living, and investments.” (Appendix F).

Immediately afterwards, once participants finished reading this article, they then pressed the “continue” button on the screen to continue to the next article, which served as the dependent measure of avoidance. This article was titled, “What Can (if Anything) the Government Do to Fix the Economy? Are we in a Recession? How Bad Can the Economy Get?: Economics 101, and Understanding the Economic Crisis.” The article that ensued was created by using segments of a real article that discusses the recession, how recessions are caused, and what can be done to fix them. References to American economics and economic institutions were removed so that the article would be relevant to Canadian participants. Although the title hints at talking about the government’s role in fixing the economy, the article’s content was not redundant with that of the first article. Also, content relevant to the government’s ability did not appear until the latter portions of the article. The majority of the article deals with comparing the 2008 recession with those of the past, and the causes of the 2008 recession (Appendix G).

The article was lengthy, and to read it in its entirety would likely take up most of the participants’ 12 minutes allotted to them for all the tasks. Therefore, participants were faced with the choice of continuing to read the article, or to move on to the next task. As the primary dependent variable, the amount of time (total seconds) they spent reading the article was measured. To the extent that government trust motivates avoidance, participants led to believe that the government is capable and trustworthy in managing the economy should spend less time reading the article than those led to believe the government is incapable.

### *Result and Discussion*

An independent samples t-test revealed that, as predicted, those in the capable condition spent fewer seconds examining the article ( $M = 266.77$ ,  $SD = 132.00$ ) than did those in the incapable condition ( $M = 349.81$ ,  $SD = 108.71$ ),  $t(33) = 2.04$ ,  $p = .05$ ,  $d = .71$ . In other words,

participants who were led to trust in the government's ability to manage the economy spent less time subsequently reading an educational article about the economy. This finding supports the suggestion that psychological processes that promote defensive trust in the government (such as system justification in contexts of unfamiliarity) may also promote an active avoidance of knowledge in important domains, including those that require individual participation and engagement.

One could argue, however, that participants in Study 5 were not actively avoiding the information so as to protect their faith in the government, but instead simply lost interest in the issue, having learned that it is not a pressing problem and therefore unimportant. The results of Studies 3 and 4 – in which participants responded to dependent variables that explicitly gauged motivation to actively avoid information and in which moderation by issue urgency (Study 3) and self-relevance (Study 4) was observed – support my theoretical model over this alternative explanation, but it cannot be ruled out from Study 5 alone. Study 6, therefore, seeks to provide additional support for the hypothesis that avoiding potentially threatening information, among other things, can be a motivated process in the service of maintaining the psychologically comforting idea that the government has everything under control.

## Chapter 7: Does Trust in the Government Predict Increased Avoidance? (II)

In Study 6, government trust was manipulated in a similar way as in Study 5. Then avoidance was measured using items similar to those in Studies 3 and 4. Critically, self-relevance is included as a possible moderator of the effect of trust on avoidance. Specifically, I predicted that during the 2010 British Petroleum (BP) oil crisis in the Gulf of Mexico, those living in Gulf states, for whom the issue of controlling the oil spill is more self-relevant, would show less avoidance of the issue when the government is not trustworthy in dealing with the issue, relative to those not living in Gulf states; however, when the government is framed as trustworthy and capable of managing the crisis, those in gulf states should then show relatively higher levels of avoidance. Again, it is suggested that this serves to maintain the comforting idea that the government has everything under control.

### *Method*

*Participants.* A public sample of 154 American participants (61 men, 93 women; age,  $M = 32$ ,  $SD = 11.01$ ) were recruited through an online service during the BP oil crisis in 2010, where a BP deep-sea oil drilling rig exploded, resulting in a three month unabated oil leak from a sea-floor oil well. Twenty-five participants lived in states bordering the Gulf of Mexico (Texas, Louisiana, Mississippi, Alabama, and Florida), while 129 participants lived in all other remaining states. Data was collected in the Spring of 2010, before the oil leak had been stopped.

*Procedure and materials.* Participants were first given a manipulation similar to that from Study 5. Participants in the “capable” condition read an ostensibly real news article stating that experts agree that the government can be trusted to deal with the BP oil crisis, in that they have the resources, interest, and capability to eventually manage it. In contrast, those in the “incapable” condition read a similar article, except that it stated that the government is incapable

of dealing with the issue, that they lack the necessary resources to effectively deal with the issue (Appendix H).

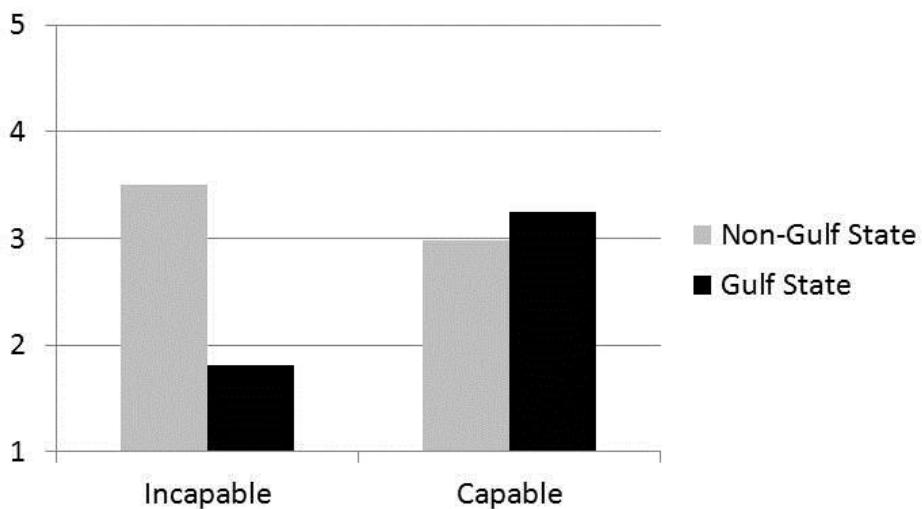
Then, participants completed items assessing their desire to avoid hearing about the oil spill. These items were similar to those of Studies 3 and 4, and assessed the desire and motivation to avoid hearing about the issue. These items were, “When it comes to the oil disaster in the Gulf, I would be more comfortable to just turn a blind eye to it,” “When it comes to the BP oil disaster, I would rather NOT know how bad it is,” “I would prefer to know the whole story when it comes to the oil spill in the Gulf, regardless of how much the truth hurts,” (reverse coded) “While there may be problems with the current situation in the Gulf, I would rather NOT know just how serious those problems are,” “I don’t like thinking about how the oil spill affects the wildlife and those living in the area,” “When it comes to the oil spill, sometimes I think I can convince myself that there isn’t a problem if I just ignore the issue,” “The BP oil disaster is one of those situations where ‘ignorance is bliss’,” and “When it comes to the oil spill in the Gulf, I would prefer to think that everything will be okay, even if that isn’t entirely true.” Responses were made on a 9-point scale (1 = *Strongly Disagree*, 9 = *Strongly Agree*) and were averaged together for an internally reliable index of information avoidance,  $\alpha = .90$ .

### *Results*

A 2 (government capable vs. incapable) X 2 (location: Gulf state vs. not) ANOVA was conducted, predicting participants’ desire to avoid hearing about the BP oil crisis. The predicted two-way interaction was significant,  $F(1,150) = 5.68, p = .02, \eta^2 = .04$ . As predicted, among those living in Gulf states, framing the government as being capable of managing the oil leak lead to higher levels of avoidance ( $M = 3.25, SD = 2.10$ ) relative to those who read that the government was incapable, ( $M = 1.81, SD = .65$ ),  $t(23) = 1.99, p = .058, d = .83$ . Furthermore,

although framing the government as incapable lead those in Gulf states to show significantly less avoidance ( $M = 1.81$ ,  $SD = .65$ ) relative to those in non-Gulf states ( $M = 3.50$ ,  $SD = 1.88$ ),  $t(69) = 2.66$ ,  $p = .01$ ,  $d = .64$ , this intuitive reaction to a self-relevant issue was eliminated when the government was framed as being capable, with both those in Gulf states ( $M = 3.25$ ,  $SD = 2.10$ ), and those in non-Gulf states ( $M = 3.50$ ,  $SD = 1.88$ ) showing similarly high levels of avoidance,  $t(81) = .28$ ,  $p = .60$ .

*Figure 8: Self-reported desire to avoid hearing about the BP oil crisis, as a function of government confidence and proximity to the crisis.*



### *Discussion*

The results of Study 6 are conceptually similar to those of Study 5, such that when the government was framed as being capable of effectively dealing with an issue (in this case, the BP oil crisis), participants showed higher levels of avoidance. Study 6 builds on Study 5 by providing additional evidence for this being a motivated process; those living in Gulf states and thus most affected by the BP oil crisis showed lower levels of avoidance when the government

was framed as incapable of dealing with it; however, this intuitive response of responding to a self-relevant issue when no one else can was undermined when the government was framed as being capable of managing this issue, such that those most affected by the issue disengaged from it, reporting higher levels of avoidance. This effect was not seen among those living in non-Gulf states, as they were less/not at all affected by the disaster, and thus did not need to engage in such defensive processes. In combination, Studies 5 and 6 provide additional support for the hypothesis that the causal link between feeling unknowledgeable about an issue and avoiding issue relevant information can, in part, be explained by the need to protect the psychologically comforting idea that the government is trustworthy and can manage the issue at hand.

## Chapter 8: Testing the Entire Motivated Avoidance Model

The previous six studies have empirically tested specific components of the motivated avoidance 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. Studies 5 and 6 showed that experimental manipulations of perceived government capability influenced the desire to avoid hearing about the issue at hand, such that perceiving the government as more capable of dealing with an issue such as the economy (Study 5) or an ecological disaster (Study 6) leads to higher avoidance. Study 6 found that this effect was unique to those most affected by the issue at hand (i.e., those living in the Gulf of Mexico during the BP oil disaster). However, no study thus far has tested whether or not the path from dependence to avoidance is statistically mediated by government trust, nor has any study tested the entire model at once. Study 7 addresses these remaining research questions in the context of the economy.

Study 7 also introduces 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. I 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 explaining the need to see something (i.e., the government) as in control, as well as the need to protect this belief. Therefore, feeling unknowledgeable 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 Study 7, I manipulate perceived complexity of the economy, and then observe the effects on, in turn, (i) participants' perceptions that they themselves can do little to help themselves during the recession, (ii) their perceptions of dependence on government, (iii) their trust in the government to manage the economy, and, finally, (iv) their desire to avoid negative information about the economy. Using SEM, I 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, which leads to avoidance of information about the economy.

#### *Method*

*Participants.* As in Study 4, I sought a sample that would be likely to experience the impact of the economy and the economic downturn the country was experiencing during the time of data collection (Spring 2010). A public sample of 58 Canadian participants (20 men, 38 women; age,  $M = 42.88$   $SD = 12.24$ ; 35 employed, 8 retired, 6 disabled, 5 homemaker, 2 unemployed, 2 not reported) volunteered to participate via an online recruitment service.

*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 information avoidance followed in that order. To measure perceived helplessness, I presented participants with a list of things they could do to help themselves 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. See Appendix I for all items). 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 for each participant was computed to create a 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*). Because these items were highly correlated ( $r = .82$ ), they were averaged together to form an index of perceived dependence of government.

Participants then read a similar preamble as in Studies 1 and 2 (this time about the agencies responsible for the economy), and then responded to 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” (1 = *Strongly Disagree*, 9 = *Strongly Agree*). Because these four items were reliably interrelated they were averaged together for an index of trust in the government’s handling of the economy;  $\alpha = .89$ .

Finally, participants completed four items assessing their desire to avoid learning more about the economy: “When it comes to the economy, I would be more comfortable to just turn a

blind eye to it,” “I would prefer to know the whole story when it comes to economy, regardless of how much the truth hurts” (reverse), “If the economy was worse than I thought, I would certainly want to know about it” (reverse), and “There are issues with the economy that I would just prefer to *not* know about.” Responses were made on a seven-point scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*). Because these four items were reliably interrelated, they were averaged together for an index of avoidance of economic information;  $\alpha = .86$ .

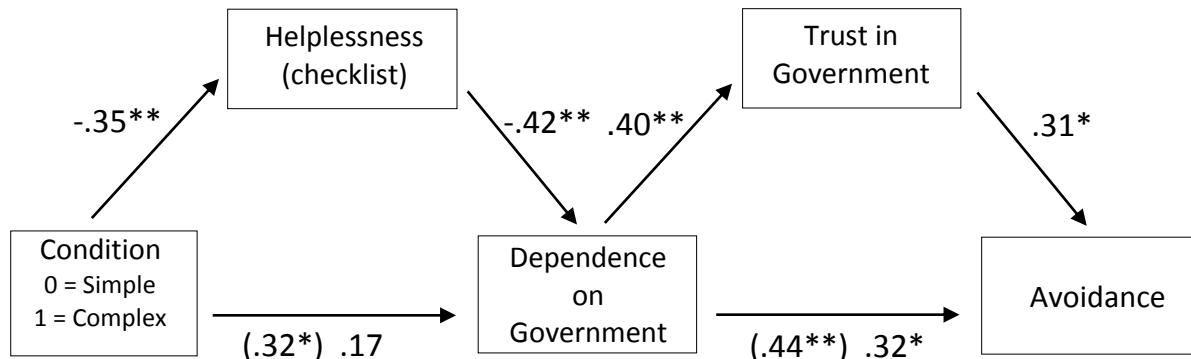
### *Results*

*Manipulation check.* An independent samples t-test 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 ( $M = 4.97$ ,  $SD = 1.98$ ),  $t(56) = 2.15$ ,  $p = .04$ ,  $d = .57$ .

*Effects of complexity manipulation.* A series of independent samples t-tests revealed that the experimental manipulation of complexity had a significant effect on all dependent measures. As predicted, those in the complex condition: checked off fewer items on the checklist ( $M = 5.07$ ,  $SD = 2.03$ ) than those in the simple condition ( $M = 7.23$ ,  $SD = 3.55$ ),  $t(56) = 2.77$ ,  $p = .01$ ,  $d = .74$ , 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 ( $M = 3.64$ ,  $SD = 1.71$ ),  $t(56) = 2.48$ ,  $p = .02$ ,  $d = .66$ ; trusted the government more ( $M = 4.94$ ,  $SD = 1.72$ ) than those in the simple condition ( $M = 3.66$ ,  $SD = 1.77$ ),  $t(56) = 2.75$ ,  $p = .01$ ,  $d = .75$ ; and, finally, reported a greater desire to avoid hearing about economic issues ( $M = 3.12$ ,  $SD = .90$ ) than those in the simple condition ( $M = 2.40$ ,  $SD = 1.10$ ),  $t(56) = 2.71$ ,  $p = .01$ ,  $d = .72$ .

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, I employed AMOS 18.0 structural equation modeling software. The results of this model supported my predictions (standardized coefficients and significance values are presented in Figure 9). Using the bootstrapping procedure, the indirect path from condition, to helplessness, to dependence was found to be significant, CI = .06 to .28,  $p < .01$ . Similarly, the indirect path from dependence, to trust, to avoidance, was also significant, CI = .02 to .30,  $p = .02$ . The overall model fit the data well,  $\chi^2(4, N = 58) = 7.05, p = .13$ , CFI = 0.94, RMSEA = .12. Importantly, alternative models did not fit the data as well (i.e., condition (simple vs. complex) to dependence, to avoidance, to trust,  $\chi^2(4, N = 58) = 8.64, p = .003$ , CFI = 0.77, RMSEA = .37; condition to avoidance, to dependence to trust,  $\chi^2(4, N = 58) = 16.02, p = .007$ , CFI = 0.78, RMSEA = .20.

*Figure 9:* Model testing the associations between domain understanding, helplessness, perceived dependence on the government, trust in the government, and avoidance.



\* $p < .05$ , \*\* $p < .001$  (two-tailed). Note: lower scores on checklist reflect higher levels of helplessness.

## Discussion

Studies 1-6 offered support for individual components of my model. Study 7 adds to this by testing the link between dependence, trust, and avoidance, as well as the entire model in one experimental design. When participants read a complex description of how the economy operates, they exhibited increased perceptions 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.

## Chapter 9: General Discussion

Across seven studies utilizing diverse methodologies I 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 individual action as opposed to inaction.

Evidence for this model was found in the context of both novel and familiar issues, including energy technology (Studies 1-2), the management and depletion of oil reserves (Study 3), environmental disasters (Study 6) and the 2008 economic recession (Studies 4, 5, and 7).

In the domain of energy, Studies 1 and 2 demonstrated that when participants felt unknowledgeable about an issue, they increasingly trusted in the government to manage various energy 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 about social issues, they felt more dependent on the government, which led to increased trust in the government (also see Kay et al., 2009; van der Toorn et al., 2009).

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 the issue. In Study 3 it was 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 4-7, is at least partly due to participants' desire to protect their faith in the capable hands of the government. Experimentally increasing domain complexity eliminated the tendency for those who felt more affected by the recession to seek out more information about the issue. Not only did these individuals avoid negative information, but also ambiguous information; that is, the types of information that held the potential (according to pre-testing) to challenge the idea that the government can competently manage the economy. Positive information was not avoided in the same way (Study 4). Studies 5 and 6 provided experimental evidence for the link between trust in the government and avoidance of potentially threatening information. Finally, Study 7 tested the full model and documented the mediating role of government trust in the relation between unfamiliarity and avoidance.

#### *Evidence for Motivated Process*

Two key links in the model are proposed to be system-defensive motivational processes. These are (i) the link from feelings of government dependence to government trust and (ii) the link from feelings of government trust to avoidance of new information. 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 have investigated motivated avoidance as I have focused on here. A number of features of the current data, however, provide support for the claim that these are motivated processes.

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 urgent 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 feel unknowledgeable about the economy avoided negative and ambiguous information, and reported wanting to avoid hearing about the economy, as compared to 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. Likewise, among those most affected by the BP oil disaster, framing the government as competent and trustworthy led to higher levels of avoidance relative to when the government was framed as incapable, and no such effect emerged for those not living near the disaster. Finally, in Study 7, the link between government trust and avoidance only emerged in the condition where the issue was framed as complex. Also important is that the measures of avoidance used in Studies 3, 4, 6, and 7 were very face valid measures of motivation to avoid information about the relevant issues as opposed to a lack of interest in the issue at hand.

#### *Theoretical Contributions and Considerations*

The current research makes several theoretical advances. First, it provides the first evidence for feeling unknowledgeable about an issue or domain as an antecedent of the system justification motive. In doing so, the motivated avoidance model provides a framework for explaining how feeling unknowledgeable, system dependence (Kay et al., 2009; van der Toorn et al., 2010), and decreased feelings of personal control (Kay et al., 2008; 2009) relate to one another as antecedents to the system justification motive. Specifically, the model shows how feeling unknowledgeable serves as a real world, contextual example of how dependence and decreased personal control can emerge and activate the system justification motive. Secondly, the current research is the first to show that actively avoiding threatening information can be a consequence of the system justification motive. Previous research has shown that people will interpret and justify information about the system and status quo in a favourable way (Kay et al.,

2009; Kay, Jimenez, & Jost, 2002; Kay et al., 2005), derogate those that threaten the system (Laurin et al., 2010), and dismiss information that threatens the system (Day, Kay, Holmes, & Napier, 2011). The current research adds the motivated avoidance of threatening information to the list of troubling responses to system threat and the motivation to see the system as just and fair.

There are aspects of this model that, on the surface, appear to run counter to other observations in the political science literature, as well as parallel observations in the relationships literature. First, it has been observed that trust and confidence in the government have generally gone down in the latter decades of the 20<sup>th</sup> century (Pharr, Putnam, & Dalton, 2000). This decrease has corresponded with many other social changes. One particularly salient example is the considerable change in technology and the availability of information that has occurred in the past 20 years. On the one hand, these changes may make certain domains beyond laymen's comprehension and capability. Just as automobiles come with computers that are more sophisticated than those used to put a man on the moon, thus taking much of the responsibility for their repair out of the hands of amateur mechanics, technological and scientific sophistication serves as a constraint on understanding many important domains in life, from energy to the environment. Similarly, people are bombarded with far more information from more sources than in the past. No longer are people limited to one television channel or one newspaper to get their information about the world. Instead, people today live in an era of instant, up to the minute information, all of which comes from different sources, varying in credibility, sophistication, and bias. It therefore seems reasonable to suggest that the issues that we deal with and see every day have substantially increased in complexity over time, and our ability to devote time to fully understanding each one has decreased. This would then suggest, according to the current

research, that as technology advances and the complexity of social problems increases, we should see an *increase* in government trust, and not the decrease that has been observed. Why then has trust in the system decreased over time?

While technological advancements and the availability of information may complicate issues and leave people with more information to digest, it remains that information is simply more available than ever before, particularly for those who have grown up with such technology, and thus have the skills to effectively discriminate the reliability of information. It may also be the case that the mere availability of this information, and the ability of technology to give it to us in an instant, leaves people with a feeling of understanding and personal control regarding various issues, even if they actually do not have increased knowledge. In other words, the knowledge that one *could* easily find information on an issue may be enough to leave people with the impression that they actually do know something about it, or could at a moment's notice if necessary. Therefore, technology and the availability of copious amounts of information likely have mixed effects on people's perceptions of their understanding of public issues, and thus their perceptions of government trust. Time will tell whether or not the current decline in government trust is permanent, and whether or not the proliferation of technology uniquely contributes to the decline in government trust over time. In future research it would be beneficial to gain an understanding of the effects of the growing technical complexity of many domains, as well as the catch-22 of having information readily available, but also having to deal with potentially crippling amounts of it.

Research in the interpersonal relationships literature suggests that people will trust those on which they are dependent (de Jong, Van der Vegt, & Molleman, 2007) and, in certain situations, are motivated to see them more favorably and to discount negative information

(Stevens & Fiske, 2000). However, evidence from the risk regulation model (Murray, Derrick, Leder, & Holmes, 2008; Murray, Holmes, & Collins, 2006; Murray et al., 2009) suggests that trust instead precedes dependence; that is, when an individual is secure in a relationship with another person and trusts them, the individual will allow themselves to be dependent on that person and bolster that person's value as a partner. Those who are low in self-esteem lack this level of security, and thus tend to pull away from situations of dependence, which in turn has a negative impact on trust (Murray et al., 2006).

There are a number of differences, however, between personal relationships and one's relationship with the government and the system more broadly. More critically, one does not voluntarily opt into a relationship with the system in which one lives. People are born into a given society defined by a set of rules, norms, and a government that makes decisions on their behalf. This means that one is, by virtue of being born, born into a contract with a system in which one is in many ways dependent. In such circumstances, it is easier to change one's attitude about this state of affairs rather than change one's behaviour, such as by leaving that system for another (Laurin, Shepherd, & Kay, 2010), or "going off the grid" and opting out of the various benefits and securities that are provided for us by being part of a society.

Despite the fact that dependence is only measured and not manipulated in the current research, the above points regarding the differences between interpersonal trust and dependence and government trust and dependence provide justification for the causal chain in the motivated avoidance model. Although research by Murray et al. suggests that trust may come before dependence, in the case of the government, this is not likely to be the case because one does not choose to opt into a dependent relationship with the government based on trust. Furthermore, research on the system justification motive has found a causal influence of dependence on

support for the status quo (Kay et al., 2009; van der Toorn et al., 2010). It may be the case, however, that individuals who are chronically low on government trust or have little confidence in the system will react to perceived government dependence with decreased trust. Such an observation would not be inconsistent with the motivated avoidance model, and would reconcile the effects found in the current research and that of Murray et al. (2009). Thus, it is possible that dependence leads to trust, but also that trust can shape how people perceive and react to dependence. Future research may help to clarify the moderating factors and antecedents that determine exactly how people will respond to situations of dependence on the government, with chronic trust in the government serving as one possibility.

There are many phenomena and domains that would provide fruitful grounds for testing such moderating factors. Anti-government movements, recently illustrated in the “Tea Party” rallies in the United States, exist. Clearly, some people do seek information and become engaged when problems are perceived to be severe and/or self-relevant, and some people show reactance to feelings of government dependence. What motivates these individuals to seemingly behave in ways that go against the predictions and results of the current research? One possibility which follows from the above discussion of the risk-regulation model is that these individuals, for any number of reasons, distrust the system and/or the government, and therefore respond to dependence by withdrawing from that relationship, and increasing their scrutiny and decreasing their trust of those to which they are dependent on.

Another observation is that the Tea Party movement and the Occupy Wall Street movement, while being on opposite ends of the political spectrum, share perceptions of group or personal power. Both believe that through individual and collective action, change can occur. Such perceptions may effectively sever the link between feeling unknowledgeable or

overwhelmed and dependence (recall that the link between domain complexity and dependence was mediated by decreased personal power; Study 7), and/or the link between dependence and trust. However, it has been observed that perceptions of personal control have decreased over time, with younger cohorts feeling less in control of their lives than in the past (Twenge, Zhang, & Im, 2004), as well as increased feelings of alienation, cynicism, and distrust (Pharr et al., 2000). Somewhat paradoxical to this is the observation that narcissism and self-worth have actually increased over time (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). Therefore, recent political movements such as the Tea Party and Occupy movements may either represent a deviation from the downward trend in perceptions of personal control, or a consequence of perceived alienation and distrust, coupled with an increase in self-worth, and perhaps entitlement. Further research is necessary to understand exactly when feelings of alienation lead to less political involvement, or more political involvement, as may be the case in the above examples.

These two protest movements also both see the availability of alternatives, whether that alternative is a more regulated financial system, in the case of the Occupy movement, or a deregulated one that places trust in the free market and individual freedom, in the case of the Tea Party movement. Recent research has shown that when personal power is low, the availability of options and choice can serve as an alternative means for restoring personal control (Inesi, Botti, Dubois, Rucker, & Galinsky, 2011). To the extent that these groups perceive the availability of alternatives in terms of how the system operates, they may be less inclined to trust the existing status quo. As may be the case with personal or group power, perceiving alternatives may sever the link between issue complexity, dependence, and trust. What may be especially critical here is that not only do these groups perceive alternatives to the status quo, but also that they see these

alternatives as relatively simple. For example, Tea Party members and libertarians more generally tend to see government regulation and involvement as complicating matters more than necessary, and instead place their trust in an unregulated free market that can operate more rationally and efficiently. Therefore, although different individuals and groups may deviate from the model presented in the current research (based on any number of individual or situational differences) in respect to a given target (e.g., the government), they may still engage in behaviour that predictably follows from the current model in respect to another target (e.g., the free market). For example, it might be the case that libertarians will freely approach information that challenges the idea of government regulation, but will avoid information that threatens their trust in the free market.

Other variables may also be important in understanding the various links in the motivated avoidance model. Recent research by Feinberg and Willer (2011), for example, has noted that individual differences in a belief in a just world predict 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 inter-relation between feelings of system dependence, government trust, and motivated avoidance, as I have done here, it may suggest that individual differences related to needs for order, justice, and certainty may moderate the types of effects observed in the current research. 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. For example, people who have a high need to see the world as a just place may be more inclined to avoid information when they have placed their faith in the government to manage a given issue. Likewise, individuals who are low in a need for cognition or high in need for closure may be quick to turn over responsibility for an issue to the government when they

feel unknowledgeable about it and may be especially likely to avoid threatening information about an issue. Conversely, those high in need for cognition or low in need for closure may be more comfortable trying to figure out the issue, perhaps leading to increased feelings of efficacy, decreased dependence on and trust in the government, and decreased avoidance.

Exploring the various potential boundary conditions for the effects documented in my research may help to shed some light on which domains and issues are more susceptible and less susceptible to these types of effects. Although I have shown my predicted effects across a variety of domains, some minor differences emerged between domains. For example, in Study 3, the predicted effect of feeling unknowledgeable leading to increased avoidance did not emerge when the issue was framed as being in the distant future, and was driven by those who were led to see the issue as being urgent. In Study 4, the effect of feeling unknowledgeable on avoidance did not emerge in this way. Instead, feeling *knowledgeable* about the issue (i.e., when it was framed in an easy to understand way) led to *decreased* avoidance, and this intuitive effect was eliminated when people felt unknowledgeable about the issue (i.e., when it was framed as complex). 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 self-relevant. Slight differences such as these may speak to an inherent difference between domains and 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), varying degrees of self-relevance, and other domain characteristics may play a more complex role in my model than can be explored in the current research. Therefore, extensions of my model to other domains 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 the model take place.

Testing the motivated avoidance model in the domain of consumer behaviour and branding may be an especially fruitful direction. Just as we trust in governments and institutions to manage public issues, we also trust in products and companies to solve everyday functional problems and optimize our lives. Therefore, domain complexity, dependence, and trust should relate to products and companies in a similar way as they do with governments. For example, geographical differences in income and the availability of goods likely create varying levels of perceived dependence on certain companies and brands. Thus, this model may be applied to such situations to explain the public's perceptions of a company or brand. For example, Walmart is seen by some as a major employer and a provider of goods at affordable prices, whereas others see the company as exploitative and a symbol of corporate greed. Perceptions of personal control and dependence might help explain these differences in how such companies are perceived. For example, dependence on a company – as determined by income level, the number of local employment opportunities, or the number of companies offering the same service – may predict trust in the company and perceptions of its benevolence. Such dependence may also lead people to avoid potentially threatening information about the company, such as its questionable work conditions or environmental impact. The motivated avoidance model may also be applied to better understand product loyalty and trust, and the features of a brand or corporate image that facilitate trust.

Finally, although I propose a feedback loop in my model, whereby a lack of knowledge can lead to avoidance and avoidance ultimately reinforces a lack of knowledge, I do not provide any longitudinal data to demonstrate this circular process. Rather, my 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 that investigates the long term, cyclical effects of avoiding information on the perpetuation of ignorance would nicely complement these laboratory studies, and would allow for stronger claims to be made regarding the downstream social and political consequences of the processes discussed in the current research.

#### *Implications for education, and facilitating and optimizing engagement*

The current data provide evidence for what may be a significant barrier to getting people involved and engaged in social issues. Not 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 socio-political systems. As such, the current 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 behaviours, such as information gathering, that are necessary for efficacious social action (Attari, DeKay, Davidson, & Bruine de Bruin, 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 US and the UK, attempts have been made to ban the film from schools, as evidenced by the quote that introduced this thesis. 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 about which people feel unfamiliar and unknowledgeable.

It is tempting to make a parallel between trust in the government, and trust in any other profession, such as the medical or engineering professions, where there is less if any stigma attached to placing blind faith in them as an authority. Society has prescribed that our health is placed in the hands of doctors, our safety and structural security in the hands of engineers, and relevant to the current research, our social and economic security in the hands of the government. Indeed, in a survey on people's knowledge of economics, 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).

There are some important differences, however, between deferring to doctors and engineers, on the one hand, and deferring to political leaders, on the other; namely, doctors and engineers are clear authorities and experts in their field. In contrast, government officials are not necessarily experts in the field of their specific political appointments. For instance, in Canada, a politician with a law or business degree can be appointed as the Minister of Environment, Indian Affairs, Industry, Heritage, or any number of positions. In the United States, the same principles apply. The current Commander-in-Chief (President Barack Obama), for example, has no military experience or expertise. Likewise, political appointees – those who head the various government agencies – tend to oversee experts, but are not necessarily experts themselves. Michael D. Brown, George W. Bush's appointed head of the Federal Emergency Management Agency (FEMA) who was widely criticized for his incompetent management of the Hurricane Katrina disaster, is a glaring example of the disconnect that can exist between an individual's credentials/training and the mission of the government agency or department he or she oversees.

Indeed, Brown's only relevant experience was as an assistant to the city manager of Edmund, Oklahoma, from 1975-1978 – a position that, according to Time Magazine (Fonda, 2005), was more akin to that of an intern or assistant.

When is it normative or rational to place one's faith in the government? It is not the purpose of this research to suggest that people should never trust the government or that it is irrational to do so. Indeed, there are instances when perhaps people should place *more* faith in their institutions, as the issue of too much public involvement in issues can be just as much of a problem as not enough involvement. Direct democracy has been problematic for states such as California (Fishkin, 2011, The Economist, 2011), with people voting for initiatives and increased spending in various areas, but against taxes that would be necessary to pay for them. Having citizens this involved in the decision making process may be problematic to the extent that citizens are not equipped to make such decisions, and do not fully appreciate the consequences of those decisions. Research highlighting the knowledge gap between economists and laypeople, and their systematic disagreement on economic issues, strongly suggests that people are not well-informed to make such decisions (Caplan, 2002). Likewise, there are movements across the United States and Canada to ban fluoride from public water, despite opposition from public health officials and dentists, and the U.S. Center for Disease Control and Protection calling fluoridation one of the greatest medical achievements of the 20<sup>th</sup> century. Thousands of parents opt out of vaccinating their children against deadly diseases based on anecdotal evidence and celebrity endorsement, despite the fact that The Lancet retracted the only research claiming a causal link between vaccines and autism (Godlee, Smith, & Marcovitch, 2011). These are just a few instances in which public involvement and engagement can be problematic when not coupled with accurate information.

What may be central to this problem is that perceptions of complexity, simplicity, and one's understanding of an issue do not necessarily translate into *actual* knowledge about the domain or issue at hand, and therefore people may freely challenge the status quo, despite not fully understanding the issue at hand. Differences between people's judgments of their understanding, and their actual level of understanding, may play different roles in the processes that have been outlined in the current research. 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). The current research highlights the importance of felt understanding, and the experience of feeling unknowledgeable vs. 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 current 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 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, 2011), 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 be especially important depending on the lay theories (Dweck & Leggett, 1988) that people hold regarding social change. That is, people may perceive themselves as able to offer only so much in terms of addressing national or global questions. People may assume, for example, that individual behaviours 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 individuals can accomplish. Indeed, Karl Weick's (1984) theory of small wins supports this notion that people are crippled by the scope of many major problems. Therefore, when confronted with these types of problems – or problems that are framed in this way – people may withdraw from the issue. To overcome this issue, Weick's proposes, as I do here, that framing a problem as manageable and solvable through small individual level behaviours. Uncovering the nature of people's lay theories about the role of individuals in affecting social change, along with other factors, may help us further understand the antecedents to the types of effects observed in the current research.

### *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, though diverse, paints a picture of a social animal that acts not like a dispassionate observer and judge of one's 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 (Sullivan et al., 2010; Jost et al., 2004; Kay et al., 2009). In the present article, I synthesize and build on 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.

## Appendix A: Energy descriptions (Study 1).

Simple description:

*Plasma Toroid Fusion:* The basis for this new power supply is a newly discovered stable grouping of plasma (plasma is simply a super-heated gas that is electrically charged). First, two groups of plasma are made separately in a large tube where the process is contained. A magnetic field will accelerate the two plasma groups into one another. A collision then occurs between the two plasmas, and their material fuses together. When this process occurs, a great deal of energy is released, which can be harnessed for energy.

*Electrodynamic Fusion:* A fusion device. A magnetic field contains the entire fusion process, which simply takes the element boron and fuses a proton to it, which produces a carbon-12 atom. This carbon-12 atom is unstable, and quickly decays into other elements (helium and beryllium). This decay releases energy, which can be harnessed to create electricity.

Complex description:

*Plasma Toroid Fusion:* This new power supply is a newly discovered stable plasma toroid, the electron spiral toroid (EST). Plasma toroids are contained using background gas pressure for confinement instead of magnets. One EST will be made in a hydrogen background to trap protons (hydrogen ions) inside the EST, while another EST will be made in a boron-11 arc to trap boron-11 ions inside the EST. Magnetic field pressure accelerates the two plasma spirals into one another, there is a collision between the internal accumulations of ions. Energetic helium ions will enable electricity to be produced.

*Electrodynamic Fusion:* A fusion device that creates a carbon-12 atom from boron-11. This carbon-12 atom decays to beryllium-8 and helium-4. Quasi-spherical magnetic fields trap injected energetic particles to form a spherical negative potential well, thus creating free alpha particles. The system acts like a spherical colliding beam device. The energy that is created can be used for electricity.

## Appendix B: Energy descriptions (Study 2).

Simple description:

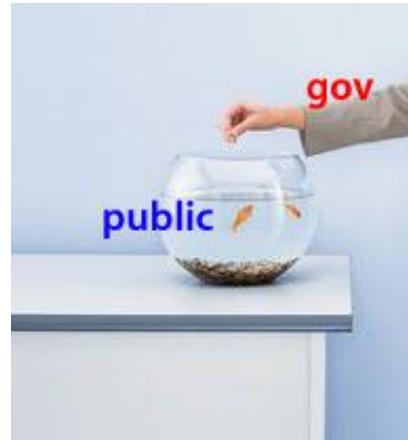
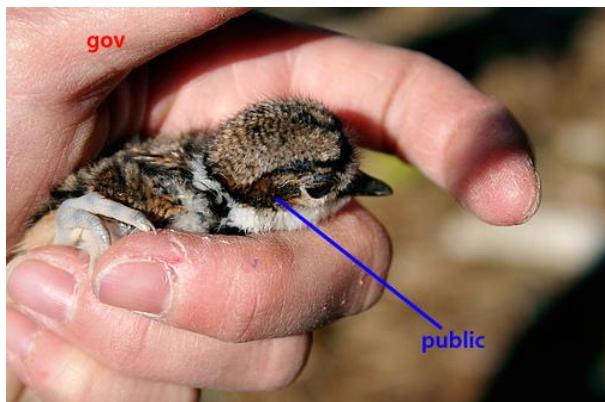
*Cellulosic Biofuel*: a fuel made from almost any organic input material, including feedstock, waste, and plant material. This material is simply feed into a large tank, where it is exposed to micro-organisms/bacteria. These micro-organisms work to breakdown and convert the organic material into simple sugars and then into liquid ethanol, which can be used as a fuel. This process is comparable to the fermentation process that is used to create alcohol for beverages. The high grade ethanol fuel that results from this process can be used to power machines, vehicles, or produce electricity for homes.

Complex description:

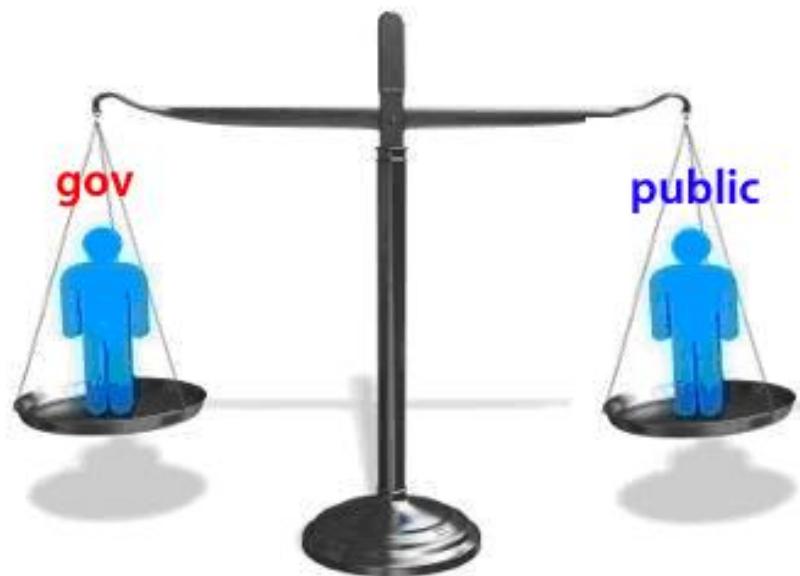
Cellulosic Biofuel: Produced from lignocellulose, a structural material composed mainly of cellulose, hemicellulose and lignin. The cellulolysis process consists of hydrolysis on pretreated lignocellulosic materials. After the hydrolysis process, C5 cellulose material can be converted by exposing the C5 cellulose to microbial cultures that secrete anticyclobiose enzymes, which degrade the C5 cellulose cell walls of the organic material. The high grade fuel that results from this can be used to power machines, vehicles, or produce electricity for homes.

Appendix C: Images (Study 2).

Dependence-themed images



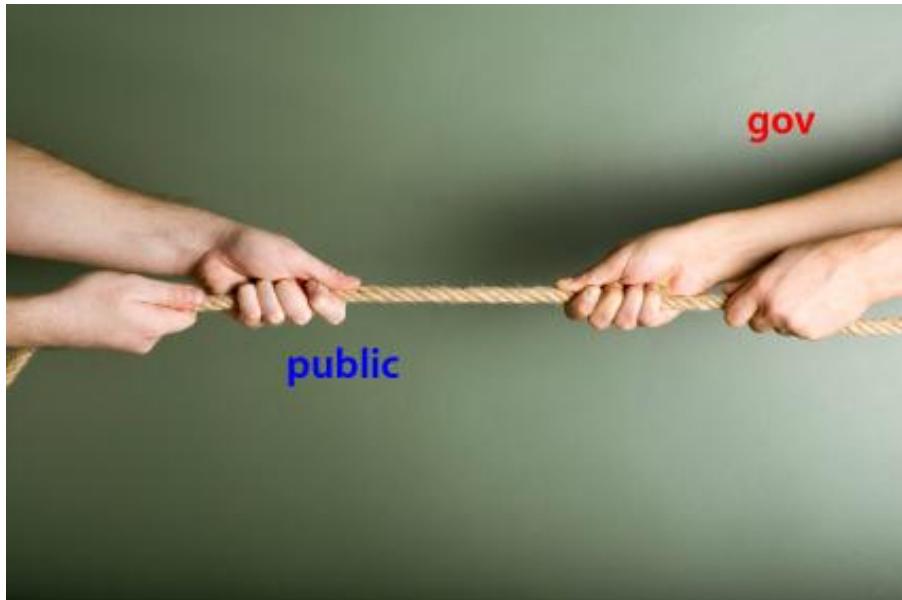
Equality-themed images:



Caring-themed images:



Conflict-themed images



## Appendix D: Descriptions of the economy (Study 4)

Simple description:

Our global economy, which includes hundreds of countries and billions of people, still operates in much the same way as it does at a much, much smaller level: the economy is all about money, and the ability to make and exchange money.

The more money per person, the more opportunities there are. More incoming money creates more economic choices. It means more people can make a decent living providing goods and services for others. This is true of any product, or service that can be offered. These goods and services are the engine of national income. Raw materials are used to make products that are sold for more money than it takes to make them. When more money comes in than goes out, there is economic success.

Complex description:

Today, the global economy is understood as an adaptive nonlinear network (ANN). Other ANN's include the central nervous system, ecologies, immune systems, and the developmental states of multi-celled organisms. ANN's provide for a substantial extension of traditional economics. ANN's allow for intensive nonlinear interactions among large numbers of changing agents. These intersections are characterized by limited rationality, adaptation, and increasing returns. The usual mathematical tools, exploiting linearity, fixed points and convergence, provide only an entering wedge when it comes to understanding ANN's (e.g.: the global economy). The action of any given unit depends upon the state and actions of a limited number of other units.

## Appendix E: 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

Ambiguous article titles:

Tracking the US economy  
Update on the US economy  
2011 Economy 101: Where the Economy is and Where it is Going

## Appendix F: Government framing manipulation (Study 5)

Government capable:

### **Canada's Economic Collapse: Can it be Tamed?**

Economically speaking, our parliamentary system can keep the boat from sinking, as stated in a series of reports published from August 2008 – October 2008.

Overall, the reports seem to come to a general consensus: that our government, as a whole, stabilizes Canada in times of difficulty and instability.

“Considering the various criticisms that individual parties face, it might be surprising to see that our system of government, overall, has the ability to keep things in check,” says Dale Collins, an economist and professor at the business school at Queen’s University. “The government plays a huge role in stabilizing the average Canadian’s income level, quality of life, cost of living, and investments in times of difficulty.”

The major theme of the reports is that government actions are effective in maintaining national stability. In other words, what the government does to influence the economy has a predictable influence on economic trends, and in the grand scheme of things, it is mostly for the better. It won’t happen immediately, but according to the reports, they do take effect.

Additional proof comes from the recent survey by the World Economic Forum, which has ranked Canada’s banking system as number one in the world, above countries like Sweden and Australia.

“The bottom line is that when it comes to your job security in a global market, inflation rates, and the cost of food, fuel, and living, the government largely has these things in check in comparison to other nations. It’s a stability that is unparalleled anywhere else.”

Dale Collins adds, “I get together every day with fellow economists and colleagues to discuss all the issues that are related to the economy, and truth be told, we sleep well at night knowing that our money, and our livelihoods are safe in the long run.”

Government is incapable:

### **Canada's Economic Collapse: Can it be Tamed?**

Economically speaking, our parliamentary system cannot really keep the boat from sinking, as stated in a series of reports published from August 2008 – October 2008.

Overall, the reports seem to come to a general consensus: that our government, as a whole, is unsuccessful at stabilizing Canada in times of difficulty and instability.

“Considering the unpredictability of the market, it might not be all that surprising to see that our system of government, overall, can’t do much to keep us afloat,” says Dale Collins, an economist and professor at the business school at Queen’s University. “The government plays a limited role in stabilizing the average Canadian’s income level, quality of life, cost of living, and investments.”

The major theme of the reports is that government actions are largely ineffective in maintaining national stability. In other words, what the government does to influence the economy has a no predictable influence on economic trends. In the grand scheme of things, their actions mostly have no impact.

Additional proof comes from the recent survey by the World Economic Forum, which has ranked Canada quite low on their list of developed countries (below countries like Sweden and Australia), in its ability to stimulate its own market with various government incentives and economic interventions.

“The bottom line is that when it comes to your job security in a global market, inflation rates, and the cost of food, fuel, and living, the government largely has little to do with how these things play out in comparison to other nations.”

Dale Collins adds, “I get together every day with fellow economists and colleagues to discuss all the issues that are related to the economy, and truth be told, the government’s role in the economy is rarely discussed as an important issue.”

## Appendix G: Informative article about the economy (Study 5)

### **What Can (if Anything) the Government Do to Fix the Economy? Are we in a Recession? How Bad Can the Economy Get?: Economics 101, and Understanding the Economic Crisis**

The events of the past year or so — from the collapse of the housing market and the auto industry — have rattled readers. Some are wondering: Just how bad is the economy? The recent upending of the housing and financial markets, firstly, is not a good sign. When lenders get spooked — and hoard their cash as they're now doing — the flow of money through the system slows down. Eventually, the economy does, too. The drop in home prices may be even more worrisome. Hundreds of billions of dollars' worth of home equity have evaporated, leaving some homeowners with a bigger mortgage than their house is worth. That's a big reason why consumers are gloomier than they've been in years. Something like 70 percent of our economy relies on consumer spending: if it stops, so does economic growth.

#### **How is the current crisis like those in the past?**

In 1929, a stock market crash caused the Dow Jones index -- one of the main indices used to evaluate the health of the American economy -- to lose nearly 12 percent of its value in one day. From Black Tuesday, Oct. 29, 1929, to Nov. 13, 1929, \$30 billion simply vanished from the United States economy due to falling stock prices. A similar pattern occurred in Canada's stock market as well, as well as in most other countries around the world.

Stock prices are based on the perceived value of the company or investment they represent. Much of the North American economy is based on the wealth bought and sold in the stock market. So when stock prices fall across the board, the economy falters, too.

Some historians think that a crash in the Florida real estate market was one of the factors that led to the crash of 1929 and the Great Depression that followed. In 1987, another stock market crash caused the Dow to drop 508 points in one day -- a loss of 22.6 percent of value. This crash is thought to have been generated by a weak dollar and a sudden fleeing of foreign investors. In 2000, the stock market crashed again when the dot-com bubble burst and highly inflated Internet and tech companies lost their value all at once. The total amount of value that tech companies lost that year came to an estimated \$800 billion. These crashes vary in their time span and severity, so how long will the current slump last?

In 2007 and 2008, the North American economy found itself once again teetering on the edge of another economic slide. The stock market in North America dropped very rapidly, similar to that of what preceded the Great Depression. While some people were optimistic when the market showed sharp rebounds in October 2008, with some days showing some of the highest single day gains in history, these single day gains are not as good as they seem; similar gains also followed the abrupt crash in the 1920's. In fact, many of the top 20 single day gains in the US and Canadian stock market occurred in 1929. Sharp gains and losses like these are characteristic of a recession.

#### **What caused the crash of September 2008 and 2009?**

The stock market is all about perception. When the market is perceived as healthy -- meaning the dollar is strong, the trade deficit is narrow, and the value of companies is high -- investment begets investment. When things look bleak, however, a chain reaction of misfortune tends to occur. The failure of one section of the economy can lead to another and so on. In 2007, things began to look bleak on the North American stock market. This was thanks in large part to the subprime mortgage fallout.

Subprime mortgages offered home loans to borrowers who posed a high credit risk. Often, these loans were given with attractive terms, like low initial interest rates and no down payment. In many cases, they were given for amounts people couldn't otherwise afford. Many of these subprime mortgages were issued as adjustable rate mortgages (ARMs). The interest rates on these loans reset, generally after two years, and at a higher rate. This increased monthly mortgage payments, often to amounts a homeowner couldn't afford. As a result, home foreclosures in the United States increased 75 percent from 2006 to 2007. These foreclosures may not have had the sweeping effect on the American economy that they did had they not carried so many implications for other areas of the financial world. Under previous banking regulations, banks simply issued mortgages and kept them, accepting payments over 15 or 30 years until the loan was paid off. But in the mid-1990s, restrictions covering loans were eased as part of an effort to extend home ownership to more Americans. The result was that mortgages could be bought and sold easily. Many subprime mortgages were purchased by stock brokers, lumped together into portfolios, and sold as securities.

Because financial institutions like investment banks and securities companies had purchased these mortgages, the risk from any fallout was spread across the financial spectrum. As interest rates on ARMs reset and increased, so, too, did monthly payments on home loans. Combined with additional factors, like auto industry workers who were part of a massive layoff and real estate speculators who had purchased homes with ARMs, some people simply walked away from their homes -- and the loans that went with them.

But the huge mortgage lenders who actually paid out the money to borrowers to purchase these homes suddenly found that the revenue from their monthly payments was drying up -- quickly. The largest U.S. home loan lender, Countrywide, reported \$1.5 billion in lost revenue during the second half of 2007. In 2006, before the subprime fallout, Countrywide made more than \$2.5 billion in profits. And since nonconsumer banks and institutions had become so heavily invested in the subprime market, almost all areas of finance became infected with worthless mortgages. Even worse, because investors around the world had purchased subprime mortgages as securities, the whole global economy suffered from the North American subprime fallout. Huge investment banks and major lenders began to go under. People braced for the worst: a stock market crash.

Who decides when the economy is in recession, and on what grounds? What actually constitutes a recession, anyway? When a nation's economy enters a recession, is life guaranteed to get harder for most of its citizens? And how often does a recession lead to a depression? A recession is a prolonged period of time when a nation's economy is slowing down, or contracting. Such a slow-down is characterized by a number of different trends, including: People buying less stuff,

decrease in factory production, growing unemployment, slump in personal income, and an unhealthy stock market.

When the nation is in the early part of a recession, nobody knows for sure if it is actually a recession or not. The economy might turn around the next day, which would mean the contraction was just a temporary decrease in activity along a mostly upward track. Economists don't know if the economy is in recession until they can gather data over a few months. There is no strict definition for recession. Different people consider different factors when making the assessment.

Some economists and journalists define a recession as two consecutive quarters (three-month financial periods in the year) in which the gross domestic product (GDP) decreases. The GDP is the value of all the reported goods and services produced by people and institutions operating in a country. An overall decrease in the value of goods and services indicates that demand has decreased in most markets. If this is the case, it's a good bet that companies have laid people off, so unemployment is up. Usually the stock market is also in bad shape when overall value is decreasing. In general, the GDP is a pretty good indicator of the overall state of the economy

### **What Goes Up....**

In a growing economy, consumer demand is increasing, overall, more than it is decreasing. Since there is increasing demand, producers want to increase supply. To do this, producers have to increase their consumption of other goods and services, including labour. This means there is greater demand for labour, so the labour pool, on the whole, can raise the price of their product (in other words, people can get paid more for their work). Working people with higher incomes have more money to spend on other products, which increases demand even more. If demand is high enough, the price of some things goes up. For example, if there are more travelers than there are seats on airplanes, airlines can raise their prices to decrease demand. In a growing economy, some consumers and producers will not do well, but most will, so the general feeling about the economy is good. In such an economy, a lot of consumers tend to make investments: They buy things, such as stock in a company, that they plan to sell at a later date. They know that if the economy keeps going the way it has been, their investments will increase in value. These consumers figure they will make money just by holding onto the product for a while. History has proven that an economy will not keep expanding indefinitely -- eventually it will contract. A prolonged period of contraction is known as a recession. If the recession lasts long enough, and is particularly severe, it is known as a depression. In the next section, we'll find out what happens in this sort of economy.

### **...Must Come Down**

Economists say the Canadian economy was expanding steadily from early 1991 to early 2001. So why did it stop? There are all kinds of things that can change the course of the economy, just as there are all kinds of things that can change the demand for a particular product. In some cases, a recession might be kicked off by over-production -- a situation in which the supply exceeds the nation's ability to consume. One factor that generally plays a role in a recession, whether or not it is the cause, is the confidence level of the millions of consumers and producers.

If consumers stop feeling confident about their job security or the value of their investments, they won't buy as much stuff. In the current recession, a lot of people who have been laid off are spending as little as possible, and many people who fear they may be laid off are also saving their money. Just as in an expanding economy, things tend to snowball in a contracting economy. There are thousands of different elements in this downward spiral; you can see the snowballing effect in any number of specific situations. In Canada, the economy follows a somewhat regular pattern of expansion and contraction. The economy will typically expand for several years and then enter a recession. The point where the recession begins is known as a peak.

### **Can it be Fixed?**

Since it is unhealthy for a nation to be in recession, governments will generally take action to get the economy expanding again. While the government's intentions to keep the market from crashing may be to protect its citizens' interests, not everyone agrees that action should be taken. Correcting the market can simply prolong the problem, some critics say. The best course of action could be taking no action at all. Because Canada has a free market economy, theoretically, the highs and lows in the market should be affected only by supply and demand. According to the free market theory, any institution with enough clout to sway the movement of the market -- like the government -- should stay out of the way and let nature take its course. While the government doesn't directly intervene in the stock market (say, by inflating the prices of stocks when they fall too low), it can attempt to peripherally affect financial markets.

So is there anything a government can do to control a stock market crash? The federal governments in Canada and the US have made several efforts and have thought about how to keep the markets from falling. But despite the government's efforts to prevent another stock market crash, in theory, a free market society isn't supposed to have any intervention in its economy. The Federal government has been doing what it can to get money flowing again, but it remains to be seen whether it has enough plumbing tools to clear the clog of bad mortgage paper choking the financial markets. Since the North American economy is basically a market economy, producers are usually free to charge what they want for goods and services, and consumers are free to buy goods and services or to not buy goods and services. The forces of supply, demand and competition determine how the economy will behave. This system provides consumers and producers with a high level of freedom. But this freedom has a price -- it puts the economy beyond the control of any single entity. In other words, the government cannot automatically set things right when things go wrong -- only the actions of millions of consumers and producers can turn the economy around.

The government does have some ways to influence the actions of consumers and producers. Raising taxes to pay off the debt isn't necessarily a great idea. In any case, with the economy faltering, now is not the time to raise taxes. Is there anything else that can be done? There are two kinds of policies the government can institute that might get the country out of recession: fiscal policies and monetary policies.

### **Fiscal Policy**

With fiscal policies, the government tries to influence the economy by changing how it (the government) spends and collects money. The most common fiscal policy actions in a recession are: Tax cuts for businesses or for individuals - this gives people and corporations more money, which may make them more likely to buy things, which increases demand – and increased spending to establish new government jobs – this increases demand for labour, which can lower the unemployment rate. Finally, there are automatic fiscal policies, which kick in right away. One of the most important automatic fiscal policies is unemployment insurance. This system provides an income for people who are out of work. Fiscal policies are dictated by congress and the president.

## **Monetary Policy**

Monetary policy involves manipulating the available money supply in the country. The nation's central banking institution is the bank for the government itself, as well as for national commercial banks. It is also in charge of issuing currency, and it is the main regulating body that oversees bank operations.

A nation's central banking institution has several tools at its disposal for manipulating the economy. There are four major things it can do to attempt and curb a recession:

Reduce the reserve ratio - The central banking institution mandates that all national banks keep a certain percentage of their assets in one of the Federal Reserve banks, where those assets will earn no interest. This money is known as reserves, and the set percentage is called the reserve ratio.

A bank's assets constantly fluctuate, so they need to quickly adjust their reserves on a regular basis. Banks are not allowed to have too little in reserves, and they don't want to have an excess in reserves (this money isn't earning any interest, after all). In order to keep things balanced, a bank that suddenly has too little reserves can get an immediate, short-term loan from a bank that has an excess. The lending banks charge interest on these loans, at a set rate called the federal funds rate. If banks don't have to keep as high a percentage of their assets in reserves, they have more accessible money. This might lead them to offer more attractive loans to their customers, which can help boost economic growth.

Lower the federal funds rate - This frees up more money for banks, allowing them to offer more attractive loans.

Lower the discount rate (the rate on federal loans) - This frees up money for banks that are borrowing money from the central bank. Again, these savings may be passed on to the borrowing bank's customers.

Use its own reserve money to buy government bonds - Buying bonds translates to income for the U.S. government, which puts more money into the economy.

While these various strategies are convenient, the ability to use them is a double-edged sword. While they can be used to try and nudge the economy out of recession (or otherwise influence its course), it can also make things a lot worse. The central banking institution has to be extremely

careful in its actions in order to avoid economic catastrophe. In the end, the course of a nation's recession is controlled by the actions of an endless amount of factors. Anything influenced by so many people is beyond the control of any one person or group -- it seems to have a mind of its own.

## Appendix H: Government capability manipulation (Study 6)

Government is capable

### **Expert Panel: Authorities generally capable of dealing with BP oil crisis.**

TARA PARKER-POPE

Published: July 20, 2010

The footage, statements, and actions of the government authorities involved in dealing with the BP oil crisis all point to a trustworthiness and ability that people can have some faith in, according to a group of experts.

A panel of behavioural scientists, political scientists, ex-political aids, and economists have taken stock of the situation, and conclude that our system of government is doing about as good a job as can be expected, and have the resources to help the wildlife and residents of the Gulf of Mexico.

David Shaw, representing the panel, stated that, “Their body language and their statements suggest they are genuinely confident in dealing with the issue, and helping the Gulf’s habitat, and the residents of Louisiana and Florida.” He added, “Not only that, but their actions and policies suggest that they want things to be cleaned up as soon as possible, and are making a significant impact in speeding that process along. Our system of government seems to have the resources to deal with this disaster.”

Susan Blackmore, senior political analyst on the panel agreed, saying “There are Republicans and Democrats on this panel, and any opinions about the current administration aside, we have all concluded that the government, as a broad institution, is largely dealing with the issue, and have the resources to do so.”

“There are a lot of government groups and agencies involved in solving this issue. It’s not just about the Democrats, but rather a lot of government officials, from several political views. Our federal institutions have the resources to solve this problem and preserve the land and water in the affected area,” she adds.

Government is incapable:

### **Expert Panel: Authorities generally incapable of dealing with BP oil crisis.**

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Published: July 20, 2010

The footage, statements, and actions of the government authorities involved in dealing with the BP oil crisis all point to a lack of ability that is concerning, according to a group of experts.

A panel of behavioural scientists, political scientists, ex-political aids, and economists have taken stock of the situation, and conclude that our system of government is doing a worse job than expected, and lack the resources to help the wildlife and residents of the Gulf of Mexico.

David Shaw, representing the panel, stated that, “Their body language and their statements suggest they are not confident in dealing with the issue, and helping the Gulf’s habitat, and the residents of Louisiana and Florida.” He added, “Not only that, but their actions and policies suggest that while they want things to be cleaned up as soon as possible, they are not making a significant impact in speeding that process along. This disaster has pushed the limits of our system of government and their resources.”

Susan Blackmore, senior political analyst on the panel agreed, saying “There are Republicans and Democrats on this panel, and any opinions about the current administration aside, we have all concluded that the government, as a broad institution, is largely unable to deal with the issue, and lack the resources to do so.”

“There are a lot of government groups and agencies involved in solving this issue. It’s not just about the Democrats, but rather a lot of government officials, from several political views. Our federal institutions simply don’t have the resources to solve this problem and preserve the land and water in the affected area,” she adds.

## Appendix I: Measure of perceived helplessness (Study 7)

We are interested in ways that people feel they use their own creativity and abilities to beat the recession. What are some ways that you can help make a few extra dollars?

- surveys online
- mystery shopping
- rent out a room in my home
- other online tasks other than surveys (e.g.: being paid to research answers to questions, click on ads, etc.)
- freelance sales (e.g.: selling Avon products)
- find odd jobs to do (mow lawns, run errands, clean rooms, shovel snow, etc.)
- babysitting
- petsitting
- dog walking
- other: \_\_\_\_\_

What are things that you think you can do, or currently do, to save money, but still maintain your usual standard of living?

- buying things when they are on sale
- shopping at thrift stores
- grow food in your own garden
- at least sometimes walking to places instead of driving
- change driving habits to improve fuel economy
- carpooling
- get books and movies from the library instead of renting/buying
- other: \_\_\_\_\_

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