The psychology of political risk: The effect of fear on participation in collective dissent

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Abstract

Many regimes wield the threat of repression to maintain power despite a lack of popular support. In such contexts, citizens who do not support the ruling party must decide whether or not to express their preferences by speaking, acting, or voting against the regime on a daily basis. They must assess the risks and opportunities of publicly expressing their dissent and make decisions about how to behave in low-information and often highly emotional environments. I draw implications from cognitive psychology for how citizens might perceive and process information in such contexts. I test the implications of this theory using a lab-in-the-field experiment with 700 urban and rural opposition supporters in Zimbabwe. I find that fear – regardless of whether it is induced in the context of politics – reduces the proportion of subjects who take a wristband with a political slogan during the study by between 14 and 25%. There is also evidence for a causal channel: fear increases pessimism about others' actions and the personal risk of repression as well as risk aversion. Finally, variation in emotional reactions to repression events may explain why repression effectively stops some citizens from participating in pro-democracy mobilization but not others.

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1 Introduction

Since the end of the Cold War, electoral autocracy has become the most common form of non-democratic regime in the world (Schedler, 2013). Sixty-nine countries in the world are currently considered to be non-democratic, despite the fact that all but twelve have held national elections in the past fifteen years (Hyde and Marinov, 2012; Freedom House, 2015). In many of these electoral autocracies, repression is a key tool wielded by incumbent regimes to maintain power despite a lack of popular support. In sub-Saharan Africa, one in five elections since 1990 have been afflicted by significant electoral violence, mostly perpetrated by ruling parties (Straus and Taylor, 2012), and 48% of voters continent-wide reported fear of violence during elections in the fifth round of the Afrobarometer survey. Large numbers of citizens must decide how to vote by considering not only on the cost of voting and promises of the respective parties, but also the potential physical and material sanctions that they might face because of the party they choose.

Opposition supporters in repressive regimes must make difficult decisions about whether or not to participate in collective expressions of dissent – difficult not only because the stakes are high, but also because information about potential costs and benefits is highly ambiguous. Citizens know that the regime has an interest in exaggerating the cost of opposition, so they must judge this probability on the basis of credible signals such as past acts of repression. However, violent events are generally rare, even in highly repressive regimes. What does it mean for a citizen in one Harare slum trying to decide whether or not to go to a protest that someone in another neighborhood was beaten for wearing an opposition t-shirt last week? Would every potential attendee of that rally interpret the signal in the same way? Most importantly, these risks must be assessed in highly emotional environments characterized by calls to protest and violent threats. Coercive violence is often perpetrated in a way that seems designed to maximize fear through graphic torture, public spectacle, or violating norms. Does the terror that violence incites play any role in how citizens perceive and process information about the risks and opportunities of rising up against collectively against an autocratic regime? More plainly, does the emotion of fear itself affect whether or not citizens choose to participate in pro-democracy action?

To date, rational choice models explaining participation in collective challenges against entrenched regimes have emphasized how the risk of repression and chances of democratization, influenced primarily by the number of other opposition supporters, shape the decision to participate in expressions of collective dissent (Kuran, 1991; Lohmann, 1994). However, these models have largely ignored how citizens interpret information about potential risks and benefits of participation. The origins of preferences and formation of beliefs about the state of the world are assumed to be exogenous or constant across citizens. Neither of these models consider that heterogeneity in interpretation of this information might be important in explaining who goes out and who stays

home.

Leading theories explaining the use of positive inducements and coercive threats by parties trying to influence voters model coercion as a negative utility shock that voters weigh against the potential gains of voting for their preferred party. Robinson and Torvik (2009), for example, predict that swing voters should be targeted with violence because they are the most attractive for politicians to compete over. Collier and Vicente (2012) build on this finding as an assumption to predict the likelihood of election violence, fraud, and vote buying based on the distribution of electoral support in a two-party system. These theories have at their base a model of citizen decision-making based on expected utility that assumes that emotions felt at the time of the decision are epiphenomenal. Similarly, the way in which beliefs about the expected utility of strategies are formed is not explained.

The explanatory power of these models is undermined by the fact that these assumptions ring false to many who have experienced or observed repression and protest. Numerous case studies point to the importance of emotion in mobilizing participation in the civil rights movement in the U.S. south (Goodwin et al., 2009), and ethnic violence in the Balkans (Petersen, 2002). The particular role that emotions play, however, has been hard to identify. Individual case studies have produced an abundance of theories with limited external validity, and few attempts to rigorously test the causal role that emotions might play in shaping decisions.

Several influential theories of participation in anti-regime speech, protest, or rebellion have focused on the importance of emotions. Gurr (1970), for instance, argues that the anger caused by relative deprivation enables citizens to overcome the collective action dilemma, and that this anger is even redoubled by the threat of repression. Scott (1990) similarly argues that dissent is experienced as "a loss of temper, a rush of anger that overwhelms one's deliberative self rather than an act of calculated anger" (218). These theories exemplify, however, how much of the literature on collective action has assumed that emotions somehow make decisions less rational. This assumption begins with early research on the brutal, impulsive, and destructive tendencies of crowds (Le Bon, 1897). In the words of one scholar of protest movements, "Only because of the biases of researchers have emotions been studied as though they were irrational or destructive – at the same time that protest organizers work hard to build those emotions" (Jasper, 1998, 421).

Surprisingly, emotions have played an even smaller role in theories explaining how repressive violence shapes behavior. Davenport (2007, p3) contends that most recent research on repression has had a theoretical orientation towards "soft rationalism," meaning that it relies on implicit or explicit assumptions that states use repression when it is in their interests and citizens weigh the costs and benefits of dissent to decide how to respond. However, recently there has been a growing interest in the psychological effects of violence, beginning with studies on the long-term effects of exposure to coercive violence on pro-social preferences (Blattman, 2009) or risk attitudes (Voors

et al., 2012; Callen et al., 2014) that posited psychological mechanisms.

This study builds on these traditions by proposing and testing a theory of how emotions shape how citizens perceive and process information about the risks and benefits of participation in expressions of collective dissent. My starting point is the calculation that citizens use to weigh the potential costs and benefits of participation. I present a simple decision framework for citizens that is a function of the strength of their preferences for an alternative regime, the repressiveness of the regime, and the number of other people who are expressing dissent. Citizens form beliefs about these parameters on the basis of past repression events, which they interpret as signals about the regime's repressive capacity and intent. However, repression events also have an emotional impact. Repressive violence incites fear, which makes citizens more pessimistic in their own perceptions of the risk of repression and less tolerant of risk. Through these parameters – namely, pessimism and risk aversion – fear has a causal impact on citizens' propensities to participate in acts of collective dissent.

This micro-level theory has two important implications. First, because emotions affect all decisions, not just those in the domain in which they are generated, fear of repression can spill over into other important domains such as economic decisions. This implies that fear of repression may have psychological spillover effects that make citizens more risk averse and pessimistic in their investments, which could ultimately depress economic growth. Second, this theory also has implications for which citizens will choose to take high-risk political action. Because citizens differ in their propensities to feel fear in response to a negative situation, the same repression event may terrify one citizen while leaving another unmoved. This implies that variation in the subjective interpretation of signals of repression risk can explain variation in protest participation across individuals.

This paper uses an experimental methodology to test the main implications of this theory. I primarily rely on a series of lab-in-the-field experiments with a total of 1,200 opposition supporters in Zimbabwe, an electoral autocracy in which the regime that is currently in power has previously used violence to win elections. I experimentally induce fear using standard techniques from psychology experiments. I then measure perceptions of a number of relevant risks that citizens may face if they engage in a specific act of dissent as well as perceptions of how many other opposition supporters would participate in a series of common expressions of dissent. I measure both self-reported propensity to participate in a series of acts of dissent, and an actual behavior that is indicative of the desire to express dissent. I also explore observational variation in the propensity to feel fear in response to a number of repression scenarios to test my predictions about which groups should be more likely to react to repression with fear.

The evidence presented here shows that fear – independent of information – has a strong effect on participation in pro-democracy collective action that may work through pessimism and

risk aversion. Experimentally induced fear reduces a hypothetical and behavioral measure of participation in pro-democracy collective action. There is also evidence that this works by causing changes in cognitive perceptions and preferences such as pessimism around the risk of repression and expectations of others' actions, as well as general risk aversion. Furthermore, there is evidence that this pessimism and risk aversion spill over from political fear to economic decisions. Finally, correlations between psychological variables indicating propensity to feel react fearfully to a threat and pro-democracy action after repression suggests that variation in fearfulness may explain who participates in pro-democracy action and who chooses to abstain.

This study is to my knowledge the first to integrate research on risk from cognitive psychology into a model of decisions about participation in high-risk, pro-democracy collective action. It fills an important gap in the literature between theories explaining collective action using an expected utility framework, and studies that document the importance of emotions in social movements. While others have done this by modeling emotions as part "expressive benefits" (Downs, 1956; Varshney, 2003) that are weighed against the costs of political participation, I contend that the emotions felt at the moment of making a decision influence assessments of multiple parameters as well as basic preferences like risk attitudes that shape how these parameters are processed. Similar frameworks have been proposed to explain attitudes towards counter-terrorism (Lerner et al., 2003), welfare (Lerner and Small, 2008), and voting (Valentino et al., 2011), but this study extends this research to a new, important domain of political behavior.

Second, this is one of the first studies to use experimental methods to test a theory about emotions and participation in contentious politics. Most past theories rely on case studies or interviews with protesters to bring evidence to bear on how emotions influence behavior. However, these methods cannot definitively resolve questions around whether emotions have a causal effect or a merely epiphenomenal to the observed outcomes. By isolating the pure effect of emotions, independent of new information, selection effects, or even thoughts about existing information on parameters in the decision to participate in collective dissent, my empirical strategy isolates the effect of fear itself on perceptions and behavior. This empirical strategy draws heavily from recent lab and field experiments in American politics studying the effects of emotions using lab and field experiments.

Finally, this study contributes a significant amount of new data that paints a rich picture of the experiences of opposition supporters in a repressive regime. By leveraging the local expertise and networks of an NGO that conducts research and provides support to the victims of violence in Zimbabwe, I was able to survey more than 2,000 opposition supporters living under the current threat of violence from a repressive regime over several weeks of piloting and two rounds of an experimental study. The methodology that we developed to do this safely and to a high quality standard builds on practices deployed in contexts of civil war or counter-insurgencies to protect

subjects and research staff. The data that we produced gives a rare glimpse into the lives of people living under an autocratic state that is willing to use violence to maintain power.

2 Theoretical Implications

Psychologists view emotions as processes that help individuals take actions that are evolutionarily-advantageous in response to a stimulus. Emotions are activity in specific parts of the brain that send signals to other parts of the brain and body through the bloodstream and neural pathways. These signals set off a series of reactions in the brain as well as the cardiovascular and respiratory systems that prepare the individual to take appropriate action such as fight or flight. Just as fear causes an individual's heart rate to increase, it also causes changes in cognitive processes and preferences such as attention, cognitive capacity, perceptions of risks, and tolerance for risk. Fear specifically has been shown to make people risk averse, uncertain, attentive to threats over incentives, and pessimistic, with the overall effect of encouraging retreat or inaction in response to a negative stimulus.

Citizens with pro-democracy preferences living under a repressive regime must make decisions on a daily basis about whether or not to express or hide their dissent. I argue that these decisions are made by weighing the potential costs and benefits of expressing dissent. Before they can make such a decision, however, citizens must assess a number of parameters that shape these costs and benefits, including how many other pro-democracy citizens will join them and the likelihood that they will face repression if they engage in a specific act of dissent. These assessments are non-trivial, and must be made in a context where information is scarce and multiple parties have incentives to misrepresent. Citizens assess these risks and opportunities largely based on past repression events, which they interpret as signals about the regime's willingness and capacity to punish dissent with violence.

In this section I draw implications from the study of emotions in psychology to predict how they might affect decisions about participation in collective dissent in a repressive regime.

2.1 Emotions and cognition: Predictions from psychology

Emotions play an integral role in decision-making and cognition of all kinds, including decisions about political participation. Emotions are chemical and electrochemical processes triggered by the brain in response to a stimulus (Damasio, 1994). Emotions have objects or stimuli that cause them, such as a specific threat or opportunity (Russell, 2003), which distinguishes them from moods or "background emotions" such as malaise, calm or tension (Damasio, 2000). While the pathways through which emotions affect behavior and cognition are thought to be hard-wired

through evolutionary processes, the emotional reactions to specific objects can be either innate or learned.

The focus in this study is on "incidental" or "anticipatory" emotions that an individual is actually experiencing at the time of making a decision. These emotions are thought to influence the parameters that a decision-maker uses to make a decision, including risk appraisals and attitudes. This is in contrast to what Lerner and Keltner (2001) call "integral affect" or Lowenstein et al. (2001) calls "anticipated emotions", which are defined as emotions that the decision-maker expects to feel in the future as a result of their choices. Anticipated emotions are integrated into how people calculate the utility of specific strategies, while incidental emotions have a broader impact on decisions. Importantly, while incidental affect is initially caused by a specific object, it influences all judgments, decisions, and behaviors that the individual makes while under its influence (Lerner and Keltner, 2000).

Emotions are associated with changes in how the body and brain functions that are intended to prepare an individual for action. These include physiological changes that affect the autonomic nervous system including breathing patterns and heart rate and the central nervous system. They also include significant changes in cognitive functioning including memory, attention (Eysenck, 1982), the distribution of cognitive capacity (Eysenck and Calvo, 1992), use of heuristics (Park and Banaji, 2000), evaluative judgments (Schwartz and Clore, 1983), appraisals of uncertainty and lack of control (Lerner and Keltner, 2001), and evaluations of risks (Johnson and Tversky, 1983).

In general, the changes to cognitive function that emotions cause are thought to enhance the quality of decision-making. Although in some situations these effects can lead to suboptimal outcomes (see, for example, the work of Kahneman (2013) on the pitfalls of heuristics) but in most they are believed to increase the ability to make self-interested decisions to seize opportunities or avoid danger. For example, people with damage to the amygdala that prevents them from experiencing fear are more likely to make decisions that are ultimately not in their personal interest (Damasio, 1994). Other research shows that when affective inputs to decision-making are suppressed by asking subjects to think systematically about the pros and cons of a decision, the quality of decision-making can suffer (Wilson and Schooler, 1991).

Fear, the focus of this paper, is associated with a bundle of cognitive and physical changes that evolved to help an organism get away from an imminent threat. Fear causes people to pay more attention to threatening stimuli, at the expense of other activities (Gray, 1987). Several studies in political psychology have found that information-seeking and vigilance are increased by anxiety (Brader, 2005; Valentino et al., 2008). It also redirects cognitive capacity to threats, reducing performance on non-threat related cognitive tasks (Eysenck and Calvo, 1992). These effects of fear and anxiety on attention and cognitive capacity lead Marcus et al. (2000) to conclude that "anxious voters will, in most instances, act very much like the rational voters as depicted by theories of public

choice" (63-64).

Most importantly for this study, however, fear leads to heightened perceptions of risks and risk aversion (Johnson and Tversky, 1983; Lerner and Keltner, 2000, 2001; Lerner et al., 2003). A number of theorists posit that this is because fear influences a range of fundamental "appraisals" about the state of the world including certainty and control (Smith and Ellsworth, 1985; Lazarus, 1991; Lerner and Keltner, 2000). Furthermore, fear elicited in one domain spills over to affect decisions in other domains. For example, Lerner et al. (2003) show that experimentally inducing fear around the September 11th terrorist attacks in the United States affected not only beliefs about political phenomena, but also perceptions of the probabilities of basic risks such as catching the flu.

2.2 Emotions and participation in collective dissent

Opposition supporters face daily decisions about whether or not to express their anti-regime preferences. On an average day, they must decide whether to criticize the government in front of their neighbors or wear their opposition t-shirt. Higher-stakes decisions can involve going to an opposition rally, attending a protest, or casting a vote against the regime. Each of these decisions must be made by weighing a set of complex probabilistic outcomes. If I go to the rally, how many others will be there? Does the government care enough about this particular rally to send its militia to beat us? If so, will I be among those who are beaten?

Citizens considering whether or not to participate in an act of dissent must weigh the expected costs and benefits of their action. At a very simple level, the expected utility of expressing dissent involves the weighing the expressive and instrumental benefits of dissent against the costs, including the potential of being repressed. The expressive benefits of dissent are not probabilistic – I follow Kuran (1995) in assuming that people derive some fundamental utility from expressing their preferences. The instrumental benefits of dissent, based on the probability that your individual act of dissent will bring about a change of regime and the extent to which you value that change, are typically thought to be negligible because each individual action has an extremely small probability of being necessary to bring about change. However, there is evidence that people actually tend to give such small probabilities outsize weight when making decisions (Kahneman, 2013). Furthermore, there is ample qualitative evidence that protesters do not just protest for to experience it but also because they hope that their protest will have some influence.

The focus of this paper is on the potential costs of dissent, which may involve some opportunity cost in terms of time or money, plus the expected disutility of repression. The disutility of repression is a function of the severity and probability of the violence that an individual might face. I follow a number of game theoretic models of protest in arguing that because the regime has a limited capacity to repress, an individual's personal risk of repression also depends on the number of other

people who are expressing dissent.

These terms – the expressive benefits, perceived potential for change, opportunity cost, and potential repression – must be weighed against each other. At this point citizens' risk attitudes can also influence their decision. Citizens who are risk neutral will simply sum the expected utility of different outcomes. However, people who are risk averse will need the potential benefits of dissent to outweigh the potential costs to compensate for the risk that they are taking on, and those who are risk seeking would be willing to dissent even if the potential costs outweigh the potential benefits by some amount.

Citizens must judge the risk of repression based on credible signals because regimes have an incentive to exaggerate the risk of repressive violence in order to keep citizens in line at minimal cost. The regime's past use of violence is the best signal of its capacity and intention to repress. For example, if someone who went to an opposition rally was recently killed by the regime in your neighborhood, it sends a strong and credible signal that your personal risk of being killed if you take a similar action is high. Repression events are relatively rare and interpreting what they mean for your personally is not always clear, which implies that more often or not people must assess risks based on little information, much of which is not credible or falsifiable. In such a context, it is particularly likely that incidental affect might influence perceptions of risks.

In addition to sending informational signals, repressive violence causes fear. Indeed, repression is often perpetrated to maximize the fear that it causes. Public murders, gruesome forms of torture, and counter-normative acts such as gang-rapes are all designed to drive the threat home in a way that evokes terror even years after the atrocities occur.

Fear may enhance the effectiveness of signals sent by repressive violence on citizens perceptions of their personal risk in several ways. First, fear may make people more pessimistic in their beliefs about the number of other citizens who will express dissent. If I expect that the regime is going to arrest ten people at a rally, the fewer other people that I expect to stand with me in expressing anti-regime preferences, the higher the probability that the repression. In addition, the number of other people who you expect to turn out could affect the chance that the action will successfully bring about regime change, which I argue that citizens perceive as non-negligible.

Second, fear may make people more pessimistic in their expectations that they personally will face repressive violence. This term may be a function of changes in expectations about whether other people will also dissent, or in expectations about how much repression the regime is willing or capable of doing.

Third, fear might make people more risk averse such that the expected benefits will have to outweigh the expected costs by a larger amount to compensate for the risk involved in dissenting.

Finally, fear of repressive violence may affect citizens' actions outside of the domain of politics. There is ample evidence that incidental emotions caused by one object can spill over to

affect decisions in other domains. In this case, fear of repression may spill over into economic decisions, making citizens more pessimistic in their perceptions of economic risks and more risk averse in financial decisions. This could be another mechanism linking repressive authoritarian policies to bad economic outcomes.

The hypotheses were pre-registered with the EGAP experimental registry on September 29, 2015:

1. Subjects who receive the fear treatments will be more pessimistic in their expectations about their fellow opposition supporters propensity to take pro-opposition action.
2. Subjects who receive the fear treatments will be more pessimistic in their assessments of their own probability of facing repression.
3. Subjects who receive the fear treatments will be more risk averse.
4. Subjects who receive the fear treatments will be more pessimistic in their assessments of economic risks.
5. Subjects who receive the fear treatments will be less willing to take pro-opposition political actions.[1]

3 Research Design

Testing whether emotions have a causal effect on participation in collective dissent poses a number of inferential challenges. Most importantly, measuring the impact of emotions requires that we isolate emotions from information and selection into emotions. Second, measuring risk perceptions – one of the central outcomes in my theory – requires that we control for selection into high-risk activities. Third, measuring propensity to participate in risky behavior without putting subjects at risk requires that we find measures of participation in dissent that are both safe and also indicative of willingness to take high-risk behavior.

I test the propositions of my theory using a research design based on two lab-in-the-field experiments carried out with opposition supporters in Zimbabwe, an electoral autocracy in which large proportions of citizens fear of violence during elections. A lab-in-the-field design allows me to test for subtle psychological mechanisms and to randomly assign people to feeling specific emotions. In this section I discuss the core challenges to inference that testing this theory entails and how my research design addresses them.

[1] Hypothesis 5 appears multiple times on the figure because I do not test separately for each of the potential channels, including for a direct effect of fear on propensity to take action. Thus H5 tests only for the aggregate effect of the treatment on dissent which I expect is the sum of the hypothesized mechanisms and any direct or additional channels.

3.1 Key design decisions

First, testing the causal proposition that emotions affect collective action requires that we isolate the impact of emotions independent of information or selection into feeling particular emotions. For example, citizens with a higher objective risk of facing repression are likely to be both more fearful and have a higher perceived risk of repression. Similarly, certain types of citizens may be more likely to be both more fearful and have higher subjective perceptions of risk.

My research design addresses this issue by randomly assigning subjects to an emotion induction treatment that is commonly used in psychology experiments. Specifically, I use a reflection task in which respondents are instructed by the enumerator to describe a situation that makes them feel a specific emotion. The techniques that I use to stimulate emotions have been used in numerous studies in psychology (Strack et al., 1985; Lerner and Keltner, 2001). Exercises based on recall are one of the most effective ways to stimulate specific emotions, particularly compared to alternative treatments like viewing videos (Harmon-Jones et al., 2007). It has also been shown to be a strong enough treatment to cause physiological effects of emotions such as heart rate and skin conductance. This method is increasingly used in political psychology to study the effect of emotions on political attitudes towards welfare (Lerner and Small, 2008) or racial minorities (Banks and Valentino, 2012).

The second inferential challenge that my research design must solve is around selection into risk. Because the probability of facing repression is conditional on their decision to participate in dissent, general perceptions of the risk of repression are confounded by choices about actions. For example, an individual may believe that if they attend a pro-opposition protest it is very likely that they will be killed, but because they have no intention of going to a protest they may believe that their chance of being killed is very low. Therefore, accurately measuring perceptions of risk requires that I measure perceived risk conditional on a level of participation in dissent. To this end, I measure perceptions of the risk of repression conditional on participation in a common act of dissent in the Zimbabwean context – attending a rally for an opposition party.

Third, measuring propensity to take risky action in a way that does not expose subjects in a repressive environment to risk and minimizes desirability bias is a serious challenge. Self-reported measures of propensity to take actions such as attending a rally, wearing a t-shirt, or sending an SMS for the opposition are all closely related to the ultimate behavior of interest. However, whether someone thinks that it is likely that they would take any of these actions is potentially only loosely related to what their would actually do, and it is unclear how the desire to please or look brave before the surveyor might differ based on the emotional state of the subject. For these reasons, a real behavioral measure of action is the gold standard for measuring propensity to take action. Other experiments have measured willingness to take non-risky political action by giving participants the chance to sign real petitions or send messages to their representatives (Grossman et al., 2014). However, in this context, actions that link a subject by name to pro-opposition political actions put

subjects at an unjustifiable level of risk.

To measure propensity to take meaningful pro-democracy action while minimizing bias and risk to subjects, I devised a new behavioral measure based on the type of thank-you gift that a subject decides to take towards the end of the experiment. Specifically, I offer subjects the choice of one of two wristbands as a token of appreciation – first, a political wristband that they are told would "show their political beliefs" when they wear it and is printed with the text "Voice for Democracy" and "Speak out against Violence!" Alternatively, they are offered a similar plain wristband with no text.

This measure identifies propensity to take pro-opposition political action if the only reason that fear might induce a respondent to choose the plain wristband over the political is because they become unwilling to show their political beliefs. The wristbands are the same size and color, and from a distance appear exactly the same, so there is no reason to believe that one would be more attractive from a stylistic perspective or have a higher re-sale value (or that the fear treatment would affect concerns about personal style or the desire to sell the wristband). Wearing pro-democracy or pro-opposition paraphernalia is an act of dissent in Zimbabwe that can put people at risk of facing low-level repressive violence such as threats or assault, particularly during election periods. However, giving the subjects a wristband that they may or may not choose to wear after the induced emotions have worn off does not meaningfully increase the level of risk that they face.

The following sections describe the experimental design in more detail.

3.2 Treatment: Inducing emotions

The treatment in this study is a reflection task commonly used in psychology to induce specific emotions. In the task, subjects are asked to describe a time that they felt a targeted emotion in detail and in a way that would also make a reader or listener feel the emotion. Compared to other methods of inducing emotion, including videos or situations like public speaking or interactions confederates of the experimenter, reflection tasks (also called directed recall) are one of the best ways to isolate a specific emotion in a range of people. This method is strong enough to cause changes in physical measures of emotional arousal based on cardiovascular, respiratory or electrodermal response (Kriebing, 2010).

In the task, the subject is asked by the enumerator to describe a situation that makes them relaxed (control), or afraid (treatment). Half of the treated subjects were assigned to a version of the prime that directed them to talk fears around politics and elections. The entire interview, including the emotion induction, were done in privacy. The enumerator read a list of examples of things that a similar sample pool had reported made them afraid or relaxed before asking the subject to describe the situation in a way that might make the enumerator herself relaxed or afraid as well.

Enumerators were given a list of probes to use to follow up on the response and were instructed to keep the subject focused on what makes him or her afraid until they were satisfied that they had reflected on a real, relevant fear, and to redirect the subject if they went off-topic. The text of the instructions for the reflection task are shown in Appendix Table 2.

The first question is designed to help the subject brainstorm several things that make him or her afraid or relaxed, and thus make it easier to focus later on the items in the list that make them most afraid or relaxed. After coming up with a list of at least two things that make them afraid or relaxed, subjects were asked to describe in detail the one that makes them most afraid before completing the first battery of outcome measures. Then, before the second set of outcome measures, they were asked to describe in more detail another situation that makes them afraid or relaxed in order to re-induce the emotion to carry through to the end of the outcome modules.

This type of emotion-induction technique has been used in a wide range of contexts, including in low- or middle-income countries such as Kenya, Afghanistan (Callen et al., 2014), and Colombia (Bogliacino et al., 2015), although I have adapted it to the Zimbabwean context. The method was developed and has most typically been used in internet- or lab-based surveys in the U.S. where respondents are asked to describe the situations in which they felt the specified emotion in writing (Lerner and Keltner, 2001; Lerner et al., 2003; Banks and Valentino, 2012).

Describing the situation to an enumerator is advantageous in this situation for several reasons. First, it enables us to include low-literacy subjects in our sample. Second, the enumerator can use a series of several permitted probes to direct the respondent in an interactive way to reflect on precisely the ideas or feelings that trigger the specific emotion, enabling a more potent treatment.

Randomization into the treatment categories was blocked on community, enumerator, and gender. Each enumerator used a survey dictionary to select the appropriate treatment based on the gender of the respondent and the number of the interview.

3.3 Manipulation checks

Respondents were asked to report the extent to which they felt six primary emotions in the present moment to assess whether the treatment had in fact induced the targeted emotion. The emotions measured were fear, anger, surprise, happiness, sadness, and disgust, all on a four-point scale (not at all, a little bit, somewhat, and very). In practice, inducing fear is likely to also induce other negative emotions and reduce positive emotions. A principal concern was that the subjects in the fear condition were not also induced to feel anger to the same degree as they felt fear, given the evidence that anger causes optimistic risk assessments (Lerner et al., 2003) and increases in participation in collective action (Young, 2015).

The subjects' emotional states were measured after the last outcome measure to reduce the

evidence that asking subjects to report on their emotional states can reduce the extent to which they actually feel the targeted emotion (Keltner et al., 1993; Kassam and Mendes, 2013). Carrying out the manipulation check at the end of the study also tests whether the emotions were induced throughout the course of all of the outcome modules.

In addition, 10% of the emotion inductions were randomly selected to be recorded and were transcribed and translated as a second manipulation check and to provide a qualitative sense of the political and apolitical fears that subjects focused on.

3.4 Measurement of outcomes

After the emotion induction treatment, subjects went through a series of modules to measure outcomes. Assessment of political risks were measured with a series of twelve questions on six political risks that are relevant in the Zimbabwean context. As discussed in depth in section 3.1, to hold constant the riskiness of the behavior that the respondent typically engages in, I asked subjects to report their perception of the probability that they would face punishments if they engage in a specific action, namely going to an opposition rally. Subjects were asked about the probability that they will face threats, assault, destruction of property, sexual abuse, abduction and torture, and murder. They were asked to report the risk of each if they go to a rally now (during a non-election period) and around the time of the next election. They assessed the likelihood of each risk on a five-point scale that was easy to understand in the local language including not at all likely, a little bit likely, somewhat likely, very likely, and sure. The responses to these questions were averaged together to make an index of perceived risk of repression.

Beliefs about other opposition supporters' willingness to engage in politics were measured in a similar way. Respondents reported the proportion of other opposition supporters in their community that they believe would wear an opposition party t-shirt, share a funny joke about the president, go to an opposition rally, refuse to go to a pungwe [a mandatory rally for the ruling party] when asked by a community leader, tell a war veteran [a type of individual who is known for perpetrating political violence] that she supports the opposition, or testify in court against a perpetrator of violence. They were asked to assess the proportion of other opposition supporters that would take each action now (during a non-election period) and around the next election on a five-point scale including none, a few, some, many, and all. The answers to these questions were averaged together to create an index of beliefs about others' propensity to participate in collective dissent.

The next two outcomes both measure propensity to participate in collective dissent. The first measure is hypothetical and follows the same structure as the questions about beliefs about other opposition supporters to reduce complexity for respondents. The response scale was the same five-point probability scale that respondents used to report the risk of repression. Respondents were

asked to report the likelihood that they themselves would wear an opposition party t-shirt, share a funny joke about the president, go to an opposition rally, refuse to go to a pungwe [a mandatory rally for the ruling party] when asked by a community leader, tell a war veteran [a type of individual who is known for perpetrating political violence] that she supports the opposition, or testify in court against a perpetrator of violence. They reported the likelihood that they would take each action now (during a non-election period) and around the next election. The answers to these questions were used to make an index of propensity to participate in collective dissent.

As a behavioral measure of propensity to take political action, I record whether subjects choose to take as a thank-you gift a wristband with a pro-democracy and anti-violence slogans on it over an otherwise similar plain wristband. The enumerator explained to subjects when offering the wristband that one has a slogan that will "show your political beliefs" and read the written text, while the other has no political message. As discussed in section 3.1, the only reason that fear would cause an increase in the propensity to take the plain over political wristband is through a decrease in the willingness to express dissent.

Finally, I measured financial risk attitudes and pessimism about economic outcomes. Financial risk attitudes were measured with a module developed by Bogliacino et al. (2015) that uses a series of four 50-50 lotteries in which subjects chose from five different bets with varying levels of risk. Across the four lotteries, there will be two standard conditions, one condition with ambiguity, and one with losses. From these I constructed several measures: risk aversion, ambiguity aversion, and loss aversion. Due to its reliance on 50-50 coin flips, which are easy to understand intuitively, this measure is designed to be effective with a subject pool that includes low-numeracy individuals.

Financial pessimism was measured using twelve scenarios similar to the political risk perceptions and the same five-point probability scale. These questions will ask about the likelihood that investment in a small business will pay off, that someone in the family would lose a job if they got one, that a family breadwinner would have to stop working, that a major asset would be broken or lost, or that savings would be lost or stolen. Each probability was assessed over the next six months and the next two years. All twelve questions were averaged into an index of economic risk perceptions.

Within each outcome module except for the lotteries and wristband, the order of the questions was randomly assigned.

Subjects subsequently took part in a second short experiment using a conjoint analysis design, and then answered two batteries of questions on past exposure to repression and past participation in opposition politics. These modules were put after the treatments to avoid priming the subjects in all three treatment arms to think about repressive violence.

3.5 Baseline measures

Some specifications also include a set of controls measured before the emotion induction treatments. Socioeconomic status was measured using an updated version of the index of asset ownership from the last Zimbabwean Demographic and Health Survey. It covers quality of housing, land ownership, major assets like generators and cars, small assets like mobile phones and radios, and livestock. I use the standardized first principal component of these questions as my measure of socioeconomic status.

Self-efficacy, a psychological concept that is related to perceptions of your personal ability to deal with challenging situations, was measured with an ten-point questionnaire developed by Jerusalem et al. (1992); Schwarzer et al. (1997). This module has previously been used in 28 different languages in North and South America, Europe, and Asia.

Past exposure to political violence is measured with a module based on the Harvard Trauma Questionnaire. The types of traumas asked about are taken from past applications of the Harvard Trauma Questionnaire in Zimbabwe. For each item, respondents were asked whether they experienced the trauma and whether they heard about it happening in their community since 2000. Last, I measured past participation in opposition politics with a series of eight questions about whether the respondent has taken pro-opposition actions many times, sometimes, once or twice, or never since the year 2000. In order to avoid priming subjects on opposition politics and political violence, these last two batteries of questions came after the treatment.

4 The Zimbabwean context

Since gaining independence in 1980, Zimbabwe has been an electoral autocracy (Kriger, 2005). It holds regular elections but these have not resulted in any peaceful transitions of power between parties, in part because of the ruling party's use of violent force. ZANU-PF grew out the independence struggle and enjoyed widespread popular support in the 1980s and 1990s that diminished in the 1990s in part due to a severe structural adjustment program (LeBas, 2011).

Zimbabwe's ruling party began seriously employing the threat of repression against dissenters in the year 2000. Beginning around 1999, an opposition party that grew out of the country's major trade union began to credibly challenge ZANU-PF. The opposition party MDC had just orchestrated the unexpected defeat of ZANU-PF's proposed constitution in a referendum. Shortly thereafter, opposition supporters and organizers began to be killed, and the government stopped protecting white commercial farmers and their farm workers from threats by land invaders, often led by self-claimed veterans of Zimbabwe's independence struggle (LeBas, 2006). Zimbabwe's white minority had been an important source of funding and mobilization during the referendum.

From 2000 to 2008, repressive violence by the ruling party, targeted on opposition supporters and organizers, took a number of forms. In 2001 the government initiated a national youth training program which created a nationwide militia for the party. These militia set up bases around the country and began using more sophisticated forms of torture (Reeler, 2003; LeBas, 2011; Sachikonye, 2011). Party agents, youth wing members, members of the association of war veterans from Zimbabwe's independence struggle, soldiers, and traditional leaders have all played a role in organizing intimidation campaigns around recent elections (Bratton and Masunungure, 2008). By some accounts, by 2008 the youth militia had as many as 50,000 members (Sachikonye, 2011, 48).

Violent repression reached a peak during the 2008 elections, which took place in a context of hyperinflation, deindustrialization and the collapse of public services that led to widespread dissatisfaction with the ruling party. The lead-up to the first-round election in March 2008 was largely peaceful, as the results were counted it and it became clear that ZANU-PF had lost its parliamentary majority and was at risk of losing the presidency, "the party-state launched a terror campaign of a scope and intensity never before seen in Zimbabwe" (Bratton and Masunungure, 2008, 51). This campaign was centrally controlled by the Joint Operations Command under the leadership of the Defense Minister Emmerson Mnangagwa (HRW, 2008; Sachikonye, 2011).

A passage from a report by the Catholic Commission for Justice and Peace in Zimbabwe describes how the 2008 violence was orchestrated:

> "Perpetrators moved in groups of up to 30 and established 'distinguishable bases' supplied from confiscated foodstuffs and other necessities. The overwhelming numbers of perpetrators made it difficult for individual victims to defend themselves. The tools used varied from logs, sjamboks, machetes, steel rods, knobkerries to knives and chains. However, there were cases where tools and equipment associated with security agencies like the police (batons and guns) were used in the perpetration of the violence, suggesting the direct involvement of state security agents or deliberate issuance of such tools to party militia..."
>
> (CCJPZ, 2009, 43)

As a result of this violence, the opposition leader Morgan Tsvangirai pulled out of the run-off election scheduled for July. Negotiations brokered by the international community between the government and the opposition MDC led to the formation of a coalition government with the long-serving president and ruling party leader Robert Mugabe remaining as president and Tsvangirai serving as Prime Minister. Entry into government in February 2009 was the beginning of the MDC's loss of popular support, as shown by a number of polls conducted by the Afrobarometer and Freedom House (Bratton and Masunungure, 2012; Booysen, 2012). The MDC, focused on skirmishes over parliamentary procedures and largely dismissive of internal and external research showing that they had lost support, ran an anemic campaign in 2013 (Zamchiya, 2013). By contrast, the ZANU-PF 2013 campaign was "slick, well-funded, united and peaceful" (Tendi, 2013).

Post-2013, both ZANU-PF and the MDC fell into internecine conflicts. In 2014 President Mugabe rapidly fired Vice President Joice Mujuru and purged her supporters from national and regional posts, and promoted his unpopular wife Grace Mugabe to a powerful position as head of the ZANU-PF women's league (Freedom House, 2015). At the same time, the MDC's defeat "catalysed and consolidated sentiment against Tsvangirai who had now lost three presidential elections" (ICG, 2014, 10). A faction led by core members of the MDC leadership split off, creating a third MDC in addition to an earlier regional faction that had split in 2005 (ICG, 2014).

As a result of both ruling party and opposition members getting expelled from their parties, a series of by-elections were held in 2015 around the time of this study. The main opposition party boycotted these elections, leaving ZANU-PF to compete against some of its former members who ran as independents and several smaller opposition parties. In cases where the ruling party candidate faced a credible challenge, such as from one of its former members running as independents, the elections were preceded with widespread threats and attacks on candidates as well as efforts to monitor, buy and intimidate voters. Low-level violence also continued around the country, though during this time it primarily consisted of violations perpetrated by and against members of the same party as part of factional struggles (Zimbabwe Peace Project, June 2015). It is in this context of a long history of repressive violence and growing dissatisfaction with both the ruling party and the major opposition party that this study took place.

5 Data and implementation

This experiment was carried out by researchers connected with the Zimbabwean NGO Voice for Democracy (VfD), which conducts research on human rights abuses and organizes communities to prevent and respond to political violence. Relying on their existing networks and local knowledge was crucial for this study to be carried out safely and enabled them to establish trust by leveraging existing social ties with respondents.

The researchers who interacted with subjects and their team leader were blind to the hypotheses of the study, although it was necessary that they understood that the emotion induction was a "treatment" designed to have some effect on subjects' behavior. Even when asked what patterns they thought I expected to see after the survey concluded they reported that they did not have any expectations about the hypotheses. Keeping subjects and surveyors blind to the hypotheses was important to ensure that their behavior was not shaped by these expectations through subtle cues, desirability bias, or actual manipulation of the results.

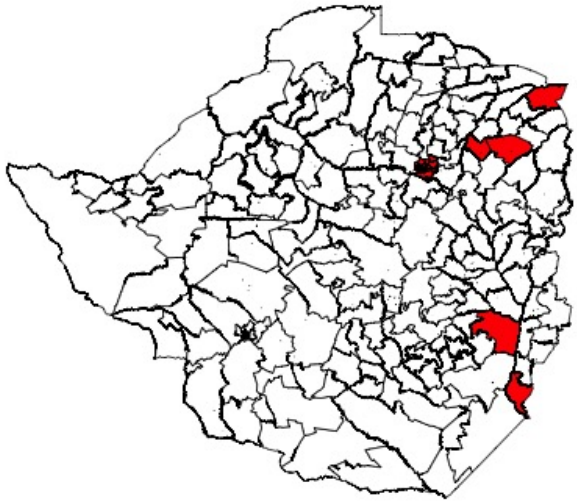
Interviews were carried out by surveyors in pairs within isolated areas of private homes provided by the mobilizer to ensure privacy. Interviewers obtained informed consent verbally in the local language of Shona. Data was collected on tablets using Open Data Kit software. No

identifying information on subjects was collected in order to reduce the probability that subjects could be connected to their responses in case of a breach of information. To further reduce the likelihood that data could be leaked, surveyors sent completed surveys to the ODK database over the cellular network and deleted the responses from their tablet after each survey was completed.

Another concern given the topic of the study and the fact that we were asking subjects to describe in detail a situation, often traumatic, that made them afraid was that subjects could become traumatized. We dealt with this risk in three primary ways. First, the surveyors that implemented the study have significant experience working with the victims of violence through VfD's previous work with survivors to document the election violence that took place in 2008. Second, surveyors were trained to recognize signs of trauma, at what point to pause or stop the interview, and how to provide a limited amount of support during a post-interview debrief to subjects. Third, surveyors tracked whether or not subjects became traumatized to the point that they needed professional counseling. This was monitored in the field and by the investigator and plans for bringing subjects to a well-respected trauma center in Harare were made.

Although this study was carried out during a period in which repressive violence against opposition supporters was extremely uncommon, safety for the surveyors was also a significant concern. To further reduce the small probability that the surveyors themselves would be targeted by perpetrators of violence during the course of the study we took several steps. First, surveyors traveled in small teams but never alone. Second, they spent no more than a few days in each community, and did not go to the same community two days in a row. Third, they assessed the security situation in each community through the local mobilizers before entering the community. Fourth, although we recruited only opposition supporters to participate in the study, we asked subjects about their party identification early on in the survey to identify supporters of the regime who had mistakenly gotten into the subject pool. If they happened to survey a supporter of the regime, surveyors were trained to continue the study but skip all sensitive questions about politics and violence. Out of the target of 700 subjects, three recruited subjects ended up being supporters of the regime, and in all cases the enumerators followed the protocol appropriately. Finally, because Westerners are considered to be suspicious in many parts of Zimbabwe, particularly in the rural areas, I could not travel with the team. The use of the tablets and ODK software to send the data over the cellular network was an important implementation feature to overcome this limitation, as was relying on a highly skilled team leader who had a sophisticated understanding of the sampling and measurement strategies and could raise and even solve potential design problems proactively. Ultimately, due to these policies and primarily due to the discretion and good judgment of the research team, there were no security incidents or adverse events during the study.

Figure 1: Map of constituencies included in study



5.1 Recruitment

700 subjects were recruited from six communities in Zimbabwe where VfD has a network of mobilizers and informants, and which have also been affected by state-sponsored violence since 2000. Half of the subjects were recruited in the southern suburbs of the capital city Harare, and half from rural areas in Masvingo and Manicaland provinces in southern and eastern Zimbabwe. Figure 1 displays a map of the areas from which we drew our participants.

In each community, the research team used known local mobilizers to recruit opposition supporters, relying on local knowledge of residents' political beliefs in order to recruit and interview them discretely. Though my sample is by no means representative, the recruitment strategy aimed to correct for some first-order biases. In particular, I wanted to avoid recruiting only the most active opposition supporters in each community because they were much more likely to be recruited and I suspected that activists might react to repressive threats in a way that was different from most of the population. In most community, the surveyors started by interviewing the pro-democracy and pro-peace activists who were working as our mobilizers so that they understood the sensitive content of the study, and then asking them to recruit opposition supporters that they had been trying to mobilize, including those who were afraid to openly participate in opposition politics.

5.2 Summary statistics and measure validation

Participants in this study are a little more than half female. The modal respondent has a high school degree and the average age is 39. There is significant variation in asset ownership. To highlight just a few of the assets that we measured, around one in four owns a generator, more than one in three owns a smartphone, 34% have electricity in their home, more than one-third own cattle, and almost 60% own chickens. The median monthly income per capita within the subjects' households is $14.29, and the mean is $27.40, with 22% of respondents' households earning no income at all.

	Control	Fear General	Fear Political	Fear - Control	
		Mean		*Difference*	*p-value*
Female	0.54	0.50	0.53	0.03	0.60
Education	1.72	1.67	1.69	0.04	0.62
Age	38.99	39.77	40.26	-1.02	0.50
Generator	0.23	0.21	0.30	-0.03	0.55
Smartphone	0.38	0.33	0.40	0.02	0.76
Electricity	0.35	0.31	0.35	0.02	0.68
Bicycle	0.21	0.26	0.23	-0.04	0.41
Chickens	0.57	0.60	0.57	-0.01	0.87
Cattle	0.37	0.37	0.37	0.00	0.93
Income (USD)	22.61	25.40	26.97	-3.57	0.37

The average respondent in the sample has experienced a significant amount of past exposure to repressive violence. Since the year 2000 in the context of political violence, 40% of the control group reported that they have been assaulted, 41% experienced destruction of property, 21% abduction, 2% sexual violence, 0% murder, 43% torture, 19% arbitrary arrest or detention, and 67% withholding of benefits such as food or goods. When asked by respondents, surveyors defined "experience" for the respondent as something that happened to you or someone in your household.[2]

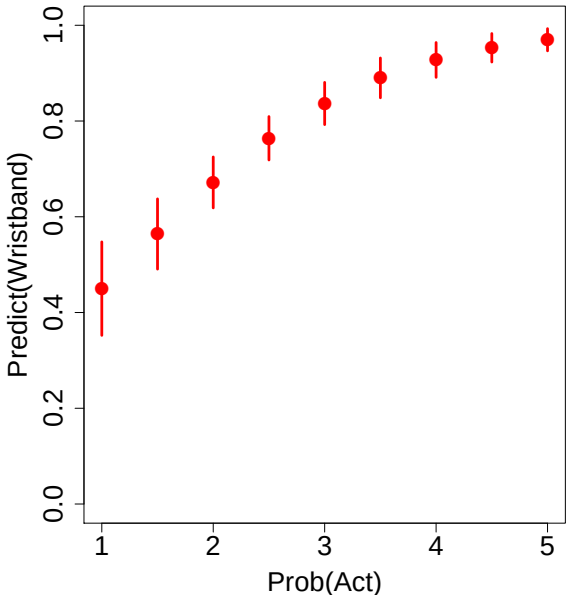
Before presenting the results it is also important to validate the choice of the political wristband as a measure of propensity to take political action.[3] To do so, I look at the distributions of the hypothetical and behavioral measures of propensity to take risky political action. The primary goal of this exercise is to test whether taking a political wristband does in fact seem to be an indicator of willingness to take pro-democracy action. In fact, the hypothetical index is strongly predictive

[2]Because these variables were measured post-treatment, I only report these statistics for the control group. The fear treatment did affect measurement of these variables by increasing reporting or recall of past exposure to violence and decreasing reporting of past activism.

[3]Because we increased the sample size of the study after piloting (but before pre-registration), we did not have enough wristbands for the full sample. The analyses with the wristband outcome presented throughout this paper are from a restricted sample of only people surveyed on days where we offered real wristbands. On days after the wristbands had run out, we still collected a hypothetical measure of whether they would prefer a wristband with a political message or a plain wristband.

of the binary wristband measure. Figure 2 shows that responses on the hypothetical measure of political action are strongly predictive of taking the wristband.

Figure 2: Validation of wristband as a measure of propensity to take political action



The predicted probability of taking the wristband for a respondent who on average responded that it is "not at all likely" that they would take the twelve political actions is 0.45. For someone who is on average "somewhat likely" to take action the predicted probability of taking the wristband is 0.84, and for someone who is "sure" that they would take all twelve actions the predicted probability of taking the wristband is 0.97. 95% confidence intervals are displayed around the predicted probabilities.

Qualitatively, subjects who did not take the political wristband reported that they were afraid to wear it, and there is no reason to expect that there are any financial or aesthetic reasons that subjects would choose the plain wristband, or that if there are that these would be affected by fear.

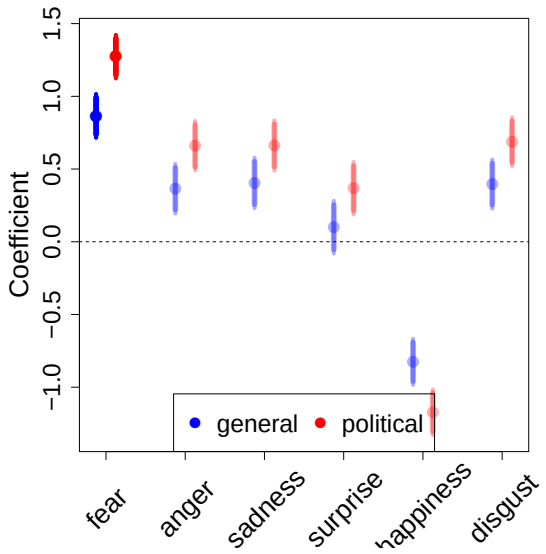
6 Results

6.1 Manipulation check

First I present the results of the manipulation check that the emotion inductions are actually increasing the level of fear reported by subjects. While I expected that the fear induction would also cause increases in other negative emotions and decreases in positive, my goal was to increase fear more than other emotions, and particularly more than anger, which other research has shown to

have opposite effects to fear on risk perceptions. Figure 3 presents the coefficients on regressions of the six primary emotions on the treatment indicators in a regression that includes controls for gender, age, education, socioeconomic status, and community fixed effects.

Figure 3: The impact of the treatments on six major emotions



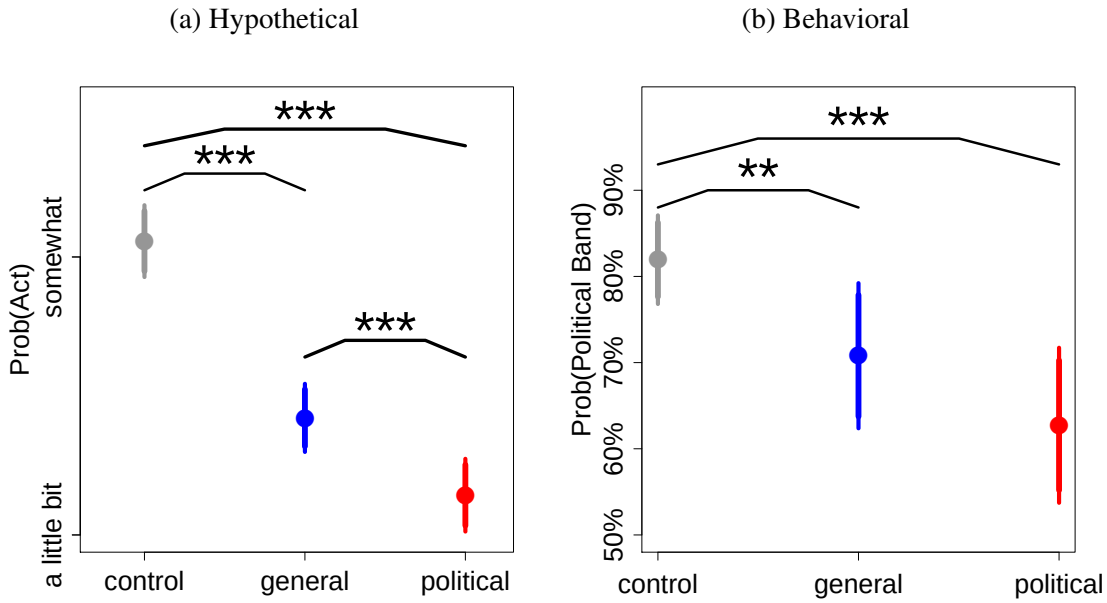
The coefficients presented in Figure 3 confirm that the emotion induction increased self-reported fear by a significant and substantively large amount. The political fear treatment increased fear by 1.7 points on a four-point scale, or 1.25 standard deviations. The general fear treatment increased reported fear by 1.18 points on the same scale, or 0.88 standard deviations. At the same time, happiness decreased by between 1.06 and 1.51 points, and other negative emotions increased by between 0.12 and 0.93 points.

6.2 The effect of fear of participation in collective dissent

In this section I test whether experimentally-induced fear reduces the self-reported and actual propensity of subjects to participate in expressions of collective dissent. I test this prediction by comparing propensity to take pro-democracy political action using both the self-reported hypothetical measure and the behavioral wristband measure. I measure participation in high-risk acts of dissent using an index of responses to the six separate ways that they could express dissent in two periods on a five-point likelihood scale.

As a behavioral measure of propensity to take pro-opposition action, I measure whether the subject chose to take as a thank-you gift a wristband inscribed with a pro-democracy, anti-violence message, or a plain wristband with no political message that is otherwise indistinguishable. As discussed in Section 5.2, taking the political wristband is strongly correlated with higher propensity

Figure 4: Fear and participation in collective dissent



to take pro-opposition actions on the hypothetical measure. The analysis presented here is restricted to the 441 subjects who actually had to choose whether they would take a real political wristband. Figure 4a plots the mean responses for each of the treatment groups with 90 and 95% confidence intervals. Brackets over the means denote the significance level of a difference-in-means test between pairs of experimental groups.

Figure 4a shows that subjects experiencing fear both report significantly lower likelihood of expressing dissent, and are less likely to actually take a wristband that indicates that they support democracy. These effects are substantively large and statistically significant, even on the binary measure of taking a wristband in a reduced sample. On the hypothetical measure, the average response was 3.05, almost exactly "somewhat" likely to take the average action, while in the general fear treatment it was 2.42 and in the political fear treatment it was 2.14. While the treatment effects are larger for self-reported propensity to act during the election period, there is no clear pattern in the size of the treatment effect across individual acts. The coefficients on all of the individual acts are significant. These results are presented in Appendix C.4.

On the wristband, while 81% are willing to take the wristband in the control group, only 71% of subjects experiencing general fear and 62% of subjects experiencing fear in a political context chose the political wristband that they were told would "show their political beliefs" over the plain option. These effects represent reductions of 14% in the case of general fear and 25% in the case of political fear.

6.3 Mechanisms: Beliefs about the risk of dissent and risk aversion

The first results provided strong support for the prediction that the emotion of fear has a causal effect on participation in pro-democracy political action. In this section, I test whether fear affects the variables that I posited as mechanisms – namely, that fear increases pessimism around the cost of expressing dissent and risk aversion. In this section I present difference-in-means tests and multivariate analyses to test these predictions.

Formally, I test the effect of the fear inductions on three outcomes: the index of expectations about how many other opposition supporters will take pro-democracy action, the index of the perceived risk of repression associated with attending a protest, and the amount of risk that the participant chose to take on the monetary lottery. In this section I present the results of difference-in-means tests between pairs of each of the three randomly assigned groups, and results broken down by period (now and during the next election) and by individual act of dissent or repression are presented in Appendices C.1 and C.2.

Figure 5 plots the mean responses for each of the experimental groups with 90 and 95% confidence intervals. Brackets over the means denote the significance level of a difference-in-means test between pairs of experimental groups. Figure 5a displays the effect of the treatments on expectations on others actions. Increases in the expectations of others' actions indicates that respondents believe that more of the other opposition supporters in their community would take pro-opposition action. Figure 5b displays the effect of the treatments on expectations of the respondent's personal risk of facing repression if she attended an opposition rally. Increases in this perceived risk index indicate that respondents believe that it is more likely that they would face repression. Finally, Figure 5c displays the effect of the treatments on the riskiness of the lottery that respondents chose to play during the survey. Higher values on this scale indicate that the respondent chose a lottery with a higher level of risk.

Figure 5: Beliefs about costs of collective action and risk aversion

(a) Beliefs about others' actions (b) Beliefs of own repression risk (c) Risk attitudes

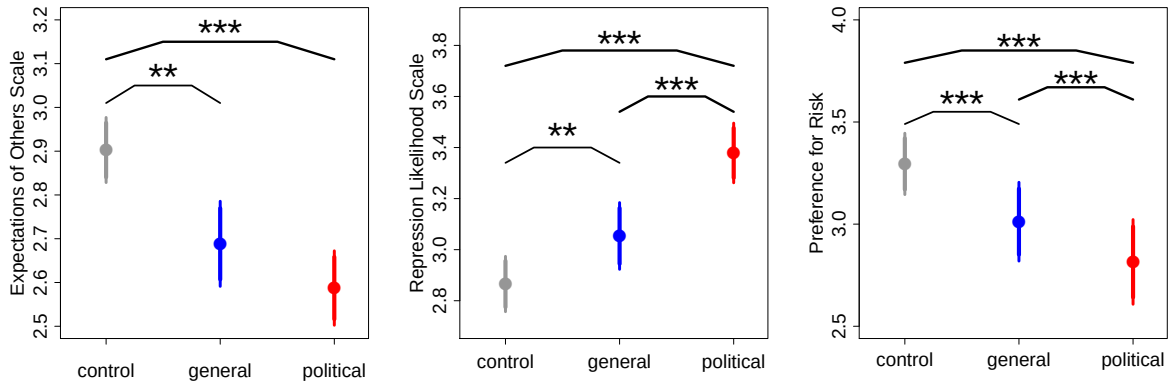


Figure 5 shows that both political and general fear cause participants to become more pessimistic in their estimation of parameters in the expected cost of expressing dissent, and more risk averse. Figure 5a shows that while the average response for the control group is 2.90, or almost precisely that on average "some" opposition supporters would take each pro-opposition action (in fact, the average response in the control group during a non-election period is 3.30, between "some" and "many", and the average during an election period is 2.51, between "a few" and "some"), the average for people induced to feel fear in a political or non-political context is 2.59 and 2.69, respectively.

These treatment effects are slightly larger for assessments of others' actions during election periods and for more contentious actions, although the differences between the treatment effects are not statistically significant. The political and general fear treatments have the largest effects on perceptions of the probability that other opposition supporters would share a joke about the president (a highly sensitive act in Zimbabwe) and testify in the trial of someone who has killed for ZANU-PF. Results by period and by act are shown in Appendix C.1.

Figure 5b shows that both political and general fear also increase expectations that subjects will personally be the victims of repressive violence if they attend an opposition rally. The average control group respondent thinks that it is slightly less than "somewhat" likely that they would experience the average act of violent repression ($\mu_C = 2.87$). In the general fear treatment, this perception increases to slightly more than somewhat likely ($\mu_{TG} = 3.05$), and in the political fear treatment, it is between somewhat and very likely ($\mu_{TP} = 3.38$). In this case, the difference between each of the fear treatment arms and the control is statistically significant (in the case of general fear, only at the 5% level) and the difference between the two fear treatments is also significant.

These treatment effects are again larger during election periods, and generally slightly larger for acts of repression that people judged to be more probable at an opposition rally, such as threats, assault, and destruction of property. They were lowest for sexual violence, which respondents generally judged to be improbable. Results by period and by risk are shown in Appendix C.2.

Figure 5c shows that subjects in the control group chose on average a lottery with a higher level of risk, compensated by a higher expected utility, than subjects in the two treatment arms. In fact, almost one in five (17%) of respondents in the control group seem to be risk-neutral, indicated by the fact that they chose the riskiest lottery with a spread of $1.10 despite the fact that its expected utility ($0.55) was equal to that of the second riskiest lottery with a spread of $0.90. In the general and political fear treatment arms, however, 10% and 12% of respondents chose a lottery indicating that they are risk-neutral, and much larger proportions of respondents chose lotteries with lower expected utilities in exchange for higher sure payouts.

Results for other attitudes including uncertainty aversion and loss aversion, are shown in Appendix C.3. These additional analyses are exploratory: because the psychology literature does

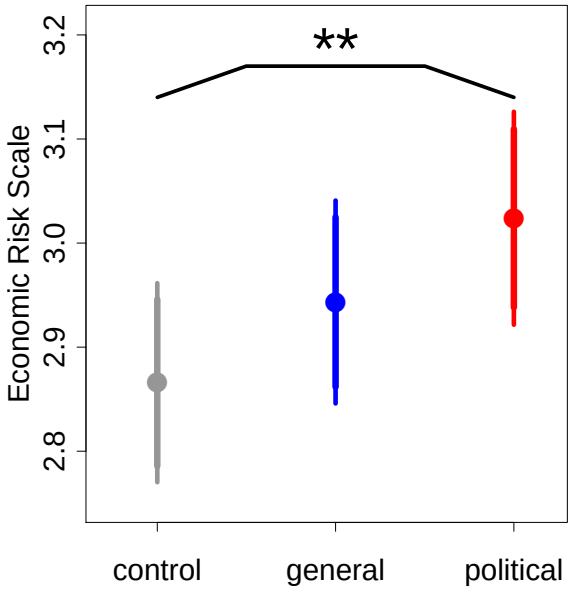
not have clear implications for how fear should affect attitudes towards losses or uncertainty, I did not pre-register predictions around how fear should affect these parameters. I do not find that fear has any effect on attitudes towards losses or uncertainty.

If we accept that individuals' attitudes towards risk are stable across domains, these results indicate that fearful citizens making decisions about whether or not to participate in pro-democracy collective action would need to perceive that the potential gains of participation actually outweigh the potential losses by a larger amount than citizens not experiencing fear.

6.4 Implications: The effect of fear on pessimism in economic domains

Finally, I test my prediction that fear, including fear of repression, should create pessimism that spills over into perceptions of economic domains. I have already shown that fear causes increases in risk aversion on a series of monetary lotteries, which has consequences for economic risk taking. To test whether fear also affects pessimism in economic domains, I measured a series of six perceived economic risks over two time periods and created an index of economic pessimism.[4] Figure 6 presents the distribution of perceived economic risks by treatment arm.

Figure 6: Fear and perceptions of economic risks



In the case of economic risks, subjects in both the general and political fear treatment arms

[4]The measures included in the economic pessimism index include the risk that a business would not make a profit (measured as the probability of making profits and then inverted), the risk of job loss, the risk of losing or breaking an asset, the risk of your economic situation in general getting worse, and the risk that a family breadwinner would have to stop working. For all six of these economic risks, I measured the perceived likelihood that it would happen in the next six months and in the next two years.

are more pessimistic than the control subjects. Only the difference between subjects experiencing fear in a political context, however, is statistically significant ($p = 0.03$). These results, coupled with the results showing that fear increases risk aversion on lotteries presented in Section 6.3, show that fear of repression affects beliefs and preferences in economic domains that could lead to under-investment and lower economic outcomes.

6.5 Implications: Heterogeneity in fear across individuals

So far, the results have shown that fear has a causal effect on participation in risky political behavior, and that this may be driven by increases in pessimism and risk aversion. Can this theory, however, help us understand which citizens will participate in pro-democracy action in a repressive environment? In this section I present an exploratory analysis of the demographic and psychological factors associated with feeling fear after repressive events, reducing participating in response to repressive events, and real past activism. My theory would predict that individual characteristics that are associated with higher propensities to feel fear in response to a threat – specifically, low self-efficacy and low socio-economic status – should be associated with higher levels of fear and lower activism in a repressive environment.

The data used in this section come from different sections of the same survey. The first two outcome measures are hypothetical: participants were asked to report how afraid they would be and how likely it is that they would attend a pro-opposition rally after two repression events described to them by the enumerator with randomly assigned characteristics.[5] The final outcome is an index of past participation in pro-opposition activism since the year 2000. Respondents were asked to report how often they had participated in eight different pro-opposition acts since 2000; these measures were combined into an index using principal components analysis. For past activism, because this demographic characteristic was measured post-treatment and reporting was affected by the fear treatment, I examine the correlates of past action both in the whole sample with controls for treatment status and only in the control group, whose reporting rates are unbiased by the fear treatment. Table 1 presents the results of this analysis.

Table 1 shows that the psychological characteristic of self-efficacy is strongly associated with resilience to fear and both the hypothetical and recalled measures of activism. Participants who are one standard deviation higher on the self-efficacy index report on average that they would be 0.13 standard deviations less fearful after a hypothetical repression event, and 0.28 standard deviations higher in their likelihood of attending an opposition rally after the repression event. Similarly, self-efficacy is related to past activism: a one standard deviation increase in self-efficacy

[5] In fact, these data were collected as part of a conjoint experiment testing how citizens interpret repression events as informational signals of their personal risk. The results of that experiment are written up in a separate paper; in this section I only use the data to do a correlational analysis.

Table 1: Correlates of fear and hypothetical and past participation in pro-democracy action

	Dependent variable:							
	Fear - Scenarios		Act - Scenarios			Past Activism		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Self-Efficacy Index		-0.13^{***}		0.28^{***}		0.18^{***}		0.15^{**}
		(0.04)		(0.04)		(0.04)		(0.06)
Female	0.06	0.07	-0.12	-0.14^{*}	-0.16^{**}	-0.18^{**}	-0.20^{*}	-0.22^{**}
	(0.08)	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.10)	(0.10)
Age	-0.02	-0.01	0.02	0.02	0.06^{***}	0.06^{***}	0.07^{***}	0.06^{***}
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Age^2	0.0001	0.0001	-0.0002	-0.0002	-0.001^{***}	-0.001^{***}	-0.001^{***}	-0.001^{***}
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0001)	(0.0001)	(0.0002)	(0.0002)
Education	-0.06	-0.05	0.06	0.04	0.01	-0.01	-0.08	-0.09
	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)
Assets Index	0.07	0.06	-0.06	-0.03	0.03	0.04	0.06	0.07
	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.07)	(0.07)
Treatment - General Fear	0.57^{***}	0.54^{***}	-0.49^{***}	-0.45^{***}	-0.32^{***}	-0.29^{***}		
	(0.09)	(0.09)	(0.09)	(0.09)	(0.08)	(0.08)		
Treatment - Political Fear	0.77^{***}	0.73^{***}	-0.72^{***}	-0.64^{***}	-0.45^{***}	-0.41^{***}		
	(0.09)	(0.09)	(0.09)	(0.09)	(0.08)	(0.08)		
Constant	0.43	0.33	0.19	0.38	-0.33	-0.20	-0.23	-0.11
	(0.36)	(0.36)	(0.36)	(0.35)	(0.33)	(0.33)	(0.46)	(0.46)
Community FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	665	662	666	663	665	662	327	325
R^2	0.14	0.15	0.12	0.18	0.12	0.14	0.10	0.12
Sample			All				Control	

Note: *p<0.1; **p<0.05; ***p<0.01

is associated with a 0.15-0.18 standard deviation increase in past activism.

However, demographic characteristics in this sample are largely unrelated to hypothetical and past fear and activism. Women and youth are less likely to report past activism, but education and assets – two measures found to be associated with higher self-efficacy in other samples – are unrelated to fear, hypothetical protest attendance, and past activism. This could be because this non-representative sample is relatively homogenous, with few middle or high income participants, or because these characteristics are not associated with higher self-efficacy in this context.

7 Conclusion

The empirical tests presented in this paper provide support for my theory that the emotion of fear enhances the effectiveness of repressive threats. The results from this lab-in-the-field experiment, conducted with almost 700 supporters of the opposition in urban and rural Zimbabwe, show that fear affects perceptions of key parameters in decisions to participate in collective action, including perceptions of the actions of other citizens, perceptions of your own risk of repression, and risk aversion. The finding that fear increases pessimism about personal risk of repression in this experiment is actually a replication of an earlier experiment using a similar methodology with 500 subjects that is presented in Appendix B, further increasing confidence in the result. Second, they show that fear causes reductions in both self-reported propensity to express pro-democracy and anti-regime preferences, and causes a reduction of between 14 and 25% in an actual behavior that indicates a desire to express support for democracy. Third, they show that fear of repression causes increases in pessimism about economic risks.

There are several important factors to keep in mind while interpreting these results. First, while my theory posits that perceptions of others' actions, own risk of repression, and risk aversion at least partially mediate the relationship between fear and collective action participation, I do not carry out a formal mediation analysis. In future work I hope to test for various perceptual and preference-based channels using an experimental design that allows me to isolate different ways that fear might reduce collective action. For now the results that I present provide strong support for many but not all of the causal relationships in my theory.

Second, while I predicted that general fear and fear in a political context would have the same effects on every outcome, we actually observe that political fear has a significantly stronger effect on a few outcomes. General fear and fear induced in the context of politics have statistically indistinguishable effects on perceptions of others' propensity to express dissent, risk attitudes, propensity to take a political wristband, and perceptions of economic risks. Fear induced in the context of politics has a significantly stronger effect on self-reported propensity to participate in dissent and beliefs about own repression risk. There are several reasons why that might be. First,

the emotion induction treatment to induce fear in a political context induced significantly more fear than the general emotion induction.

This evidence provides strong support for my theory that the fear instilled by exposure to repressive violence enhances the effectiveness of the informational signal. As I show in other work, acts of repressive violence send signals to opposition supporters about their personal risk of facing repression that are interpreted in logical ways. Because the goal of repressive threats is to coerce citizens into not taking action against a regime that they do not support, the fact that this violence also instills a terror that leads people to become pessimistic and risk averse increases the potency of this informational signal. Ultimately, fear enables regimes to exaggerate their coercive capacity. The effect on perceptions of risk in Zimbabwe is quite stark: although at the peak of Zimbabwe's violence in 2008, 200 people are actually known to have been killed, almost one in four subjects in the control group (23%) believe that it is sure that they would be killed if they attend an opposition rally during an election period. This is in line with a large body of research showing that people over-estimate risks that instill "dread" due to their catastrophic potential and uncontrollable nature (Slovic, 1987), and that people overestimate small probabilities (Kahneman, 2013). It is also in itself compelling evidence that understanding how subjective perceptions of risks are formed has the potential to explain a significant amount of variation in participation in pro-democracy collective action.

In addition, these results suggest another mechanism by which autocracy can depress growth. If large numbers of citizens are receiving chilling news about activists being abducted, candidates harassed, or protesters beaten on a daily basis and subsequently fearing for their own safety, the effects measured here could aggregate up into meaningful increases in pessimism and risk aversion in economic decisions. The results presented here show that in the context of a short experiment, fear of repression is associated with increases in perceptions of economic risks and a behavioral measure of risk-taking. While these parameters are logically related to reductions in investment or effort in economic activities, it remains to be tested in future studies whether fear of repression might cause changes in economic behavior through these cognitive channels.

These results imply that a view of human decision-making that is more firmly grounded in cognitive psychology has significant potential to explain behavior in contentious politics. It builds on rational choice models of participation in protest by providing insight into how beliefs about key parameters that shape the expected utility of costs and benefits are formed and aggregated. It also contributes to the study of emotions in social movements by developing a novel view of how emotions shape participation and testing a theory, to my knowledge for the first time, using an experimental design that can show conclusively that emotions play a causal role in high-risk, pro-democracy mobilization. Last, it suggests that there is significant potential for theories and methods from political psychology in the US to be tested in new contexts.

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A Treatment text

Table 2: Reflection Treatments

Assignment		
Control	General	Political
$N = 350$	$N = 175$	$N = 175$
1. What are the three to five activities that you like to do to relax? Please tell me two to three sentences about each thing that you like. (Examples of things you might talk about include: playing with your children, resting, taking tea, talking to friends.)	1. What are the three to five things that make you most afraid? Please tell me in two-three sentences about each thing that makes you afraid. (Examples of things you might talk about include: being alone on a dark street, being in a traffic accident, dangerous animals like snakes or lions, etc.)	1. What are the three to five things that make you most afraid about politics and elections? Please tell me in two-three sentences about each thing that makes you afraid. (Examples of things you might talk about include: getting beaten up, being abducted, losing your home, etc.)
2. Now we'd like you to describe in more detail the (another) way you typically like to relax. Begin by giving a description of your favorite relaxing activities. Examples of things you might describe include going to church, spending time with certain friends, watching football, eating a meal with your family, etc. What is it like to be in this situation? Why is it so relaxing? **X2**	2. Now we'd like you to describe in more detail the one (another) situation that makes you most afraid. This could be something you are presently experiencing or something from the past. Please tell me as if you're trying to make me afraid as well. What is it like to be in this situation? Why is it so scary? **X2**	2. Now we'd like you to describe in more detail the one (another) situation around elections and politics that makes you most afraid around politics and elections. This could be something you are presently experiencing or something from the past. Please tell me as if you're trying to make me afraid as well. What is it like to be in this situation? Why is it so scary? **X2**

Enumerators were given a list of probes to use to follow up on the response, including "What makes you feel most relaxed / afraid?", "Why does it make you feel so relaxed / afraid?", and "What does it feel like to be relaxed / afraid?"

B Results from the first experiment

The first experimental test of some of the propositions tested here was carried out in May 2015 with a similar subject population. While most of the experimental design was the same, there were several aspects that differed. First, we induced three different emotions: anger, fear, and a relaxed control. Second, all subjects were asked about past exposure to political violence before they received the emotion induction treatments. Third, rather than using different instructions for the political and apolitical versions of the emotion inductions, we used an encouragement design that increased the proportion of subjects who reflected on political anger and fear by randomizing the order of two pre-treatment modules of questions. Specifically, some people were asked to reflect on what makes them angry or afraid immediately after answering a module of questions on past political violence, while for others that module came earlier in the study. Fourth, in the emotion inductions, in addition to describing something that makes them angry, afraid or relaxed, subjects looked at a photograph of a person expressing that emotion.

These aspects of the design were changed in the second round for various reasons. The anger treatment was dropped in order to increase power for the fear treatment. The questions about past political violence were moved to the end of the survey because of worries that they were priming everyone to think about traumatic negative events and therefore reducing the effect sizes. The encouragement into thinking about politics was dropped in favor of directly asking some people to think about politics and giving examples

Table 3 also shows that fear is associated with decreases in the propensity to act, but these effects are not significant. This may be because respondents did not seriously consider the hypothetical actions, or because the increases in risk perceptions did not lead them to change their propensity to act. To test whether this might be a measurement issue, I will take a several steps. First, because it is possible that the effect of the primes had simply worn off during the questions about political risks, I will randomly assign the order of the risk assessments and political action measures. Second, because it is possible that subjects don't take the hypothetical questions seriously, I will add a real, though low-risk, political action. Although my hypotheses predict that fear should decrease political action, I have no previous estimates of this relationship to give me strong priors about what the effect size might be.

Table 3: Effect of fear and anger stimuli on perceived probability of punishment and propensity to act

	Dependent variable:					
	Prob(Pun)			Prob(Act)		
	(1)	(2)	(3)	(4)	(5)	(6)
Fear	0.27^{**}	0.25^{**}	0.27^{*}	-0.04	-0.05	-0.07
	(0.11)	(0.11)	(0.15)	(0.12)	(0.12)	(0.16)
Anger	0.16	0.15	0.15	-0.06	-0.07	-0.09
	(0.11)	(0.11)	(0.15)	(0.12)	(0.12)	(0.16)
Political (Z)			0.03			0.03
			(0.15)			(0.17)
Fear × Political (Z)			-0.04			0.05
			(0.22)			(0.24)
Anger × Political (Z)			-0.02			0.03
			(0.22)			(0.24)
Female	-0.08	-0.08	-0.08	-0.49^{***}	-0.47^{***}	-0.47^{***}
	(0.09)	(0.09)	(0.09)	(0.10)	(0.10)	(0.10)
Age		0.03	0.03		0.04^{*}	0.04^{*}
		(0.02)	(0.02)		(0.02)	(0.02)
Age^2		-0.0003	-0.0003		-0.0005^{*}	-0.0005^{*}
		(0.0003)	(0.0003)		(0.0003)	(0.0003)
Education		0.08^{**}	0.08^{**}		-0.13^{***}	-0.13^{***}
		(0.04)	(0.04)		(0.04)	(0.04)
Assets		0.05	0.05		-0.04	-0.04
		(0.05)	(0.05)		(0.05)	(0.05)
Intercept	2.10^{***}	1.13^{**}	1.12^{**}	3.28^{***}	3.03^{***}	3.03^{***}
	(0.15)	(0.49)	(0.49)	(0.17)	(0.52)	(0.53)
Community FE	✓	✓	✓	✓	✓	✓
Observations	473	473	473	473	473	473
R^2	0.25	0.26	0.26	0.17	0.19	0.19
Specification	OLS	OLS	OLS	OLS	OLS	OLS

Standard errors in parentheses.
*p<0.1; **p<0.05; ***p<0.01

C Supplemental analysis

C.1 Perceptions of others' actions

Table 4: The effect of fear on perceptions of others' actions by period

	Dependent variable:	
	Others' Actions Index	
	Now	Election
	(1)	(2)
Fear - General	-0.19^{***}	-0.24^{***}
	(0.07)	(0.07)
Fear - Political	-0.30^{***}	-0.32^{***}
	(0.07)	(0.07)
Female	0.0002	-0.12^{**}
	(0.06)	(0.06)
Age	0.02	0.005
	(0.01)	(0.01)
Age^2	-0.0002	-0.0000
	(0.0001)	(0.0001)
Education	0.02	0.01
	(0.04)	(0.04)
Assets Index	0.05	0.05
	(0.04)	(0.04)
Constant	3.27^{***}	2.44^{***}
	(0.28)	(0.26)
Community FE	✓	✓
Observations	649	649
R^2	0.056	0.061
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 5: The effect of fear on perceptions of others' actions by act

	Dependent variable:					
	Shirt	Joke	Rally	Reveal	Refuse	Testify
	(1)	(2)	(3)	(4)	(5)	(6)
Fear - General	-0.14^{*}	-0.30^{***}	-0.16^{*}	-0.17^{**}	-0.22^{***}	-0.30^{***}
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Fear - Political	-0.28^{***}	-0.33^{***}	-0.28^{***}	-0.26^{***}	-0.29^{***}	-0.43^{***}
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Female	0.02	-0.07	-0.01	-0.15^{**}	-0.07	-0.08
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Age	0.002	0.02	0.02	0.0002	0.01	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Age^2	-0.0001	-0.0002	-0.0002	0.0000	-0.0001	-0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Education	0.04	0.05	0.001	-0.03	0.01	0.02
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Assets Index	0.002	0.04	0.04	0.08^{*}	0.03	0.07
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Constant	3.42^{***}	2.40^{***}	3.03^{***}	3.04^{***}	2.91^{***}	2.32^{***}
	(0.31)	(0.31)	(0.32)	(0.30)	(0.30)	(0.31)
Community FE	✓	✓	✓	✓	✓	✓
Observations	649	649	648	649	649	649
R^2	0.04	0.06	0.04	0.05	0.04	0.09

Note: *p<0.1; **p<0.05; ***p<0.01

C.2 Perceptions of own repression risk

Table 6: The effect of fear on perceptions of own repression risk by period

	Dependent variable:	
	Repression Risk Index	
	Now	Election
	(1)	(2)
Fear - General	0.19*	0.18*
	(0.11)	(0.09)
Fear - Political	0.48***	0.56***
	(0.11)	(0.09)
Female	−0.13	0.03
	(0.09)	(0.08)
Age	0.01	0.02
	(0.02)	(0.02)
Age^2	−0.0001	−0.0002
	(0.0002)	(0.0002)
Education	−0.02	−0.004
	(0.07)	(0.06)
Assets Index	0.03	0.16***
	(0.06)	(0.05)
Constant	1.39***	3.60***
	(0.42)	(0.37)
Community FE	✓	✓
Observations	646	646
R^2	0.06	0.11
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 7: The effect of fear on perceptions of own repression risk by risk

	Dependent variable:					
	Threat	Assault	Property	Abduction	Sexual	Murder
	(1)	(2)	(3)	(4)	(5)	(6)
Fear - General	0.24^{**}	0.22^{**}	0.23^{**}	0.20^{**}	0.07	0.16^{*}
	(0.10)	(0.09)	(0.10)	(0.10)	(0.11)	(0.09)
Fear - Political	0.55^{***}	0.51^{***}	0.60^{***}	0.55^{***}	0.37^{***}	0.55^{***}
	(0.10)	(0.09)	(0.10)	(0.10)	(0.11)	(0.09)
Female	-0.15^{*}	-0.06	-0.07	-0.01	-0.02	-0.01
	(0.08)	(0.08)	(0.08)	(0.08)	(0.09)	(0.08)
Age	0.02	0.03^{*}	0.03^{*}	0.01	0.02	0.002
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age^2	-0.0002	-0.0003	-0.0003	-0.0001	-0.0002	-0.0000
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Education	0.005	-0.01	-0.06	0.01	-0.02	-0.02
	(0.06)	(0.06)	(0.06)	(0.06)	(0.07)	(0.06)
Assets Index	0.09^{*}	0.06	0.10^{*}	0.09^{*}	0.10^{*}	0.12^{**}
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)
Constant	2.40^{***}	2.28^{***}	2.51^{***}	2.49^{***}	2.43^{***}	2.90^{***}
	(0.38)	(0.37)	(0.39)	(0.38)	(0.42)	(0.37)
Community FE	✓	✓	✓	✓	✓	✓
Observations	645	646	646	646	646	646
R^2	0.08	0.06	0.08	0.07	0.06	0.07
Note:						*p<0.1; **p<0.05; ***p<0.01

C.3 Fear and attitudes towards risk

Table 8: The effect of fear on risk attitudes

	Dependent variable:					
	Risk Acceptance		Uncertainty Acceptance		Loss Acceptance	
	(1)	(2)	(3)	(4)	(5)	(6)
Fear Treatment - General	-0.34^{***}	-0.34^{***}	-0.09	-0.09	0.15	0.15
	(0.11)	(0.11)	(0.12)	(0.12)	(0.16)	(0.16)
Fear Treatment - Political	-0.45^{***}	-0.44^{***}	0.04	0.04	0.19	0.18
	(0.11)	(0.11)	(0.12)	(0.12)	(0.16)	(0.16)
Female	-0.09	-0.09	0.12	0.10	0.35^{**}	0.35^{**}
	(0.09)	(0.10)	(0.10)	(0.10)	(0.14)	(0.14)
Age		0.02		-0.02		0.004
		(0.02)		(0.02)		(0.03)
Age^2		-0.0002		0.0002		-0.0000
		(0.0002)		(0.0002)		(0.0003)
Education		-0.04		-0.03		0.07
		(0.07)		(0.07)		(0.10)
Assets Index		0.13^{**}		-0.06		-0.14
		(0.06)		(0.07)		(0.09)
Constant	3.13^{***}	2.52^{***}	0.03	0.47	-0.10	-0.12
	(0.21)	(0.45)	(0.23)	(0.48)	(0.31)	(0.66)
Community FE	✓	✓	✓	✓	✓	✓
Observations	669	666	669	666	669	666
R^2	0.05	0.07	0.01	0.02	0.02	0.02

Note: *p<0.1; **p<0.05; ***p<0.01

C.4 Self-reported own propensity to participate in collective dissent

Table 9: The effect of fear on self-reported propensity to act by period

	Dependent variable:	
	Own Propensity to Act Index	
	Now	Election
	(1)	(2)
Fear - General	-0.558^{***}	-0.698^{***}
	(0.103)	(0.105)
Fear - Political	-0.857^{***}	-0.958^{***}
	(0.103)	(0.106)
Female	-0.143	-0.169^{*}
	(0.087)	(0.089)
Age	0.029^{*}	0.024
	(0.017)	(0.017)
Age^2	-0.0003^{*}	-0.0003
	(0.0002)	(0.0002)
Education	0.076	0.127^{**}
	(0.062)	(0.063)
Assets Index	0.107^{***}	0.026
	(0.037)	(0.038)
Constant	2.739^{***}	2.116^{***}
	(0.369)	(0.378)
Community FE	✓	✓
Observations	647	647
R^2	0.133	0.148
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 10: The effect of fear on own propensity to act by act

	Dependent variable:					
	Shirt	Joke	Rally	Reveal	Refuse	Testify
	(1)	(2)	(3)	(4)	(5)	(6)
Fear - General	-0.58^{***}	-0.64^{***}	-0.55^{***}	-0.63^{***}	-0.64^{***}	-0.67^{***}
	(0.12)	(0.11)	(0.11)	(0.12)	(0.12)	(0.12)
Fear - Political	-0.95^{***}	-0.87^{***}	-0.84^{***}	-0.87^{***}	-0.99^{***}	-1.00^{***}
	(0.12)	(0.11)	(0.11)	(0.12)	(0.12)	(0.12)
Female	-0.03	-0.14	-0.19^{**}	-0.25^{**}	-0.13	-0.30^{***}
	(0.10)	(0.09)	(0.09)	(0.10)	(0.10)	(0.10)
Age	0.003	0.04^{**}	0.03^{*}	0.04^{**}	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Age^2	-0.0001	-0.0004^{**}	-0.0004^{*}	-0.0005^{**}	-0.0002	-0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Education	0.10	0.14^{**}	0.08	0.05	0.14^{*}	0.17^{**}
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Assets Index	-0.02	0.04	0.02	-0.08	-0.04	-0.04
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Constant	3.77^{***}	1.58^{***}	3.38^{***}	2.67^{***}	2.67^{***}	2.36^{***}
	(0.46)	(0.44)	(0.44)	(0.47)	(0.46)	(0.46)
Community FE	✓	✓	✓	✓	✓	✓
Observations	647	647	647	647	646	646
R^2	0.13	0.13	0.12	0.12	0.14	0.15
Note:						*p<0.1; **p<0.05; ***p<0.01