

Citizens and Preparedness: Expectations, Attitudes, and Behavior

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ABSTRACT

How do citizens assess their level of risk with respect to disasters? How prepared are citizens for a disaster? What do citizens expect from government during a disaster? Since the events of September 11, 2001 and the creation of a new Department of Homeland Security at the national level, as well as analogous functions at the state and local levels, concern about terrorism and emergency preparedness more broadly prompts policy researchers, public managers, and elected officials to want to understand citizens' attitudes about risks and readiness—both government's and their own. Our paper reports the results of a 2006 study funded by the U.S. Department of Homeland Security. The project involved a telephone survey of 1802 adults nationwide and in New York City and the District of Columbia. In this paper, we use the survey results to examine citizen trust, expectations, perceptions, behaviors, attitudes, and preferences with regard to their own preparedness, and with regard to government activities. We also identify determinants of preparedness behavior, and use the stratified structure of our study to explore potential history effects.

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I. Introduction

Since September 11, 2001, governments at all levels have substantially increased resources for homeland security, particularly providing for more emergency response capacity. While scholars have examined crisis and disaster management in a serious way since at least the early 1980's, recent events have prompted heightened attention to emergency preparedness. Much of this emerging literature looks at the activities of governments and other institutions, often relying on single case analysis. The readiness of society to respond to and recover from disasters is, however, co-produced. Citizens are important contributors to preparedness, yet relatively few public resources have been dedicated to understanding or improving individual-level preparedness, and few research studies give systematic attention to public opinion and behavior. Notable exceptions include some survey research by scholars at George Mason, Columbia, and Harvard Universities. This paper extends these efforts and further explores the relationship of citizens and preparedness. We focus on two questions: First, how prepared are citizens for a disaster? Then, what determines their level of preparedness?

Our paper reports the results of a study funded by the National Science Foundation and the Department of Homeland Security's Science and Technology Directorate. The project involved six citizen focus groups followed by a set of 1802 twenty-minute computer-assisted telephone interviews administered nationwide and in New York City and the District of Columbia, during the period February 6 – March 17, 2006. The focus groups engaged citizens in processes designed to reveal their concerns

about and support for a variety of preparedness and response solutions. Themes, lessons, and conclusions from the focus groups were then further explored through the large sample telephone surveys. In this paper, we analyze the survey findings, with particular attention to citizen trust, expectations, perceptions, behaviors, attitudes, and preferences with regard to their own preparedness, and with regard to government activities. We also identify determinants of citizen behaviors, and use the stratified structure of our study to explore potential history effects.

This paper is organized as follows. The next section briefly discusses existing findings about emergency preparedness relevant to the hypotheses we will test. Then we present describe our survey method and discuss our findings. Finally, we consider the implications of findings for public policy.

II. Literature and hypotheses

Our core interest is in understanding citizen preparedness. The events of 9/11 reinvigorated government efforts to encourage citizens to prepare themselves for major disasters, especially terrorism. Web sites like “ready.gov” promote family, individual, and business preparedness, and provide guidance about how to plan for a disaster and what to do in the event of a disaster. Analogs abound at the state and local level. Likewise, nonprofit organizations like the American Red Cross post similar direction. Systematic study of individual preparedness is rare, however, and scholarship is lean. Several surveys, especially soon after 9/11, have queried people about their views of terrorism and other disasters and their belief about what government would do to help

them in the aftermath. (For one set of reviews, see ORC Macro, 2005 and 2006.)

Notably, Redlener *et. al.* (2006) have conducted a series of national telephone surveys of adults, and report that trend data reveal an ongoing loss of confidence in government and inadequate levels of personal preparedness. At the same time, La Porte *et. al.* (2005) find that fifty to ninety percent of people across the nation have made adequate preparations for short periods of interrupted services.

Beyond understanding the level of citizen preparedness, we are interested in what determines this preparedness. Scholars have considered whether people's attitudes about public services affect their choices, specifically their support and willingness to pay for these services. In the domain of public safety, Donahue and Miller (2005) use data from a telephone survey that employed a contingent valuation structure to explore the nature of the relationship between citizens' attitudes about police services and their willingness to pay for them, with particular attention to the influences of demographic traits, television media, and direct contact with service providers on preferences. They find that attitudes predict willingness to pay for police, holding the demographic attributes of respondents constant, and that the effects of some demographic traits on demand for services are mediated by preferences. In a related study (2006), they find that direct experience with police and fire services and beliefs about these services (such as character, trust, quality and importance) both affect citizens' willingness to pay for them. These studies suggest that beliefs, attitudes, and personal experience may also affect other individual-level choices, such as what actions people will take to prepare themselves.

We address the following research question: What determines how prepared individuals are? We test the following hypotheses to explore this question:

- H_{∅1} Trust in government has no effect on how prepared individuals are
- H_{A1} Those who trust government less will be more prepared

- H_{∅2} Belief a terrorist attack is likely has no effect on how prepared individuals are
- H_{A2} Those who believe a terrorist attack is likely will be more prepared

- H_{∅3} Belief the federal government is responsible for emergency response has no effect on how prepared individuals are
- H_{A3} Those who believe the federal government is responsible for emergency response will be less prepared

- H_{∅4} Family structure has no effect on how prepared individuals are
- H_{A4} Those with close family responsibilities will be more prepared

The first hypothesis attempts to measure the impact of a reduced level of trust in government on individual preparedness. Some assert that trust in government has been declining for decades, while time series results suggest that trust levels have fluctuated since the mid 1970's (see a review of the literature on political trust by Levi and Stoker, 2000). Evidence does suggest, however, that trust affects individuals' vote choices (Levi and Stoker, 2000). Directly relevant to preparedness, recent disasters have affected citizens' trust in government (Mackenzie and Labiner, 2002; Cole and Kincaid,

2006), and public concern about threats to national security may influence cynicism about government (Chanley, 2002). In a general study of public support for government spending, Rudolph and Evans (2005) find that when political trust rises, so too does the demand for increased government intervention. Also, Lasker (2004) uses findings from a national survey to show that people who don't have a lot of trust in government are half as likely to cooperate with government instructions in the case of smallpox and dirty bomb terrorist scenarios. Consequently, we are interested to see if citizen trust in government also influences their personal actions. Our expectation is that people who trust government less are more likely to assume that they will need to take care of themselves and will take action to do so.

Hypothesis two looks at respondents' belief in the likelihood of a terrorist attack somewhere in the United States and also in their own community. Several polls over the past six years have assessed people's expectations in this regard. For example, after a study of public opinion in the National Capital Region (NCR), LaPorte *et. al.* (2005) report that people feel vulnerable to attack, and that 78 percent of both residents of the United States and the NCR believe another terrorist attack is likely in the United States, and 66 percent of respondents in the NCR think another attack is likely in Washington. Gerber and Neeley (2005) find that greater perceived risk generally produces support for more proactive government action to manage potential hazards. We expect that the more heightened a citizens' belief that a terrorist attack will occur, the more they are likely to take actions to prepare themselves as well. We anticipate this will be especially true for those that think an attack is likely in their own community.

Our third hypothesis examines how citizens' expectations about what governments should do after a disaster influence their own preparedness. Redlener *et al.* (2006) find that only 35 percent of adults are confident in the government's ability to oversee spending and set priorities on terrorism and disaster preparedness. Our hypothesis is founded on the notions of moral hazard (Arrow, 1965) and risk aversion (Friedman and Savage, 1948), where an individual who is insulated from risk will be less concerned about the negative consequences of that risk than they otherwise might be, and make less effort to protect themselves from it. We speculate that if citizens believe the federal government is responsible for response, they will rely on "big brother" and take less responsibility themselves. As far as we know, previous studies have not examined this question.

Our final hypothesis considers how people's sense of responsibility toward others influences the actions they take. In a national survey of U.S. adults soon after 9/11, Lasker (2004) looked at how people say they would react after a terrorist attack. He finds that many people face conflicting obligations, and assuring the safety of people who are dependent on them is often more important than insuring their own safety. Further, some studies distinguish between personal threat (threats that affect an individual or that person's immediate family) from national threats, and find that personal threat is more consequential to personal behavior than is national threat (Huddy *et al.*, 2002). Thus, we expect that an individual with close ties to family members will be more likely to take actions to prepare themselves.

III. Methods and Data

This project employed a twofold process aimed at eliciting the concerns and opinions of citizens throughout the country about various technologies and disaster response initiatives. The first phase of the design focused on a set of citizen focus groups, while the second phase used the opinions and concerns raised in the focus groups to design a large sample telephone survey. The focus groups were designed to reveal their concerns about and support for a variety of preparedness and response solutions. Six focus groups covered three main topic areas. These topics addressed specific technology solutions, citizen behavioral responses to particular disaster scenarios, and citizen preferences when balancing liberty and protection with government spending and tax burdens. Themes, lessons, and conclusions from the focus groups lend nuance and provide clues about how to interpret the results obtained through the large sample telephone surveys.

Survey implementation

The survey was administered to representative samples of adult residents throughout the United States, in New York City, and in the metropolitan District of Columbia area. New York City and Washington D.C. were included because both are large cities that have been the target of terrorist attacks, that have subsequently received substantial funding for terrorism-related programs, and that already employ some terrorism-related technologies. If perception of risk and focus on preparedness exists among citizens anywhere, we might expect to see it most in these two cities.

The survey employed probability sampling and was generated by random digit dialing (RDD) so that the three samples included private households with telephones.¹ Because our population of interest was adult residents, the youngest male or oldest female over 21 years old in each household was selected to be interviewed.² Spanish-speaking interviewers conducted the survey with non-English-speaking respondents.³ We used a sample size of 1000 for our survey of residents in the United States to produce average responses on survey items that are within the margin of error of +/- three percent of the values in the total population at a 95 percent level of confidence. Likewise, our sample sizes were 400 each for New York City and Washington D.C. to produce average responses on survey items that are within the margin of error of +/- five percent at a 95 percent confidence level. Ultimately, we completed 1802 twenty-minute computer-assisted telephone interviews during the period February 6 – March 17, 2006.

The RDD method, coupled with these sample sizes, assured a set of survey responses that fairly represent the responses of the general public.⁴ To better

¹ Random digit dialing generates phone numbers for all households with land-line telephones (even those that are unlisted). In RDD, all valid 3-digit area codes and valid 3-digit prefixes within those area codes are selected for the population of interest. A computer then appends randomly-generated 4-digit suffices to create complete phone numbers. RDD does not allow households without landlines, institutional living units, or businesses to be included in the sample.

² Because men are less likely to be home than women, and younger people are less likely to be home than older people, there is a tendency for phone survey samples to under-represent young men. The “youngest male, oldest female” method brings the demographics of the survey population more in line with the actual population.

³ For the national sample, 4.4 percent of the surveys were conducted in Spanish. Two percent of the Washington DC surveys and five percent of the New York City surveys were in Spanish.

⁴ The response rate was 13%. The response rate represents the proportion of respondents that participated in the survey compared to those that did not. Respondent phone numbers were selected

understand the representativeness of our sample of respondents to the population of adults, we compared the demographics of our survey to those compiled by the U.S. Census Bureau. We found that our national sample underrepresented residents who are of Hispanic origin, black, and Asian, as well as Spanish speakers who speak English less than very well. Among our Washington D.C. respondents, blacks were strongly underrepresented, and whites overrepresented. In New York City, black and Asian residents were slightly underrepresented. In addition, our survey respondents were more likely to be female, older, more educated, and wealthier than in the greater populations nationally and in both cities. These biases are typical in sample surveys with even very high response rates (for example, Brehm 1993), so our sample seems to be reasonably representative of our population of interest. Further, while our sample differs from the population as a whole on these demographic parameters, it looks similar to the voting population.

We also investigated the potential for non-response bias by examining the characteristics of those who were selected for but refused to participate in the national survey. We re-contacted a random selection of one hundred people across the United States who had originally refused to complete the telephone survey and asked them only demographic questions. We found that the characteristics of those who refused to participate in our survey are very similar to those of United States respondents across all

randomly. Selected phone numbers might not have led to participation in the survey for several reasons, such as disconnected phones, repeated failed attempts to contact the respondent, or respondents refusing to participate. Non-response does mean that the sample of respondents who completed the survey is a subset of the sample of households generated, and thus may no longer be representative of the population of interest.

demographic characteristics. This assures us that the bias introduced by non-response is unlikely to affect our findings in any manner associated with the observable attributes of the respondents.

The telephone survey questions were constructed based on feedback we solicited from focus groups and on hundreds of previously used public opinion questions related to security, technology, threats, attitudes toward government, emergency management, and willingness to pay taxes obtained through archival polling data provided by the University of Connecticut's Roper Center. These questions were narrowed to those most related to the current study. We also drafted new questions based on the unique purposes of this research project. Once a full set of questions was developed, questions were reviewed for clarity, validity, and reliability. We then pre-tested the survey instrument with members of the general public. Questions were again revised to arrive at a final question set.

Model and measures

Elsewhere we present findings from this survey that concern levels and predictors of citizen support and willingness to pay for public services and technologies related to preparedness for terrorist attacks and other large disasters. In this paper, we focus on the issue of individual preparedness. To get at this, we asked citizens several questions about their own preparedness activities. Some of our questions asked for a summary self-assessment. Specifically, we asked respondents how confident they are that they are personally prepared to take care of themselves and their families during a major disaster; that they would know what to do if they couldn't receive outside

communication because their devices like phone, television, and internet wouldn't work; and that they know where their local government wants them to go in case their area has to be evacuated during a major disaster or terrorist attack.

Some psychological research suggests that people's responses when they are asked to make complex summary judgments are less valid than when they are asked about the components of the summary judgment, because of the cognitive demand of blending the factors that comprise the summary assessment (see, for example, Armstrong, Denniston, and Gordon, 1975). We therefore asked respondents about particular preparedness activities they had undertaken. Specifically, we asked whether or not they had set aside a supply of bottled water, a supply of nonperishable food, flashlights, a generator, and a battery powered radio in case of a disaster. We also asked whether they had a plan for meeting up with members of their household after a disaster occurs.

To help us assess influences on individual preparedness, we created an additive index of preparedness using the responses to eight of these questions (range 2-14; $\alpha = 0.69$). We must be cautious about the strength of conclusions we draw based on this index, since it rests on individuals' assessments of their own preparedness. Some studies suggest that people may over-estimate their preparedness. For example, one meta-analysis of over 30 citizen surveys concluded that "A striking finding is that respondents' perceptions of their preparedness for a disaster (as measured by those who responded that they were prepared or somewhat prepared) are much greater than their actual preparedness..." (ORC Macro, 2005, p. 1). By including specific questions

about what items individuals have set aside in case of a disaster in our survey, we hoped to confirm their self-assessments. We have some indication that our strategy is helpful. We began by asking asked respondents the following question: “First, I want you to imagine that a major disaster like an earthquake or a major storm hit your area. How confident are you that you personally are prepared to take care of yourself and your family during such an event?” We then asked respondents whether or not they had set aside each of a list of specific items in case of a disaster, as described above. After this battery of questions, we then asked the question: “Now that you've had a chance to consider what items you have set aside in case a major disaster occurs, how confident are you that you personally are prepared to take care of yourself and your family during such an event?” Even after respondents were made mindful of some of their own preparedness actions, their subjective assessments of their preparedness were about the same.

Beyond understanding citizens’ level of preparedness, we have explained that we are interested in what determines this preparedness. We therefore asked respondents several questions about their beliefs and attitudes. Specifically, we asked various questions about their trust in government, their beliefs about the likelihood of a terrorist attack occurring in their community or elsewhere in the country, and their expectations about the responsibilities that each level of government should fulfill with respect to natural disasters and terrorist attacks. We concluded the survey with a series of demographic questions.

We first explore citizens' preparedness and relevant beliefs and attitudes descriptively, as presented below. We then use Ordinary Least Squares (OLS) regression to test the three hypotheses enumerated based on the data provided by our surveys. We employ the following causal model of the determinants of preparedness:

$$\text{Preparedness} = f(\text{trust in government, belief a terrorist attack is likely, beliefs about government responsibility, } w, e)$$

Where:

Preparedness is an index of citizens' assessment of their own preparedness (described above)

Trust in government is measured by survey questions that ask:

- How much of the time the respondent trusts the local government to do what is right
- How much the respondent would trust the Department of Homeland Security (DHS) to provide information about a terrorist attack somewhere in the U.S.
- How much the respondent would trust the Federal Emergency Management Agency (FEMA) to provide information about a terrorist attack somewhere in the U.S.
- How much the respondent would trust the Federal Bureau of Investigation (FBI) to provide information about a terrorist attack somewhere in the U.S.

Belief a terrorist attack is likely is measured by survey questions that ask:

- Whether the respondent believes a terrorist attack is very or somewhat likely to occur in their area in the next year
- Whether the respondent believes a terrorist attack is very or somewhat likely to occur somewhere else in the United States in the next year

Beliefs about government responsibility is measured by survey questions that ask:

- Whether the respondent believes the federal government has primary responsibility for responding to an incident
- Whether the respondent believes the federal government has primary responsibility for paying for response to an incident

w = a vector of demographic variables (defined in Table 4)

e = random error

Finally, to explore whether recent experience with a major disaster may have bearing on citizens' preparedness, we run this model with the national, New York, and Washington DC samples separately to allow us to compare the results across localities.

IV. Findings

In this section we first present our descriptive findings about citizens' level of trust in government, views of government responsibilities after disasters, and perception of risk. We then address our findings with regard to the four hypotheses we tested.

Trust, responsibility, and risk

Others have shown that citizens' attitudes, beliefs, and experience influence their level of support for local public safety services (see, for example, Donahue and Miller, 2005 and 2006). We therefore suspected that perceptions of risk, trust in government, and beliefs about the roles and responsibilities of different levels of government may be related to preparedness, and we asked respondents a variety of questions about these topics. Tables 1 and 2 presents respondents' views with respect to trust, government responsibility, and risk.

[Tables 1 and 2 about here]

Table 1 shows how much citizens trust government. Generally, citizens appear taciturn—only about 41 percent “most of the time” or “just about always” trust local government “to do what is right.” We suspected that citizens might think differently about the government’s activities depending on whether or not terrorism was concerned. If true, how our questions were worded could be important to the results we obtained. To examine this issue, we split our survey respondents into two groups, one of which received a set of questions that used the word “terrorism,” and the other received questions that were worded generally. For example, we asked citizens how often they trust the government in Washington to do what is right, and about 26 percent responded “most of the time” or “just about always.” When we asked the other half of respondents how much they trusted the government in Washington to do what is right *when dealing with terrorism issues* about 45 percent responded “most of the time” or “just about always.”

Respondents in the national sample expressed more faith in both local and federal government than residents of New York City or of Washington D.C., who reported the lowest levels of trust. All respondents have more faith in their local government than in the federal government. All respondents also trust the federal government to do what is right regarding terrorism more than they do in general. These findings are consistent with La Porte *et. al.* (2005), who find that 62 percent of the U.S. population, and 58 percent of the National Capital Region, trusts the government only some of the time or never. The La Porte study also shows that local emergency medical

units enjoy the greatest public confidence, and the Department of Homeland Security, Customs, and the Transportation Security Administration have the lowest ratings.

When a major natural disaster or terrorist event occurs, local, state, and federal governments respond. We asked respondents what level of government should have primary responsibility for responding to and paying for response. Table 1 illustrates that respondents believe that their local government should have the primary responsibility for responding to an event, but that the federal government should have primary responsibility for both detecting those events before they occur and for paying for response efforts, whether the event is related to terrorism or not. An exception to this trend is Washington D.C., where respondents are much more likely to attribute detection, response, and funding responsibilities to the federal government.

We see that terrorism affects respondents' views about response. When asked which level of government should have primary responsibility for responding to a *major disaster*, about 22 percent of respondents nationwide said "the federal government." When asked which level of government should have primary responsibility for responding to a *terrorism event*, the percentage of respondents who chose the federal government increased to 29 percent. Table 1 shows the effect of asking the same question with and without the word "terrorism" in the sentence.⁵

Finally, Table 2 shows the percentage of respondents who believe a terrorist attack is somewhat or very likely to occur in the next year in their area versus

⁵ When we included a control for terrorism wording in our OLS tests, however, it did not have a significant influence on individual preparedness in any model.

somewhere in the United States. A strong majority of respondents (68% in Washington D.C. up to 75% nationwide) thought a terrorist attack was likely somewhere else in the United States. Respondents in Washington D.C. and New York City were substantially more likely than respondents nationwide to believe an attack would occur in their own community (61%, 51%, and 19% of respondents, respectively). These results are roughly consistent with other similar studies.

Individual preparedness

Respondents' assessments of their own preparedness are presented in Table 3. A strong majority of people are confident that they are ready to take care of themselves and their families during a major disaster. This major it is stronger in the U.S. population (87%) than in Washington or New York (73% each). This is hard to interpret—it may be that people in cities that have recently experienced a serious incident better realize how hard it is to be ready; at the same time, people around the country may well have experience with disasters other than terrorist attacks that have prompted them to take steps to prepare. Fewer people believe that they would know what to do in the absence of outside communications (63% nationally), and fewer still know where to go during an evacuation (28% nationally). The focus groups provided some insight into this: Many citizens said that they had received instructions explaining what to do and where to go in different emergencies; however, few had kept this information, much less put it in a specific place where they could locate it in the event that a major emergency did occur. Table 3 also shows the proportion of respondents that had each of a series of items set aside in case a major disaster occurred. Strong majorities (over 70%) say they have

bottled water, food, flashlights, and a radio. A moderate proportion have a plan for meeting family members after an event. Few have a generator, especially in New York and Washington. Responses to all of these questions are similar across these samples, though the percentages are somewhat lower for New York and Washington D.C.

[Table 3 about here]

Notably, respondents in our study report more confidence in their own preparedness than has been found in some other studies. As we saw, Redlener (2006) found that most adults (82%) are concerned that there will be future terrorist attacks, but Redlener reports that a majority feel personally unprepared (66%), and only 31% have a family emergency plan. Our findings are more consistent with those of La Porte *et. al.* (2005), who find that 50 to 90 percent of both the National Capital Region and the nation have adequate preparations (such as radios, medical supplies, food, and water) for a short period of interrupted services. Interestingly, this study also finds that about 40 percent of people “have no plan for communicating in the event of a disaster, and the majority have not discussed nor made any plans at all for meeting or evacuating.” This is lower than the proportions our survey results indicate, but displays a similar drop in confidence between stocking up for a disaster and actually having clear plans for what to do if something happens.

Predicting preparedness

Table 4 presents descriptive statistics for the variables included in our OLS model. Table 5 presents the results of the analysis. We discuss our findings relative to each of our four hypotheses below.

[Tables 4 and 5 about here]

Our first hypothesis was that those who trust government less will be more prepared. We included four variables to test this hypothesis, one about trust in local government and three that ask about trust in DHS, FEMA, and the FBI. For the national sample, the only significant predictor of individual preparedness is trust in the FBI, and the results are not as we expected. Trust is positively associated with preparedness, rather than negatively. Likewise, those Washington D.C. who trust in local government report that they are more prepared.

Our second hypothesis was that those who believe a terrorist attack is likely will be more prepared. As expected, we find that both nationwide and in New York City people who think an attack is likely in their area have taken more steps to prepare themselves. On the other hand, New Yorkers who think an attack is likely somewhere else in the country are less prepared. Since we're controlling for people's assessment that an attack is likely in their area, this may be some indication that absent a sense of personal threat people are not moved to act, consistent with what Huddy *et. al.* (2002) find with regard to personal versus national threat.

Our third hypothesis was that those who believe the federal government is responsible for emergency response will be less prepared. We find support for this hypothesis among both the national respondents and New Yorkers. Those who believe the federal government (as opposed to states or local governments) should respond to large disasters are less prepared personally. Likewise, those who believe the federal government should pay for those responses are also less prepared.

Our fourth hypothesis was that those with close family responsibilities will be more prepared. We included two variables that target this notion: Whether the respondent is married and the number of children they have living at home. At the national level we find some support for our hypothesis, as those who are married are more likely to prepare themselves for a major disaster. We see no significant effect regarding number of children or in New York or Washington D.C.

Finally, the demographic variables, while included as controls, suggest some interesting relationships. In particular, those who consider themselves to live in rural areas are more prepared, which may be because they don't expect to get much help from government. At the national level, blacks, women, and democrats tend to be less prepared, which is opposite to what Huddy *et. al.* (2002) finds in a survey study of New York residents following 9/11. The Huddy study showed that women are more likely than men to perceive a terrorist attack, blacks are also more worried about the personal threat of terrorism than whites, and democrats are somewhat more worried about the personal threat of terrorism than are republicans. Our findings for New York are somewhat more consistent with those of the Huddy study.

V. Conclusions

Officials should consider the level of trust citizens have in their governments to act appropriately after a disaster. Most citizens do not trust either their local government or the federal government in general. This finding is important in light of other available evidence that suggests that the more citizens see government as

trustworthy, the more likely they are to comply with its demands (Tyler, 1990, 1998). At the same time, levels of trust for specific federal agencies is higher. Sixty percent or more of respondents trust the FBI and DHS. This trust is likely to raise expectations in the public mind about the quality and reliability of the information that these agencies will provide, and the assistance that they offer. Moreover, high confidence in government's ability to protect, respond, and inform coexists with the generally low levels of confidence that citizens have in their own knowledge of what to do if they needed to evacuate. This suggests that the general population will be heavily reliant on what they hear after an event. In areas where post event communications systems are least likely to be robust, extra efforts in educating the public on disaster and evacuation plans before an event occurs are warranted.

With regard to preparedness in general, citizens tend to regard themselves as well prepared. Other studies suggests that we should be skeptical of these assessments—in other words, citizens are very possibly not as prepared as they think they are. This is an important insight because it implies that a greater burden for response after a disaster may fall to the government than either citizens or public managers expect. If preparedness is to be co-produced effectively, public officials will need to calibrate citizens beliefs about their own ability to react and survive after a disaster, and help them improve their true level of preparedness. One indirect lever to success in this regard may be increasing trust in federal agencies, to which citizens appear to respond with better personal preparedness.

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Table 1. Respondent trust and expectations of government.

* Split sample (see text). Percentages reported are valid percentages.

	Nationwide	New York City	Washington D.C.
Trust			
Percent of respondents who just about always or most of the time trust the...			
Local government to do what is right	41.4	39.2	38.4
Federal government to do what is right*	25.6	21.4	20.9
Federal government to do what is right about terrorism*	44.5	34.0	31.6
Percent of respondents who somewhat or completely trust the following federal agencies to provide information about a terrorist attack somewhere in the U.S.:			
The Department of Homeland Security (DHS)	61.3	50.7	45.6
The Federal Emergency Management Agency (FEMA)	47.9	42.5	41.9
The Federal Bureau of Investigation (FBI)	70.6	62.8	59.6
Responsibility for terrorist attacks			
Percent of respondents who believe the level of government that should have primary responsibility for <i>detecting</i> a terrorist attack in their area before it occurs is...			
Federal	65.8	64.3	78.2
State	17.1	13.9	7.4
Local	17.2	21.7	14.3
Percent of respondents who believe the level of government that should have primary responsibility for <i>responding to</i> a terrorist attack in their area is...			
Federal	28.9	33.7	44.3
State	23.4	14.0	14.6
Local	47.7	52.2	41.1
Percent of respondents who believe the level of government that should have primary responsibility for <i>paying for response to</i> a terrorist attack in their area is...			
Federal	68.5	80.0	81.8
State	21.4	8.3	8.3
Local	10.1	11.7	9.9
Responsibility for natural disasters			
Percent of respondents who believe the level of government that should have primary responsibility for <i>responding to</i> a natural disaster in their area is...			
Federal	21.9	28.6	48.6
State	32.6	19.7	18.4
Local	45.5	51.7	33.0
Percent of respondents who believe the level of government that should have primary responsibility for <i>paying for response to</i> a natural disaster in their area is...			
Federal	65.5	75.1	79.9
State	24.8	16.1	11.7
Local	9.7	8.8	8.4

Table 2. Respondent perceptions of risk.

	Nationwide	New York City	Washington D.C.
Percent of respondents who believe a terrorist attack is very or somewhat likely to occur in the next year...			
In their area	19.3	51.2	60.7
Somewhere else in the U.S.	75.1	71.1	67.6

Percentages reported are valid percentages.

Table 3. Respondent assessments of their preparedness.

	Nationwide	New York City	Washington D.C.
Personal assessment			
Percent of respondents who are confident that they are personally prepared to take care of themselves and their families during a major disaster	87.1	73.1	73.3
Percent of respondents who are confident that they would know what to do if they couldn't receive outside communication because their devices like phone, television, and internet wouldn't work	62.7	53.1	52.9
Percent of respondents who are confident that they know where their local government wants them to go in case their area has to be evacuated during a major disaster or terrorist attack	28.0	28.7	21.3
Preparedness action			
Percent of respondents who have set aside the following items in case a major disaster occurs:			
A supply of bottled water	73.8	70.0	72.2
A supply of nonperishable food	86.6	73.3	79.2
Flashlights	96.9	90.5	93.7
A generator	23.4	9.5	9.8
A battery powered radio	84.0	73.8	76.1
Percent of respondents who have a plan for meeting up with members of their household in case a major disaster occurs	57.0	44.9	53.7

Percentages reported are valid percentages.

Table 4. Descriptive statistics for variables in model.

Variable	Min	Max	Nationwide			New York City			Washington DC		
			n	Mean	SD	n	Mean	SD	n	Mean	SD
Preparedness index ¹	2	14	972	10.14	2.36	382	8.98	2.65	373	9.21	2.48
Respondent believes a terrorist attack is very or somewhat likely to occur in their area in the next year ²	0	1	987	.19	.394	385	.51	.501	382	.61	.489
Respondent believes a terrorist attack is very or somewhat likely to occur somewhere else in the United States in the next year ²	0	1	978	.75	.433	387	.71	.454	380	.68	.468
How much of the time the respondent trusts the local government to do what is right	1	4	994	2.36	.778	396	2.28	.795	398	2.30	.761
How much the respondent would trust DHS to provide information about a terrorist attack somewhere in the U.S.	1	4	985	2.56	.925	393	2.29	.965	390	2.26	.945
How much the respondent would trust FEMA to provide information about a terrorist attack somewhere in the U.S.	1	4	987	2.30	.938	389	2.15	.948	386	2.22	.922
How much the respondent would trust the FBI to provide information about a terrorist attack somewhere in the U.S.	1	4	987	2.73	.856	393	2.56	.951	391	2.59	.924
Respondent believes the federal government has primary responsibility for responding to an incident ²	0	1	1002	.25	.432	400	.30	.457	400	.43	.496
Respondent believes the federal government has primary responsibility for paying for response to an incident ²	0	1	1002	.64	.479	400	.75	.436	400	.75	.434
Respondent describes the area they live in as rural ²	0	1	990	.35	.478	387	.05	.211	394	.02	.132
Respondent's household income is \$75,000 or more per year ²	0	1	1002	.31	.462	400	.29	.454	400	.50	.501
Respondent's primary employer is the federal government ²	0	1	987	.03	.169	393	.03	.158	396	.16	.371
Respondent's primary employer is a state government ²	0	1	987	.06	.239	393	.03	.172	396	.03	.157
Respondent's primary employer is a local government ²	0	1	987	.05	.215	393	.07	.258	396	.05	.219
Respondent has at least a college degree ²	0	1	995	.440	.497	395	.471	.500	397	.670	.471
Respondent is black ²	0	1	974	.08	.268	383	.21	.405	386	.25	.433
Respondent is a democrat ²	0	1	976	.34	.474	397	.44	.497	394	.57	.496
Respondent's age in years	18	95	980	52.12	16.07	385	46.79	17.06	394	48.22	17.19
Respondent is female ²	0	1	1002	.52	.500	400	.49	.501	400	.51	.501
Respondent is married ²	0	1	994	.598	.491	396	.399	.490	395	.410	.492
Number of children under 18 living in the respondent's home	0	7	994	.69	1.140	397	.64	1.032	398	.44	.931

¹This is an additive index including whether respondent feels confident they are prepared and would know what to do, and whether respondent has water, food, flashlights, a generator, a radio, and a plan for meeting family members

²Dummy=1

Table 5. OLS results: Predicting personal preparedness.

Variable	Nationwide		New York City		Washington DC	
	B	SE	B	SE	B	SE
Constant	10.228	.505 ***	7.931	.907 ***	8.907	.906 ***
Risk						
Attack likely in their area	.414	.210 **	.706	.350 **	.142	.361
Attack likely somewhere	-.207	.185	-.652	.385 *	-.146	.380
Trust						
Trusts the local govt	-.044	.108	-.028	.195	.385	.190 **
Trusts DHS	-.163	.118	-.107	.218	-.084	.209
Trusts FEMA	.031	.101	.134	.202	.011	.190
Trusts the FBI	.232	.120 **	.182	.194	-.009	.197
Government responsibility						
Federal govt should respond	-.410	.192 **	-.841	.323 ***	-.072	.301
Federal govt should pay	-.292	.173 *	.317	.346	-.170	.357
Demographic characteristics						
Rural	.609	.168 ***	.612	.743	1.513	1.153
Income over 75,000/yr	.180	.184	1.091	.326 ***	.486	.309
Federal govt employee	.497	.468	-1.245	.997	-.596	.395
State govt employee	.329	.333	-1.063	.852	.907	.798
Local govt employee	-.192	.354	.833	.546	.325	.623
At least a college degree	-.141	.168	-.192	.312	-.135	.351
Black	-.671	.310 **	.721	.390 *	-.379	.383
Democrat	-.417	.174 **	.008	.299	-1.064	.289 ***
Age	-.001	.006	.017	.010 *	.014	.009
Female	-.292	.161 *	-.869	.299 ***	-.444	.291
Married	.380	.177 **	.054	.328	-.166	.317
Number of children	.008	.079	-.251	.152	-.213	.164
Model Fit Statistics						
R ²	.077		.142		.105	
R ² (adj.)	.055		.085		.045	
F	3.511	***	2.502	***	1.756	**
n	860		324		319	

* p < .10 ** p < .05 *** p < .01

Dependent variable is an index of personal preparedness