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A Socio-Demographic Analysis of Responses to Terrorism

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A Socio-Demographic Analysis of Responses to Terrorism

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A Socio-Demographic Analysis of Responses to Terrorism

Abstract: Extensive research has found that there are differences in reported levels of fear of crime and associated protective actions influenced by socio-demographic characteristics such as race and gender. Further studies, the majority of which focused on violent and property crime, have found that specific demographic characteristics influence fear of crime and protective behaviors. However, little research has focused on the influence of socio-demographic characteristics on perceptions, and protective actions in response to the threat of terrorism. Using data from the General Social Survey, this study compared individual level protective actions and perceptions of the effectiveness of protective responses to the 9/11 terrorist attacks among Americans for demographic factors that have been found to influence fear of crime and protective actions. Results indicated that several socio-demographic factors including race and gender do exhibit some differences in perceptions of the effectiveness of responses to terrorism, although not all achieved statistical significance. Results are discussed in relation to their implications for criminological theory, security, and terrorism preparedness.

Keywords: fear; general social survey; race; terrorism.

DOI 10.1515/jhsem-2013-0082

1 Introduction

In the last 10 years, the US government has increased its efforts to address the public's preparedness for natural disaster and terrorism (Ready Campaign Fact Sheet). The *Ready* campaign is a multimillion dollar public awareness campaign that encourages the public to prepare for emerging situations by visiting websites

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such as www.ready.com for directions focused on reducing the impact of disasters and need for the assistance of first responders (U.S. Government Accountability Office 2010).¹

The US government's concerns are reflected by the American public. Recent surveys conducted by the Pew Foundation found Americans are expressing greater concern regarding the threat of terrorism (Drake 2013). For example, a 2013 Pew Foundation survey found that 34% of Americans believed that terrorists have a greater ability to launch a major attack than before 9/11 (Desilver 2014). Another survey conducted after the Boston bombings found that 75% of Americans felt that periodic acts of terrorism will be part of life in the US in the future (Drake 2013).

Providing guidance and directions for the public regarding best practices for emergency preparedness is a potentially daunting task. For example, the Federal Emergency Management Agency (FEMA) needs to inform the public on drastically different ways to react to biological, radiological, and chemical attacks (Salvatore and Gorman 2012). And, of course, the public consists of many different groups whose media consumption and exposure to government messages differs greatly. Deciphering how different segments of the population respond to and prepare for disasters is critical for future disaster and emergency management. For example, scholars in this area have frequently found that racial minorities exhibit higher levels of preparedness than Whites (Fothergill et al. 1999; Boscarino et al. 2003; Eisenman et al. 2006, 2009; Kano et al. 2008).

The present study argues that there are important similarities between the threat of crime and the threat of terrorism,² as such findings regarding fear and responses to crime may generalize to responses to fear of terrorism and behavioral responses to terrorism. Being a victim of a serious crime is a statistically rare event³ and the likelihood of being victimized is influenced by socio-demographic factors such as age and race (Covington and Taylor 1991; Schmalleger 2011). However, despite the low probability of being victimized by a violent crime, it is still a potentially high consequence event that can trigger both significant fear

1 Jenkins GAO testimony report at <http://www.gao.gov/products/GAO-10-193>.

2 Here we define terrorism as a type of crime that is meant to convey terror or fear in a mass public. Obviously some will disagree with such a definition. However, what can be agreed upon is that such a definition is not outside normal scholarship (see the discussion of terrorism definitions in Forst 2008) and that the definition of terrorism is far from agreed-upon (see chapter 1 in Hoffman 2006).

3 Surely being the victim of a terror attack is even rarer than being a victim of a serious or violent crime, but suffice it to say that social science research and presently available data show that victimization in either case is rare.

and protective actions. Likewise, the likelihood of being victimized by terrorism is a similarly low probability, high consequence event influenced by demographic factors that may trigger significant fear and protective responses. In other words, serious crime and terrorism are rare events whose outcomes seriously impact the lives of those who are victimized. Socio-demographic factors predicting fear and protective actions in response to crime may also be predictive of fear and protective actions in response to terrorism.

The primary goal of the present study is to explore the extent to which race and gender, two socio-demographic factors that have been consistently accurate predictors of fear and responses to crime, serve as predictors of people's responses to the threat of terrorism. Finally, socio-demographic factors including education and income are used both as controls for the study of race and gender in the present study and as potentially vital independent variables. Our data comes from a national survey conducted by general social survey (GSS) in 2008 that includes demographic factors (such as race, education, gender, political affiliation, and marital status) (Smith et al. 2008) which prior studies (e.g., Scott 2003; Williams and Konrad 2004) have found influence fear of crime and protective actions.

The criminological literature has found that socio-demographic factors such as gender and race influence fear and protective actions due to the influence of these factors in society's structural system (Salvatore and Gorman 2012). Those who have less power in society (e.g., women, racial/ethnic minorities) may have increased vulnerability to crime, which in turn may influence fear and preparedness responses. Further, the fear of terrorism and preparedness literature has found support for racial/ethnic minorities and women perceiving themselves as being more vulnerable to terrorism (Boscarino et al. 2003).

Scholars have conducted extensive research in criminology/criminal justice looking at differences based on race and fear, responses to crime (e.g., Covington and Taylor 1991; Skogan 1995) and attitudes towards the criminal justice system (Walker et al. 2007; Gabbidon and Greene 2013; Salvatore et al. 2013). Prior research has also examined the influence of demographic factors such as age, (e.g., San-Juan et al. 2012), gender (e.g., Scott 2003; Woolnough 2009), and level of media exposure (e.g., Nabi and Sullivan 2001) on protective behaviors. Interestingly, there has not been an application of criminological theories and policies to explain the influence of socio-demographic factors on responses to terrorism and associated protective actions. In the pages that follow we will explore the influence of socio-demographic factors on fear and responses to crime and terrorism, as well as the role of perceived vulnerability.

The fear of terrorism literature provides an important platform from which to study public reactions to victimization by a terrorism threat. The fear of terrorism literature generally finds that the public's lack of preparation for terrorist events

leads it to suffer from cognitive dissonance when terrorist attacks occur. This dissonance is due to the mental shortcuts, which cognitive psychologists call heuristics that people use to understand events. Terrorist events are particularly hard to wrap one's head around because they are so rare and frequently so deadly. Fear of terrorism spikes due to heuristics such as probability neglect (neglecting the actual probability of being a terror victim and basing one's behavior instead solely on emotion), the availability heuristic (overestimating the odds of an event occurring due to one's ability to picture it happening), and anchoring (sticking to one's initial assessment of an event even though recalculation may be appropriate) (Tversky et al. 1992; McDermott 1998; Sunstein 2005; Ariely 2008). These cognitive heuristics strongly affect response behavior after terrorist attacks, but as will be seen different segments of the public view preparedness measures very differently.

The present study used data collected after a major terrorist attack on the US in 2001. The data set contains two sets of preparedness measures, actual preparedness actions and the perceived effectiveness of these actions. The criminological and emergency management literatures have found fear to be predictive of preparedness; as such the present study's examination of preparedness provides an exploration into fear responses to both crime and terrorism respectively. Further, the present study expands prior research on terrorism preparedness to examine the role of socio-demographic factors on the perceived effectiveness of preparedness actions. This expansion will help clarify whether people's perceptions of vulnerability impact their perceptions of effectiveness. Additionally, analysis of the relationship between socio-demographic factors and responses to the threat of a terrorist attack offers insights into a relatively new type of victimization.

The current study adds to the understanding of socio-demographic differences and fear of crime in two ways. Firstly, this is one of the first studies to explore responses to the fear of a terrorist attack from a criminological perspective. Secondly, it examines socio-demographic victimization differences absent the concentration of community level factors such as physical decay and social disorder, which prior studies identified as key factors in race-based differences in perceptions of risk and responses to fear (Skogan 1995). In essence this paper is an attempt to merge research from two distinct literatures in order to provide a new perspective on an emerging crime threat.

The present study examines socio-demographic-based differences of perceptions and responses to fear of the 9/11 terrorist attacks. Specifically examining the following research questions: What socio-demographic factors influence the behavior actions taken in response to terrorism? And what individual level factors influence the perceptions of the effectiveness of responses to threat of terrorism victimization?

2 Race and Gender's Influence on Fear of Crime

Clemente and Kleiman (1977) write that, “the cost of crime goes far beyond the economic and physical losses imposed by criminals. It extends to the forced alteration of daily living habits as well as to the negative psychological effects of living in a state of constant anxiety” (p. 520). As with other fears, “Most commentators have noted an important element of irrationality in the public’s fear of crime: fear of crime is far out of proportion to the objective probability of being victimized” (p. 520). For example, in 1977, a staggering 61% of women in the US feared walking within a one-mile radius of their homes at night (compared to 22% of men) (p. 527).⁴ As WI Thomas noted, “what people define as real is real in its consequences” (Thomas and Thomas, 1928; p. 521). The purpose of Clemente and Kleiman’s article was to show that *fear* of crime rather than any demonstrable *threat* was having a deleterious effect on American society. *People thought that they were in danger and behaved accordingly.*

As Clemente and Kleiman show, fear can be an irrational emotion that is wholly divorced from rational calculations of threat. Indeed, a study by Sivak and Flannagan (2003) found that 1000 motorists died in auto accidents between September 11 and December 31, 2001 because they avoided air travel.

Covington and Taylor (1991) also argued that the indirect victimization model also influences fear of crime. This model has three main ideas: (1) fear of crime is higher than actual rates of victimization due to the fact that those not directly victimized feel indirectly victimized when they are informed about crimes. (2) Local social ties increase the influence of victimization on local levels of fear. (3) Socio demographic correlates of fear (e.g., gender, race, age) reflect the risk of victimization (p. 232).

As with age there are many popular misconceptions regarding how race relates to fear of crime (Schmallegger 2011). Studies have found that non-Whites have higher levels of fear than Whites (e.g., Skogan and Maxfield 1981). For example, Schafer et al. (2006) found that minority males had higher rates of fear of personal victimization. Other studies such as Nellis (2009) have found that race influences individual level precautionary behavior in men with regards to fear of terrorism. However, Williams-Reid and Konrad’s research (2006) shows that, in the case of New Orleans, race was not a significant factor in fear of crime.

One of the most dominant perspectives explaining the relationship between fear of crime and race is the “vulnerability” perspective. Scholars (e.g., Covington and Taylor 1991; Bolin 2006; Eisenman et al. 2009) have argued that race, ethnicity, and social class all influence an individual’s perception of vulnerability to

⁴ This despite the fact that men were more likely to be victimized by criminal acts.

environmental disasters (Bolin 2006), as well as crime and terrorism (Covington and Taylor 1991; Eisenman et al. 2009). This issue is of particular relevance for minorities and lower socio-economic groups due to their location in urban communities (Liska et al. 1982). In other words, racial/ethnic minorities and lower income groups generally have higher levels of fear because they are more likely to live in poorer communities that are less stable, have higher rates of crime, and lower levels of service from formal social agencies such as the criminal justice system (e.g., Anderson 1999).

The vulnerability perspective has been expanded upon by others such as Smith (1989) who argued that women with children may have an increased sense of vulnerability. Smith (1989) stated that women's heightened sense of vulnerability is rooted in their societal role as caregivers to children. Women are socialized to be parents and caregivers; as such women tend to worry not only about their own well-being, but also that of their children, thereby creating an increased sense of vulnerability. Gilchrist et al. (1998) supported Smith's (1989) argument, noting that women worry about their children in addition to themselves.

A large body of research over the last few decades has found that race is one of the most influential variables in predicting fear of crime, confidence in government efficacy, and self-protective actions on the part of citizens (Warr 1984; Junger 1987; Covington and Taylor 1991; Ferraro 1995; Williams-Reid and Konrad 2004; Wilcox et al. 2009; Yavuz and Welsh 2010). Scholars have offered numerous explanations for Blacks' elevated levels of fear of crime; thus an examination of some of the most prevalent theories is warranted followed by a discussion of findings related to demographic factors, and finally limitations of prior studies.

Since factors such as being a parent or marital status may influence race-based fear of crime (Skogan 1995), this study includes them in our analyses to explore the role they play in fear relative to the 9/11/01 attacks in the US. Studies such as Williams-Reid and Konrad (2004), Schafer et al. (2006), and Wilcox et al. (2009), have identified specific demographic factors as being related to race-based perceptions of fear of crime.

3 Fear of Terrorism

Davis (2007) conducted a series of surveys on terrorism fears and civil liberties after the 9/11/01 attacks. Davis divided the terror threat into two components: sociotropic threat (meaning the individual feels the society or political order is threatened) and personal threat (meaning the individual feels his or her personhood or family is threatened). Davis' most statistically significant findings in

the first wave, which spanned November 2001 to January 2002, were that Blacks felt more personally threatened than Latinos or Whites, that women felt both more personally and sociotropically threatened than men, and that those with less education felt more personally threatened than those with more education (pp. 68, 228). Davis also found that “blacks may perceive multiple threats in a national crisis – the threat from terrorism and from the government itself – and support civil liberties more strongly” for this reason (p. 109).

Boscarino et al. (2003) addressed the post 9/11 fear of terrorism using data collected from adults in New York State. The sample was divided into five regions: Hudson Valley, Long Island, New York City, Upstate Eastern region, and Upstate Western region. Participants were surveyed regarding their level of concern regarding the following events occurring in New York: (a) another terrorist attack, (b) a terrorist attack involving biological weapons (e.g., anthrax), and (c) a terrorist attack using a nuclear device. The results of Boscarino’s et al. (2003) study found that approximately half (45.7%) of New Yorkers were “very concerned” about another terrorists attack, slightly over half (50.4%) were very concerned about biological attacks, approximately 43% stated they were very concerned about a nuclear attack, and slightly more than 33% stated that they were very concerned about all of these events. The results of Boscarino’s multivariate analysis revealed that race was a significant predictor of greater levels of fear of terrorism, with Blacks and Hispanics having higher levels of fear compared to other groups.

In 2006, Boscarino et al., conducted a follow-up study using survey data collected from a sample of over 1600 individuals living in New York City on the day of the 9/11 attacks. This study incorporated terrorism management theory (TMT) which argues that fear of terrorism is related to factors such as social background and social support (Pyszczynski et al. 2002). The study also included preparedness measures that asked respondents if they had taken any precautions to prepare themselves in the event of future attack. These measures included stockpiling food or supplies, establishing escape routes, or taking other forms of action. The findings of Boscarino et al. (2006) study revealed that 2 years after 9/11, 44.9% of respondents were “very concerned” about another terrorist attack, 44.8% were “very concerned” about biological attacks, 44.3% about chemical attacks, and 40.7% about nuclear attacks. The authors’ bivariate and multivariate analysis found that being African American or Hispanic, along with being female and having less education, related to a higher level of fear of terrorism. In another study Eisenman et al. (2009) sought to examine if traditionally vulnerable groups such as racial or ethnic minorities and the physically disabled were more likely to perceive their personal risk of terrorism higher than other groups. Using data from the Public Health Response to Emergency Threat Survey, a telephone survey of non-institutionalized adults in Los Angeles County, CA, Eisenman et al. (2009)

study revealed that several health and socio-demographic characteristics were related to higher levels of terrorism worry and avoidance behavior. The study found that African Americans and Korean Americans were more likely to report higher level of avoidance behaviors than Whites. These results lend support to the argument that race, and specifically the responses by Blacks to the threat of terrorism, are an important area of study that warrants further examination.

Canetti-Nisim et al. (2009) study of Israelis' changing attitudes toward minorities in their society provides a further window into how terrorism fears operate. The authors show that psychological distress brought about by exposure to terrorism lead Jewish Israelis to have more exclusionist attitudes which, in turn, make them view Israeli Arabs as a threat. The study was based on a three-wave survey that began with a random, stratified sample representative of all of Israeli society. The next two waves of the survey consisted of re-interviewing previous respondents. The authors found that some socio-demographic factors were predictive of exclusionist attitudes and increased threat perceptions. Specifically, higher religiosity led to a higher perceived threat and more exclusionist attitudes while more left-leaning political attitudes and higher education level led to lower perceived threat and less exclusionist political attitudes. In sum, Canetti-Nisim et al. (2009) show that socio-demographic factors do serve as important mitigating factors in determining an individual's perception of threat from terrorism.

More recently, Salvatore and Gorman (2012) addressed gender based perceptions of fear of terrorism, specifically examining anthrax. Using data from an ABC News/Washington Post special topic telephone poll survey conducted in October 2001, the authors discovered that gender based differences regarding fear and response to the danger posed by anthrax were consistent with prior studies examining gender and fear of crime. Interestingly, Salvatore and Gorman argued that based on their findings, gender should be considered an important factor for preparation (as females may be more likely to take proactive measures to protect themselves and their families) and response to potential terrorist attacks. Moreover, they found that women are more likely to be responsive than males to government directives. One of the goals of the present study, is to examine if a similar finding may be relevant for Blacks.

4 Other Demographic Factors: The Role of Age and Education

Scholars have consistently found that those who are older typically fear crime more than younger people (Warr 1984, 1995; Williams-Reid and Conrad 2004;

Schaefer et al. 2006). This outcome does not reflect the reality that younger people are statistically more likely to be crime victims (Schmallegger 2011). By examining the relationship between age and specific crimes (such as terrorism) studies have found that the relationship between age and crime is more complicated. For example, Schafer et al. (2006) found that type of crime influenced the relationship between age, gender and fear of crime, with older males and females having greater levels of fear of victimization of personal crimes, but not property crimes. In a study examining fear of rape, Warr (1995) found that younger women had higher rates of fear compared to older women. Studies also suggest that the effect of age can be mediated by other factors. For example, Joseph (1997) explored fear of crime in an elderly black population, finding that fear of crime varied not only by gender, age, and race, but also income and type of community.

Like other demographic factors such as age and race, education and income have been found to influence fear of crime (Schaefer et al. 2006). Studies such as Williams-Reid and Konrad (2004) have found that lower levels of education are related to fears of burglary and sexual assault. Williams-Reid and Konrad findings (2004) suggest that level of education is a valid factor in influencing fear of crime; as such the inclusion of this variable in our study will provide clarification regarding the role of education and perceptions of the effectiveness of behavioral responses to terrorism.

More recent studies, (e.g., Nellis 2009) have also included income in the examination of fear of terrorism, as well as political affiliation. Additional factors such as religious involvement have also been studied as factors that may influence fear of crime (Matthews et al. 2011). One of the goals of this study is to help clarify the roles of these variables as they relate to fear of terrorism.

5 Limitations of Prior Research

The aforementioned studies support the argument that socio-demographic factors such as gender influence perceptions of fear of crime are an important area of criminological inquiry. However, there is an absence of generalizable information about fear of terrorism related to race and other socio-demographic factors in the literature. As previously discussed, terrorism poses a significant threat to the public and an attack could result in mass casualties in addition to major social and economic disruption. Moreover, prior studies that have examined race-based perceptions of fear of terrorism such as Nellis (2009) and Huddy et al. (2005) did not use national samples and for this reason, may face generalizability challenges. Wilcox et al. (2009) face a similar limitation because they used

a convenience sample of high school students. Other studies such as Salvatore and Gorman (2012) failed to examine race, and thus cannot provide a complete picture of the demographic characteristics that may influence perceptions and responses to terrorism. Given the danger posed by terrorism, as well as the fact that criminal justice agencies would be heavily involved in the response to such an attack, it is vital to have an understanding of the public perception of such a threat, as well as how they might potentially respond.⁵

Since terrorism is a relatively new threat to the US and a new area that is largely unexplored from a criminological perspective, this study breaks new ground by examining these socio-demographic based perceptions of fear from a terrorist attack. In addition to possible public policy implications, such an analysis of these socio-demographic-based perceptions of a terrorist attack may provide new information for criminologists studying race-based perceptions of crime.

6 Methods

6.1 Data

This study utilized data from the 2008 General Social Survey (GSS). The GSS started in 1972, and is the largest project funded by the Sociology Program of the National Science Foundation. The project is run out of the Social Science Research Center at the University of Chicago (GSS/National Data Program 2012). There are two main goals of the GSS program: (1) to conduct basic scientific research on the structure, development, and changes facing American society and (2) to distribute current, high-quality data to social scientists (GSS/National Data Program 2012). The GSS has monitored social changes and the issues facing American society for over 30 years and has provided data for over 14,000 papers, presentations, books, and dissertations (GSS/National Data Program 2012).

The GSS data were chosen for several reasons: First, the large N of 3559 provides a large sample through which sophisticated analysis techniques may be employed. Next, the data contains sample demographic information regarding age, gender, race/ethnicity, education, income, and political affiliation, allowing

⁵ See, for instance, Rubin's paper (2009) "Fear or Rage?: Assessing Public Opinion Responses to Terrorist Attacks" from 2009 American Political Science Association Annual Meeting, which argues that publics will respond differently to terror attacks depending upon whether they are fearful of the threat or angry at their enemies.

us to test our research questions and incorporate factors that other studies have not been able to address (see Tables 1 and 2 for descriptives). Third, the GSS is a nationally representative study with a probability design. Finally, the GSS (2008) contains a specific series of questions measuring behavioral responses to the 9/11/2001 attacks.

7 Outcome Variables

The GSS data employed in this study utilized a series of actions taken in response to questions of protective actions taken in response to terrorism, as well as a battery of queries gauging the perceived effectiveness of those actions. A series of questions asked respondents: “Do you know anyone who has done any of the following things because of terrorism since September 11th, 2001?” The actions included: stockpiling supplies, purchasing things to make you safer, gathering information about terrorism, duplicating important documents, reducing travel by plane, reducing travel by train, reducing use of public transportation, changing methods of handling mail, avoiding cities, avoiding tall buildings, avoiding national landmarks, being more aware of surroundings, or (doing) anything else. The items were originally coded as 0=No, 1=Yes, respondent, 2=Yes, someone respondent knows, and 3=Yes, both respondent and someone respondent knows. For this study these variables were recoded as 0=No, 1=Yes.

The next set of questions examined the perceived effectiveness of behavioral responses to terrorism. These questions asked the respondent: “How effective do you think...is for people dealing with terrorism?” The behaviors included: stockpiling supplies, purchasing things to make you safer, gathering information about terrorism, duplicating important documents, reducing travel by plane, reducing travel by train, reducing use of public transportation, changing methods of handling mail, avoiding cities, avoiding tall buildings, avoiding national landmarks, being more aware of surroundings, or (doing) anything else. Items were coded so that higher values reflected greater belief in a given behavior’s effectiveness.

The two sets of items (action and perceived effectiveness of action) were subjected to reliability analysis. The action items had an $\alpha=0.60$ and the perceived effectiveness items an $\alpha=0.83$. Based on the results of our reliability analyses, the construction of the survey, and theoretical conceptualizations, we created two outcome scales: Action scale, which consisted of the 13 items respondents could take to prepare for terrorism, and the Effectiveness scale, which consisted of the items that measured how effective respondents perceived those actions.

8 Independent Variables

In order to examine if socio-demographic variables influence actions taken in response to terrorism and the perceived effectiveness of those factors we included two dichotomous race variables White (0=All Others; 1=White) and Black (0=all others, 1=Black) in our analysis.⁶ We also controlled for the role of age and gender. Age was a grouped variable using a 5-point range scale (higher range=higher age). Age was included because it has been found to be a factor influencing perceptions of crime and attitudes towards the criminal justice system. Gender was coded 0=Male; 1=Female and will allow us to gauge if perceptions of the effectiveness of terrorism responses occur in gender neutral fashion or if gender is a significant predictor of the actions and perceptions of effectiveness. Based on the findings of prior studies (e.g., Salvatore and Gorman 2012) we would expect females to be more likely to take action in response to fear of terrorism and to perceive their responses to terrorism to be effective.

In addition to race and gender we included several other socio-demographic variables in our model. Beginning with marriage (0=not married; 1=married) we would expect those who are married to have an increased perception of vulnerability. Therefore, we hypothesize that those who are married are more likely to take action and to believe that responses to terrorism are effective. Similarly, we would expect those with children (0=no; 1=yes) to have a similar response as those who are married, as parents they are not only concerned about their own well-being, but also that of their children and in turn should be more prepared to take protective measures, thus we hypothesize those with children are more likely to take action and to believe in the effectiveness of responses to terrorism. With regards to education (coded that a higher score=greater level of education) some of the above-mentioned studies have found those with lower levels of education to have higher levels of fear of crime. Therefore we hypothesize that the higher the level of education the less likely they are to take action and the less likely they are to perceive those actions as effective. Next, we included income (higher score=greater income) to examine the potential influence of income on actions and the perceptions of the effectiveness of responses to terrorism.

Prior studies have found that those with lower socioeconomic status perceive themselves and their communities as socially and physically disconnected from the mainstream. For example, Anderson (1999) found inner city residents

⁶ Note here that we will refer to Non-Whites when discussing the variable that divides race between Whites and All Others. When we discuss the variable where Blacks are divided from All Others, Blacks will be mentioned. To this end, Non-Whites and Blacks are, of course, different group-sets and are not being used as interchangeable terms.

of Philadelphia viewed the criminal justice and education systems as not caring about them and their communities and these social agencies are only concerned with the mainstream. As such, we expect that those with higher income are less likely to take self-protective actions (as they may believe government agencies will be more likely to provide emergency services to their communities) and view their behavioral responses to terrorism as effective.

Previous research has also concluded that political affiliation is a significant factor related to fear of terrorism (Nellis 2009). In the present study we include being politically conservative (0=no; 1=yes) and liberal (0=no; 1=yes) in our models to examine the role of political ideology (moderate was used as the reference category). We hypothesize that those who are politically conservative have more faith in the government and in turn are more likely to take action in response to fear of terrorism and have greater belief in the effectiveness of responses to terrorism.⁷ We hypothesize that those who are politically liberal are less likely to have faith in the government and less likely to take action. The final variable we have included is attendance at religious services (higher score=greater participation). Religious participation is included here as another proxy for political conservatism, as well as a proxy for conventional beliefs and social bonds (e.g., Salvatore and Taniguchi 2012). We expect those with higher levels of religious participation to be more likely to take action and have greater levels of confidence in the effectiveness of responses to terrorism.

8.1 Analysis

To recap, this study's primary research questions were: "What individual level socio-demographic characteristics are effective at predicting actions taken in response to terrorism?" and "What individual level socio-demographic characteristics are effective at predicting perceived effectiveness of behavioral responses to terrorism, controlling for demographic factors identified in prior studies that influence fear of crime?"

The analysis for this study was conducted using STATA and consisted of two main steps. First, the direction and strength of the relationships between the outcome variables and the independent variables were examined using Mann Whitney U and correlation analyses (see Table 1 for descriptives and Tables 2 and 3 for results of

⁷ One may argue that this does not take into account libertarians who group themselves within the conservative label (for instance by aligning with the Republican political party). We acknowledge that libertarians and Tea Party Patriots do call themselves conservative while also not having strong faith in government. That said, these groups are not indicative of "mainstream conservatives" in American politics that, by and large, do have more faith in government policy, particularly in terms of defense policy, than mainstream liberals (see Rudolph and Evans 2005).

Table 1: Descriptives of Independent and Dependent Variables.

Variable	Frequency	%	Min/Max	Mean/SD
Action scale (DV)			0/10	0.27(SD 0.76)
Effectiveness scale (DV)			11/55	26.9 (SD 9.65)
Race				
Blacks	489	13.8		
All else	3066	86.2		
Whites	2765	77.8		
All else	790	22.2		
Age				
18–29 Years –	575	16.2		
30–44 Years –	974	27.4		
45–59 Years –	1007	28.3		
60–74 Years –	662	18.6		
75 Years and older-	305	8.6		
Education				
Less than high school	482	13.6		
High school	1755	49.4		
Junior college	303	8.5		
Bachelor degree	653	18.4		
Graduate degree	360	10.1		
Gender				
Male	1568	44.1		
Female	1987	55.9		
Marital status				
Not married	1813	51.0		
Married	1742	49.0		
Attend religious services			0/8	3.67 (SD 2.80)
Children			0/8	19.5 (SD 1.70)
Political affiliation				
Conservative	1148	32.3		
All else	2407	67.7		
Liberal	960	27		
All else	2595	73		
Family income 2006			<\$1000– >\$150,000	17.06 (SD 5.63)

correlation analysis). Next, negative binomial regression models were run using a composite score of the effectiveness items found to have a statistically significant difference on median rankings of the Action and Effectiveness Scale using the Mann-Whitney U tests. Negative binomial regression was used due to the non-normal distribution of the outcome variable (Hilbe 2008). Parameters are presented as incident rate ratios (IRR) given their ease of interpretation. For example, an IRR of 1.5 suggests

Table 2: Correlations with Action Scale Outcome.

	Age	Attend Religious Services	Children	Education	Family Income	Action Scale
Age	1.0					
Attend religious services	0.142**	1.0				
Children	0.368**	0.182**	1.0			
Education	-0.009	0.036*	-0.205**	1.0		
Family income	-0.011	0.025	-0.069**	0.425**	1.0	
Action scale	0.029	0.027	0.017	0.029	-0.008	1.0

* $p < 0.05$.** $p < 0.01$.**Table 3:** Correlations with Effect Scale Outcome.

	Age	Attend Religious Services	Children	Education	Family Income	Effect Scale
Age	1.0					
Attend religious services	0.142**	1.0				
Children	0.368**	0.182**	1.0			
Education	-0.099	0.036*	-0.205**	1.0		
Family income	-0.011	0.025	-0.069**	0.425**	1.0	
Effect scale	-0.080**	0.114**	0.023	-0.211**	-0.203**	1.0

* $p < 0.05$.** $p < 0.01$.

that a one unit change in the independent variable would be expected to increase the average predicted count on the dependent variable by 50%, while holding all independent variables constant. In contrast, an IRR or 0.50 would indicate that a one unit change in the independent variable would be expected to decrease the average predicted count of the dependent variable by 50%, while holding all other independent variables constant (Long and Freese 2006). The independent variables included in the model were based on those identified in the literature as influencing fear of crime (see Table 4) (regression models are not discussed here using the Action Scale outcome results are available upon request).

9 Results

Correlation analyses were conducted for two purposes: (1) to test for multicollinearity between the continuous independent variables and (2) to examine the

Table 4: Results of Negative Binomial Regression Model with Effect Scale DV.

Variable	B (Std.)	SE	IRR
Black	0.12**	0.05	1.13
White	-0.01	0.03	0.98
Age	-0.01	0.02	0.99
Attend religious services	0.01**	0.01	1.01
Children	0.001	0.01	1.00
Gender (female)	0.09**	0.02	1.09
Conservative	0.017	0.02	1.02
Liberal	0.99	0.02	0.99
Education	-0.04**	0.01	0.95
Family income	-0.04*	0.02	0.99
Marital status (single)	-0.04	0.02	0.96
Constant	0.07	0.06	v

* $p < 0.05$.

** $p < 0.01$.

$\chi^2 = 123.08$, $Df = 11$, $AIC^8 = 7.19$.

strength and relationship between the independent variables and the Action Scale and Effectiveness Scale. The results of the correlations suggested multicollinearity would not inhibit further analyses. Almost all of the independent variables had significant relationships in the expected direction with the Effectiveness Scale. In contrast, none of the independent variables had the expected relationship with the Action Scale (see Tables 2 and 3).

Mann-Whitney U tests were conducted to test for differences on the individual dichotomous independent variables and to see if there were differences between these groups on the Action Scale outcome. The results (available upon request) revealed that there were no significant differences between any of the groups on their median Action Scale. Since there were no significant relationships found with the correlation or Mann-Whitney U tests using the Action Scale no further analysis will be presented.⁹ In contrast, results of the dichotomous variables testing if there were different median score on the Effectiveness Scales revealed several statistically significant differences. Beginning with Gender, (0=males; 1=females ($n=529$ Med.=24.0, SD=8.86) males scored significantly lower than females ($n=596$, Med.=27.0, SD=10.08 on the effectiveness scale), $U=130,818.5$,

⁸ The aikake information criterion (AIC) is based on the log-likelihood function and is a measure of model fit.

⁹ Negative Binomial Regression models using the Action Scale outcome were run and results are available upon request. Only one variable (education) was significant in predicting changes in the Action Scale.

$Z=-4.94, p<0.01$. With regards to race, all else ($n=241$, Med.=30, SD=11.04) scored significantly higher than Whites¹⁰ ($n=884$, Med.=24.0, SD=9.06), $U=84027.0$, $Z=-5.03, p<0.01$. Next, those who were not married ($n=568$, Med.=27.0, SD=10.35) scored significantly higher on the Effectiveness Scale compared to those who are married ($n=557$, Med.=25.0, SD=8.78) $U=142058.0$, $Z=-2.96, p<0.01$. There were not statistically significant differences between conservatives or liberals and other political affiliations or Blacks and other groups on the Effectiveness Scale.

The Effectiveness Scale variable was the outcome of the negative binomial regression model. Beginning with the results of the socio-demographic factors, Race (Black) was a significant predictor of the Effect Scale outcome. Blacks had a 13% higher score on the Effectiveness Scale compared to all other groups (IRR=1.13, $p<0.01$), controlling for all other variables in the model. Next, we found Gender was significant, with females scoring 9% higher on the Effectiveness Scale compared to males controlling for all other factors (IRR=1.09, $p<0.01$). Family Income was found to be significant, with every additional unit increase in income there was a 1% decrease on the Effectiveness Scale (IRR=0.99, $p<0.05$). Age was not found to be a significant predictor on the Effectiveness Scale.¹¹

In regards to the remaining socio-demographic factors only education and attendance at religious services were significant, marital status, number of children, and political affiliation (conservative) were not significant. In regards to education, there was a 5% decrease on the Effectiveness Scale with every additional level of education attained (IRR=0.95, $p<0.01$) controlling for all other variables. The final variable found to be significant was attendance at religious services with a 1% increase on the Effectiveness Scale for every one unit increase in attendance at religious services (IRR=1.01, $p<0.01$).

10 Discussion

This study sought to address two primary research questions, the first of which, “what individual level socio-demographic characteristics are effective at predicting actions taken in response to terrorism?” was not definitively answered in our

10 Recall that the race variables “Black” and “White” were dummy coded as Black: 0=all else, 1=Black; White: 0=all else, 1=White.

11 An additional series of models were run to examine the role of interactions between being female and income, female and education, Black and income, and Black and education. These models allowed us to test if these variables interact and predict changes in the effectiveness scale. None of these interaction terms were significant in any of the models results available upon request.

bivariate or multivariate analysis. This finding is of value because it may suggest that variables predictive of fear of crime as well as protective actions taken in response to fear of crime are not predictive of actions taken in response to fear of terrorism. It may be that crime and terrorism, while similar in some respects, are perceived on the part of the public as different types of victimization. For example, criminal victimization (e.g., rape, assault) may be viewed as a more individualized experience, whereas a terrorist victimization (e.g., Oklahoma City Bombings, 9/11) is viewed on a more aggregate level and in turn individual level protective actions may not be viewed as relevant. Alternatively, in recent years there have only been a few (albeit high profile) terrorists attacks on US soil (Oklahoma City Bombing, the 1993 World Trade Center bombing, and 9/11), as such terrorist attacks may be viewed by the American public as a fairly “new” type of victimization, in contrast to more traditional violent and property crimes. As such, the public has had less exposure to protective measures such as the Ready campaign, relative to public safety measures addressing more traditional forms of crime.

In regards to our second question, “what individual level factors influence the perceptions of the effectiveness of responses to threat of terrorism victimization?,” results of the Mann-Whitney U tests found statistically significant differences in several areas suggesting that Non-Whites¹², those who are not married, and females have greater levels of belief in the effectiveness of responses to terrorism. While this study is one of the first to compare the perceptions of effectiveness of response to terrorism between Whites and Non-Whites, there is an extensive literature comparing fear of crime based on race. The findings of this study support prior research in this area, supporting the idea that Non-Whites have higher levels of perceived effectiveness of responses to terrorism. From a theoretical perspective, this supports the vulnerability perspective, that Non-Whites perceive themselves more likely to be victims of terrorism, similar to prior studies which have found that Non-Whites perceive themselves more likely to be victims of other types of crime. In other words, if Non-Whites have a greater sense of physical and social weakness in regards to criminal victimizations, then this sense of vulnerability may apply to terrorism as well. This may be why Non-Whites perceive greater effectiveness of behavioral responses to terrorism – Non-Whites perceive themselves as more likely to be potential victims of terrorism, and therefore they are more likely to believe protective measures to prevent victimization to be effective. Davis (2007) supports this view when he notes that Blacks support

¹² Recall that these results compare Whites to all other groups per the dummy coding of the “White” 0=all else, 1=White, variable. For the purpose of this discussion the ‘all else’ group will be referred to add “Non-Whites.”

civil liberties more strongly than Whites or Hispanics because they perceive themselves to be vulnerable to government action (p. 67). Alternatively, those more likely to experience terrorism victimization may put more faith in protective measures in order to reduce their fear of terrorism and anxiety related to potential victimization. Further research needs to be done to explain why Non-Whites perceive greater effectiveness of behavioral responses to terrorism. Here we have shown that there is such a connection and have posited why it might exist based upon Davis' previous research.

The race-based differences in perceptions of each behavioral response to terrorism effectiveness may add support for Terrorism Management Theory (TMT). On the one hand, it could be that Non-Whites simply perceive themselves as more vulnerable to all types of crime, and thereby fear of crime translates into increased levels of fear of terrorism, and this increased sense of vulnerability leads to increased levels of perceptions of effectiveness of behavioral responses to avoiding terrorism victimization. On the other hand, there could be unique dynamics of the Non-Whites experience in the US; for instance, other factors such as residence may influence the role of TMT for Non-Whites. Since racial/ethnic minorities have been historically ghettoized in large cities (e.g., New York, Philadelphia) where terrorists attacks (e.g., 9/11) have taken place, they may perceive greater potential for victimization and take greater self-protective measures (such as those gauged in the response to terrorism items) in order to protect themselves. There is some evidence for this hypothesis: Davis (2007) finds that "urban residents registered higher personal threat than their counterparts" (p. 66).

Regarding our regression analysis our results revealed that being Black, female, more religiously active, more educated, and having higher income in our analysis were all significant predictors of changes in the perceived effectiveness of response to terrorism scale. Specifically, supporting our hypotheses regarding these variables, we found that those who were Black, female, and had higher levels of religious participation scored higher (believing their behavioral responses to terrorism were effective) and those with higher incomes and higher levels of education scored lower (perceiving the actions taken in response to terrorism as less effective). This finding reinforces Davis' (2007) discovery that, "Less educational attainment is related to higher sense of threat" (p. 66). These findings support our abovementioned findings regarding the vulnerability hypothesis, suggesting that race (Black) and gender (female) influences perceptions of vulnerability. Future studies may want to include interaction terms that explore the influence of gender and race together or the sample could be separated by gender so as to compare the influence of specific variables on perceptions of behavioral responses between males and females. perceiving responses to terrorism as less effective. This was in contrast to our hypothesis that those with

lower income. Additionally, our results suggest that income and education may be factors with those who make more money and education perceiving themselves as less vulnerable to terrorism. This may suggest that income influences perceptions of vulnerability or it could also be acting as a proxy for race and gender, as historically racial/ethnic minorities and women have had lower incomes than males in majority groups. Similarly, education may also act as a proxy for race and gender, albeit to a lesser degree. Future studies may want to include additional variables such as region that would allow an examination of how living in areas more likely to be targets of terrorism (e.g., East Coast) compared to living in areas less likely to be victimized (e.g., Mid-West).

Another significant result of the regression models included that those with higher levels of religious participation were more likely to have higher scores on the Effectiveness Scale. These findings supported our hypothesis regarding religious participation and suggest that religious participation is a valid indicator of attachment to conventional society and social beliefs. It is possible that greater levels of religious participation indicate a stronger bond to others and an increased desire to take protective actions against terrorism victimizations. These findings, as well as the abovementioned ones regarding race and gender may suggest that these are variables that predict how individuals might comply with FEMA instructions on terrorism preparedness or government directives having to do with terrorist attacks. In contrast, findings regarding income and education suggest that those with higher income and education may be less likely to take protective measures in regards to terrorism prevention/victimization, which could provide future challenges for FEMA campaigns and initiatives. These findings should be interpreted with caution due to the exploratory nature of this study and limitations of these data.

11 Theoretical and Policy Implications

This study applied the race-based fear of crime literature to the threat of terrorism, specifically examining actions and the perceived effectiveness of responses to terrorism. These findings are largely consistent with existing literature and suggest that race is a factor in perceived effectiveness of responses to terrorism. Non-Whites report greater levels of behavioral response on the Effectiveness Scale and race was also found to predict scores on the Effect Scale. Interestingly, from a theoretical perspective, Non-Whites arguably face the same likelihood of being a victim of a terrorist attack as Whites, yet we found differences in the abovementioned items based on race. These findings may suggest that

theoretical examinations of terrorism and responses to terrorism need to include a race-based component. Future studies in these areas should consider race of paramount concern as it may influence behavior responses to terrorism. Theoretical explanations such as the vulnerability perspective and TMT may be utilized to explain how race “works” within the context of terrorism.

Gender was also found to be a relevant factor in regarding to the perceived effectiveness of terrorism. This finding may provide support for the vulnerability perspective and support prior findings dealing with fear of crime and emergency preparedness. Interestingly, as with our discussion of Blacks and Whites, females and males potentially face the same potential to be victimized by terrorism, yet females perceives greater effectiveness of responses. This suggests that theoretical explanations should include a gender component as they are applied to terrorism. Additionally, education, religious participation, and income were found to influence perceptions of effectiveness in the present study. These findings may suggest that these factors are viable constructs that need to be incorporated into explanations such as TMT and the vulnerability perspective, as income, education, and religious participation may be indicative of vulnerability (e.g., those with higher incomes and educations viewing themselves as less vulnerable) and attachment to society (e.g., those more engaged in religion being more likely to follow orders of conventional social institutions). In their discussion of mediating factors that contribute to psychological distress, Canetti-Nisim et al. (2009) go some of the way toward incorporating socio-demographic factors with the TMT model.

From a policy perspective, the results of our regression analyses study suggest that Blacks have greater levels of concern regarding terrorism victimization and are more likely to take self-protective measures to reduce the likelihood of victimizations. As such Blacks may be more compliant with government directives or public health precautions in anticipation of a terrorist attack. Additionally, being female was predictive of increased levels of perceptions of effectiveness of behavioral responses, suggesting women may be more amenable to recommended precautions to reduce changing of terrorism victimization. These findings are of particular value as some experts (e.g., Sullivan 2008; Thompson 2011) have stated that terrorist attacks are likely to happen in the US in the coming years. Further, policy makers and education programs such as the Ready campaign may need to target socio-economic groups differently, since the results of this study suggest that those with higher education and higher income perceive behavioral responses as less effective. Education programs may have to target those with higher income/education to inform them of the effectiveness of self-protective measures in the event of a terrorist attack or natural disaster. Religion is also a potential useful tool in preparedness. Based on the findings of this study, those

with greater levels of religious participation are more likely to perceive protective measures as effective, as such government programs may want to target those who have greater levels of religious participation – or religious institutions – as potential leaders or information disseminators in the event of major terrorist attacks or natural disaster.

12 Limitations

While we have addressed our research questions, it is important to discuss limitations of this study. To begin, as stated above, the data used for this study were collected after 9/11/2001 (in 2008), providing valuable information regarding the public's perceptions and views regarding the ongoing threat of terrorism. Thus, these data provide valuable insights about terrorism in the US after a major terrorist attack. However, this very same advantage limits our findings. The historical effect, which captured a moment of crisis in the US after 9/11/01, may have dissipated by 2008 when the GSS survey was conducted. In other words the impact of 9/11/01 on the American public may be far less in 2008 than it would have been in 2001 or 2002. It is therefore possible that race-based differences on the effectiveness of responses to terrorisms may be different in 2008 than they would have been closer to 9/11, despite ongoing interest and concern regarding terrorism in the media and academic arenas.

Next, the data used in this study included information on socio-demographic factors such as race, gender, political affiliation, age, income, marriage, and parenting that have found to influence fear of crime in prior studies. Future studies, however, may want to control for other racial/ethnic groups – as the distinction between Blacks and Whites may overlook the experiences of other groups such as Hispanics and Asians. Futures studies may also want to control for potential interactions between variables such as race and gender, gender and parenthood, race and marriage, and gender and parenthood as these may influence how people respond to the threat of terrorism and perceive the effectiveness of those responses.

Finally, the data in GSS, like many similar surveys is quantitative in nature. While there are many benefits to these large data sets, there are shortcomings, the biggest of which is a lack of qualitative assessment. The present study was able to identify socio-demographic factors that influence the perceived effectiveness of responses to terrorism it is not able to get at “why” these factors have influence. Qualitative assessments looking at these measures may provide a greater insight and allow policy makers the opportunity to better understand how they operate, thereby making more targeting advertising campaigns for specific groups.

13 Conclusions

Prior studies in the criminological literature have found that Blacks tend to fear crime at greater levels than Whites. In like manner, the emerging terrorism literature has found Non-Whites tend to be more fearful of terrorism than Whites, consistent with fear differentials over property and violent crime. The present study examined the effect of socio-demographic characteristics on actions taken in response to terrorism and the perceived effectiveness of those responses to terrorism, relatively unexplored areas. This study added to the literature by finding that race and gender based fear of terrorism differences exist regarding perceived effectiveness of behavioral responses to terrorism. Moreover, several other socio-demographic variables that are predictive of perceptions of the effectiveness of response to terrorism were identified. In sum, the findings suggest certain disaster and preparedness outreach campaigns have a more receptive audience to groups such as the Black and female population due to increased levels of the effectiveness of responses to terrorism.

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