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ACQUIRING FEDERAL DISASTER ASSISTANCE: INVESTIGATING EQUITABLE  
RESOURCE DISTRIBUTION WITHIN FEMA'S HOME ASSISTANCE PROGRAM

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## ABSTRACT OF THE DISSERTATION

Acquiring Federal Disaster Assistance: Investigating Equitable Resource Distribution  
within FEMA's Home Assistance Program

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This dissertation investigates the equitable distribution of disaster recovery resources in New Jersey by the Federal Emergency Management Agency (FEMA) in the aftermath of Hurricane Sandy. Through the administration of focus groups, an online-survey instrument, and key informant interviews, I find no evidence to suggest that FEMA approves individuals' disaster assistance applications discriminately in reference to race or ethnicity. However, despite this finding, perceptions of FEMA's discrimination persist among African American disaster survivors. Policy recommendations are presented as means for FEMA and other bureaucratic organizations within American society to reduce perceptions of institutional racism among various domestic populations.

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## **Chapter 1: Introduction and Literature Review**

### **I.1 Introduction**

Media and political coverage of disaster aid within the United States suggests that disaster victims receive substantial amounts of money to help replace and repair damaged property. According to Kousky and Shabman (2012), these discussions provide an unclear, and often misleading, depiction of disaster assistance, which has created a gap between the perceptions of disaster aid and the realities of individual disaster assistance allocations. Generally, the public perceives that when disasters occur the federal government, particularly the Federal Emergency Management Agency (FEMA), has a responsibility to help communities and individuals return to normalcy; however, this is not actually the case (Rivera and Miller, 2006). FEMA's true objective in the aftermath of disasters is to aid individuals in such a way that they themselves can begin to return to their predisaster conditions, not for the agency itself to return disaster survivors to their predisaster living conditions. This misperception has extensive impacts on settlement patterns within hazard prone areas (Wildasin, 2008), disaster recovery trajectories (Rivera and Miller, 2010), and civil trust within the broader American political landscape (Miller and Rivera, 2008; Miller and Rivera, 2011).

Because disaster assistance has such a profound influence on communities' ability to recovery from disasters, some disaster researchers have questioned whether there are individual characteristics among disaster aid applicants that have an influence on whether or not individuals are granted aid by FEMA. Generally, most disaster research indicates that lower-income and minority communities face greater difficulty in recovering from disasters (Peacock et al., 1997; Bolin and Stanford, 1998; Hewitt, 1995; Brunsma et al.,

2010; Rivera and Miller, 2010); however, there is little research that attempts to investigate how social and/or demographic characteristics of disaster aid applicants potentially influences disaster aid allocations at the individual level. To date, there have only been *two* studies that have attempted to observe the influence of these types of characteristics on FEMA aid allocations (Loukaitou-Sideris and Kamel, 2004; Kousky, 2013), and both studies come to similar conclusions: that there are differences in the allocation of FEMA household assistance between communities with different racial and ethnic compositions, communities with different poverty rates, communities with higher levels of ethnic minorities, communities with higher levels of foreign born individuals, and amongst communities with lower English proficiency. Although these preliminary studies are informative in reference to developing hypotheses about individuals' effectiveness in attempting to require FEMA assistance, they are limited by their inability to specifically measure the individual characteristics of FEMA applicants, which only allows for discussions about potential issues of equitable distribution of resources based on larger community characteristics and not at the individual level .

Based on the sparse extant research that has been completed on the determinants of individuals obtaining FEMA home assistance at the individual level, a number of issues emerge in reference to the socioeconomic and demographic characteristics of applicants. First, FEMA does not keep track of the race and ethnicity of applicants, making it difficult to directly evaluate the difference in assistance allocation across these groups. Additionally, the lack of data on race and ethnicity clouds evaluations of disaster recovery rates amongst these groups as a byproduct of federal government support. When researchers attempt to make these evaluations, they must do so through the use of

census data at the zip code level, which does not specifically depict the actual experiences of individuals belonging to these groups, but only provides limited explanations of what may be affecting the eligibility of individuals belonging to racial and ethnic minority groups. Therefore, in this dissertation, I am directly interested in observing whether there are any biases in FEMA home assistance funding based on applicants' personal characteristics.

Second, the high rate of FEMA individual assistance denial, specifically because individuals do not meet the minimum amount of damage needed to qualify, raises questions about why people choose to apply for FEMA assistance in the first place. To date, there has never been a study that has attempted to assess the determinants of applying for disaster assistance with FEMA. Additionally, even though there are potentially a number of other options for acquiring disaster assistance that include state programs, nonprofit programs, faith-based organizations, and/or charitable organizations, there has also never been an evaluation of the determinants of why people apply for these alternative disaster assistance programs. This lack of information potentially influences the way all these organizations or programs disseminate information about their programs, but more importantly the way in which they administer and implement their programs.

Third, although individual socioeconomic status and other demographic characteristics may be influencing the allocation of aid across different social groups within American society, these characteristics may not be the only influencing factors. Past research has pointed out the main, if not the only, person-to-person contact that disaster assistance applicants have with the FEMA bureaucracy occurs with inspectors

(McEntire et al., 2012). Although the damage assessments generated by these street-level bureaucrats (Lipsky, 1980) are not totally deterministic of whether or not an individual is approved for aid, they have a great deal of influence due to their role in assessing the level of damage inflicted on a property, and determining whether that damage is covered by FEMA home assistance. When these street-level bureaucrats come from outside the disaster affected area, and are either inexperienced with assessing the damage inflicted by a particular disaster event or are not representative of client communities, the influence of street-level bureaucratic discretion can have potentially detrimental and/or discriminatory effects on the recovery of communities.

These particular research issues specifically guide the research agenda presented here. As such, this research concerns the influence of socioeconomic and demographic characteristics among individual FEMA assistance applicants, and the potential influence these characteristics have on the approval or denial of FEMA home assistance applications. Specifically, this dissertation's main research question is: Does the race/ethnicity of a disaster assistance applicant influence FEMA's decision to grant them disaster recovery resources? This research also concerns the determinants of individuals applying for disaster assistance in the first place – not only with FEMA – but to other state, private and nonprofit programs in combination with or instead of FEMA. Therefore, one of this dissertation's secondary purposes is to answer the question: What types of individual characteristics influence a disaster victim to apply for assistance with FEMA? Knowing who tends to apply for aid and who does not and with whom these individuals apply for aid has important implications for disaster recovery organizations seeking to effectively serve their prospective clients. Finally, this project also addresses

the influence that FEMA inspectors have on disaster assistance decisions based on the inspectors' interactions with individual applicants. Within this context, this research explores how the representativeness of inspectors in relation to their clients may affect client interaction experiences and the potential influence these street-level bureaucrats' discretion is in assessing damage impacts and FEMA home assistance decisions. More specifically, if the race/ethnicity or gender of a home inspector is different from a FEMA assistance applicant, does the applicant have a reduced probability of being approved for assistance by FEMA?

Although this dissertation is specifically interested in exploring the equity of FEMA resource distribution among applicants, the implications of this research have far reaching applications in the field of public administration. First, this research broadly contributes to the understanding of the impact that street-level bureaucrats have on individuals' chances of receiving government benefits. Second, this research contributes to the understanding of representational bureaucracy and whether diversity among governmental organizations matters in service delivery. By understanding these dynamics, human resource and training recommendations can be made to the Federal Emergency Management Agency that will directly result in more effective client interactions, specifically with minority clients. Third, this research contributes to the literature of behavioral economics that has attempted to explain why individuals choose to take advantage of social programs, which has implications regarding what the government should or should not allocate funding towards disaster recovery programs, departments and agencies, and personnel development (Ashenfelter, 1983).

Finally, this research contributes to the national security of the United States. Because disasters have been occurring with increased frequency and severity, in addition to these events occurring in unprecedented geographic regions, disaster aid programs will increasingly be sought out by the American public to help them recover. Moreover, the economic shocks experienced by these disaster events have the ability not only to disrupt economic output in the short-term (Strobl, 2008; Rodriguez-Oreggia et al., 2010; Cavallo and Noy, 2010) , but they also have the ability to destroy profit generation at the local level into the future (Vigdor, 2008; Coffman and Noy, 2009). Without a better understanding of the dynamics of disaster assistance programs and the allocation of aid, enhancing the efficiency of disaster recovery is done in a vacuum if done at all (Sylves, 2008). When the public can not efficiently recover from disaster events, preexisting social problems fester, and in some circumstances, develop where they had not previously been experienced (Miller and Rivera, 2008; Brunnsma et al., 2010). Therefore, by understanding the dynamics of disaster aid allocation, the economic and social security of the nation can be enhanced in such a way that makes disaster vulnerable populations and regions more resilient from the occurrence of natural phenomena.

## **I.2 Previous Empirical Research on Potential FEMA Aid Allocation Biases**

As previously indicated, to date only two studies have attempted to empirically observe potential biases in FEMA aid allocation across different racial and ethnic groups. The first of these studies was performed by Loukaitou-Sideris and Kamel (2004). Their research sought to systematically assess community recovery from the Northridge earthquake in California that occurred on January 17, 1994 and the effectiveness of federal assistance programs implemented in the aftermath of the earthquake. Their study

specifically focused on identifying and attempting to explain the impact of federal assistance programs and variations in recovery patterns. The authors used a mixed methods approach including document analysis, interviews with relief-program administrators, public officials, residents, and community leaders, and statistical analysis. They compared pre- and post-disaster conditions of all zip codes within Los Angeles County. The authors make these comparisons by using data from the 1990 and 2000 censuses to measure changes in housing and demographic characteristics within the zip codes and the encompassing county. Through these comparisons Loukaitou-Sideris and Kamel (2004) specifically attempted to observe percent changes in total population, housing units, the number of occupied units (occupancy), and the number of renter-occupied housing units.

In addition to these changes, they reviewed six federal assistance programs that were implemented after the earthquake to address residential reconstruction. They analyzed their objectives, eligibility requirements, and the funds made available under each program. For each program, the authors also administered several statistical analyses to test the effect of a number of social variables on the distribution of assistance by zip code. The selected independent variables used in these analyses included the concentration of minority populations, linguistically isolated households, low-income households, and noncitizen populations. Households were considered linguistically isolated if no one 14 years or older spoke only English, and no person 14 years or over who spoke a language other than English spoke English “very well”, which was defined by the Census (U.S. Bureau of the Census, 2003). Moreover, households were considered low-income if their average annual income was less than \$25,000.

The regression models developed by Loukaitou-Sideris and Kamel (2004) indicated that the higher the concentration of Hispanics, the less the share of total assistance. However, the authors acknowledge that this was not the case for all racial and ethnic groups. African Americans were significantly and positively associated with higher shares of all types of FEMA assistance, and Asians were significantly and negatively associated with minor home repair assistance provided by FEMA. In reference to linguistic isolation, there was a negative association with the concentration of isolated Spanish-speaking households and the total assistance provided in the form of FEMA minor home repair assistance (i.e. the higher the concentration of Spanish-speaking isolation within a zip code, the lower the share of assistance). Lastly, the concentration of low-income households and noncitizens were significantly and negatively associated FEMA minor home repair assistance. Loukaitou-Sideris and Kamel (2004) find that FEMA minor home repair assistance did not seem to be equitably distributed between more advantaged and disadvantaged zip codes. Specifically, controlling for damage, the share of the total federal assistance to a zip code was inversely related to the concentration of racial minorities that included Asians and Latino, but not African Americans.

Of prime importance to the research presented here are the observed differences in the allocation of federal disaster assistance in the form of minor home repair between advantaged and disadvantaged groups. Although Loukaitou-Sideris and Kamel (2004) are able to observe the influence of these demographic variables on the allocation of assistance, the data used to make these observations is at the zip code level as opposed to the individual level. Because the unit of analysis is at the zip code level, true

understandings of potential biases in FEMA aid allocation along demographic lines at the individual level are inferred, not definitive. These findings imply that if there are biases in FEMA assistance allocation at the zip code level, then individual level biases could potentially exist as well. However, given that demographic information was not collected during the application process, it is not clear where within the FEMA aid allocation process the presence of bias or discrimination occurs.

Another limitation of this study is that a true depiction of all the potential beneficiaries of aid are clouded by a sheer lack of personnel available to inspect damaged properties. According to Loukaitou-Sideris and Kamel (2004:11), damage to multi-family homes was under reported due to inadequate inspection capabilities. One of the proposed reasons for this was that the out-of-state inspectors who were brought in to assist in the assessment process had limited experiences with seismic damage. In reference to the demographic indicators, past research on housing trends indicates that low-income families near the poverty line, in addition to various ethnic groups, have higher rates of living in multi-family households in comparison to more affluent and majority racial groups (Gardiner and Millar, 2006; Ryan and Enderle, 2012). Moreover, past research on the Loma Prieta earthquake of 1989 and also Hurricane Katrina in 2005 has illustrated that Hispanics, because of economic issues, live in multi-family homes in which, according to FEMA policies, only one household per living unit is eligible to receive assistance (Comerio et al., 1994; Tierney, 2006). As a result, there could be structural biases present in the FEMA assistance process that discriminate against not only low-income households, but also people in transient living situations (U.S. GAO, 1991; Fothergill and Peek, 2004; Wu and Lindell, 2004; Tierney, 2006).

In reference to bureaucratic effectiveness, the sheer lack of experienced inspectors questions the capacity of FEMA regional offices to mobilize quality personnel needed to aid individual households in their recovery. Although this is an important bureaucratic problem it is secondary to other potential issues associated with the use of out-of-area personnel to interact with the public in times of emergency. Because inspectors are not from the disaster area, not only are they less experienced with assessing the damages of hazards indicative to the geographic area, they are potentially less representative of the constituents they are interfacing with when engaging in inspections. This lack of representation has potential effects on the quality of services provided to prospective beneficiaries that are different than the bureaucrat, in addition to the level of benefits potentially bestowed on clients. According to Hasenfeld and Steinmetz (1981), when bureaucrats are not representative of their client populations, notions of client undeservedness and difficulty have a higher potential of manifesting in the mind of the bureaucrat, which can lead to allocation of fewer benefits, the withholding of information, the evasion of questions, and the use of other tactics to make the application process more difficult for the client. Moreover, this discretionary power on the behalf of the street-level bureaucrat (Lipsky, 1980) that in this situation is manifested in the FEMA inspector, potentially subjects disaster assistance applicants to the “whims” of individual bureaucrats, increasing the probability that workers will breach public trust, and introduce biases into the delivery of public programs (Sandford, 2000, p. 730). Given that damage inspectors play such a significant role in the potential allocation of FEMA disaster aid resources, issues of representative bureaucracy and the discretion of street-

level bureaucrats in the context of disasters needs to be explored, which is not even mentioned by Loukaitou-Sideris and Kamel (2004).

The second study that attempts to explore the relationship between socioeconomic or demographic characteristics of disaster aid applicants and the success of applicants receiving aid was completed by Kousky (2013). Kousky's research attempts to answer questions such as: 1) what type of aid was sought by applicants; 2) how many households received and were denied aid; and 3) why were some applicant's denied assistance? The author specifically attempts to answer these questions in reference to FEMA's individual assistance program in the context of the 2008 floods and tornadoes that occurred in Missouri. The data used to answer these questions came from several different sources. First, data on FEMA assistance applications was retrieved through a Freedom of Information Act request. This data did not have any identifying socioeconomic or demographic information about applicant except for the zip code of the property for which the applicant was applying for aid. To assess the need for aid among the zip codes affected by the disasters, Kousky used data from the Spatial Hazards Events and Losses Database for the United States (SHELDUS). Finally, in order to examine the influence of socioeconomic and demographic characteristics of applicants on FEMA assistance approval or denial, data had to be acquired from the U.S. Census at the zip code level. This was specifically due to privacy restrictions placed on the release of the FEMA application data, but also because FEMA does not keep track of the race or ethnicity of assistance applicants. For each effected zip code, Kousky (2013) collected Census data on the total number of housing units, median income, percent owner-occupied housing units, percent of the population that self-identified as African American or Hispanic,

median age, median year housing units were built, percent of the population with a high school education or higher, and the percent of the population that were not citizens.

In reference to the socioeconomic and demographic influences on zip codes receiving aid, Kousky's research does not report extensively on the independent variables mentioned in the regression analyses. What the author does report is that for every one percent increase in the African American population the number of approved applications as a proportion of total housing units increases by about one percent. However, while approved applications increased as the population of African Americans increased, the average amounts of assistance allocated in each of these zip codes decreases by roughly 0.4 percent (Kousky, 2013, p. 333). Additionally, the regression analyses indicate that the likelihood of aid was less likely in higher income zip codes and more likely in zip codes that had higher percentages of owner occupied units (Kousky, 2013, p. 333). These results indicate that there are more positive FEMA assistance approval trends in areas that have higher minority populations; however, the actual monetary allocation of resources is diminished across all households. Moreover, while there are lower assistance approval rates in more affluent zip codes, zip codes with higher rates of rental properties are less capable of garnering FEMA housing assistance funds.

Similar to Loukaitou-Sideris and Kamel's (2004) findings, there seems to be a bias within the disaster assistance application process that tends to detrimentally affect the ability of low-income groups to access disaster assistance – especially when one considers the socioeconomic status of individuals dwelling in rental properties versus those living in owner occupied homes. Kousky's finding on the decreased likelihood of non-owner occupied homes obtaining assistance could be linked to issues of race,

ethnicity, and socioeconomic status, and the higher rate of renting among various racial and ethnic groups in comparison to whites. However, similar to Loukaitou-Sideris and Kamel's (2004) research, Kousky's independent variables for socioeconomic and demographic status are data aggregated at the zip code level as opposed to the individual level. This complicates the ability to make inferential statements about an individual's chances of receiving aid based on their own personal demographic and socioeconomic characteristics. Interestingly, both Kousky (2013) and Loukaitou-Sideris and Kamel (2004) note that to overcome the danger of committing an ecological fallacy (Robinson, 1950; Jargowsky, 2005), a survey instrument should be designed to gain more data on individual applicants, since no individual-level data currently exists.

What is more interesting about Kousky's findings revolves around why applicants were denied assistance. Some people were not willing to leave their properties while repairs were being made, which is necessary for the receipt of aid. This raises questions regarding whether or not the public is aware of this aspect of the assistance process. If a major stipulation of home assistance is that the structure should not be livable or needs to be made livable through the funds provided, whether or not the homeowner chooses to stay on the property should not be an issue. The reason it should not be an issue is because if the structure is unlivable, the resident should not have the ability to stay at the property; therefore, their choice to stay is theoretically made for them as a consequence of the condition of the home. However, the quality of the home does not seem to cause people to choose to leave their homes. Additionally, the rate of applications that were denied because they did not meet the minimum threshold of what constituted enough damage raises questions in respect to what is considered "enough damage" by FEMA,

and how that minimum threshold is communicated to the public. Overall, the high denial rate of applications across all zip codes studied raises questions in respect to the dynamics behind why people attempt to apply for FEMA assistance in the first place, in addition to why they are approved or denied aid.

The studies by Loukaitou-Sideris and Kamel's (2004) and Kousky (2013) raise serious questions about the equitable distribution of FEMA assistance across racial and ethnic groups within American society. However, because of the level of analysis, neither of these two works had the ability to directly speak to the circumstances faced by individual applicants. Although both studies infer that there are potential biases in FEMA assistance across racial and ethnic groups, in addition to other socioeconomic groups, the authors admitted that an individual-level analysis is needed to make a better determination of these trends. Additionally, both studies highlighted potential issues within the FEMA application process that may be contributing to biased allocation of aid, such as issues related to representative bureaucracy, street-level bureaucrats, and government subcontracting oversight. However, although these broad public administration themes are mentioned within their research, it is beyond the scope of what they intended to study, which is why they did not situate their findings within the relevant public administration literature. Finally, even though both these studies attempted to assess the rate of success among different racial, ethnic and socioeconomic groups' FEMA applications, they were unable to observe individuals that could have applied for aid, but did not. This group of people is equally important to study because it raises questions as to why they did not apply for aid if and when their primary homes were damaged. Therefore, this dissertation fills these gaps in the research by not only directly

observing the rate of approval for FEMA home assistance at the individual-level based on racial, ethnic and socioeconomic characteristics, but also it will observe people's choice to apply for aid based on these characteristics, and situate the findings within the realm of public administration.

### **I.3 Review of Literature on Public Administration Themes**

Before attempting to answer the questions under analysis in this research, a better understanding of the theoretical perspectives that guide the study of this subject are necessary. For this reason, the following sections provide a discussion of the various theoretical arguments indicative to the study of individual decision making, government subcontracting, representative bureaucracy, and street-level bureaucrats and their discretionary power in governmental programs. Because most of these theoretical perspectives have not been applied within the context of FEMA assistance programs, the theories and studies presented here will be used as a guide for observing trends in FEMA assistance programs. As such, the review of this literature helps provide a theoretical orientation for the development of hypotheses that will be analyzed within the specific context of the FEMA home assistance program.

#### **I.3.A Behavioral Economics and Deciding to Apply for Aid**

The ability to analyze the decisions to participate in a social program that distributes/redistributes resources is important for a variety of reasons. First, by understanding what types of individuals apply for acceptance into a program, analyses can be performed regarding the equity of program services. For example, the choice among potential applications can have various equity implications, such as whether the choice to apply for a program results from eligibility, awareness of the program, and/or

access to the resources needed to apply to the program in the first place (Heckman and Smith, 2003). According to Heckman and Smith (2003), another reason why understanding individuals' choices to participate in a program is important relates to more effectively evaluating program operations. In reference to program operations, understanding who chooses to apply for a program can help shed light on the effects of choices made by program staff that have discretion on the allocation of program resources. Third, knowledge of how the determinants of participation vary by individual demographic or other socioeconomic characteristics, while controlling for individual eligibility of a respective program, allows for the potential development of more constituent responsive programs, the development of enhanced econometric program evaluations (Heckman and Robb, 1985; Heckman and Navarro-Lozano, 2004), but also for the better forecasting of costs of governmental programs (Ashenfelter, 1983).

Most traditional models of decision-making assume that preferences between choice alternatives are independent of an individual's current assets (Simon, 1955; Simon, 1956; Simon, 2000; Tversky and Kahneman; 1981). This assumption oversimplifies analyses of choice and potential predictions of choice. According to Tversky and Kahneman (1991), initial entitlements or assets an individual possesses matters and the value between alternative courses of action can be significantly different depending on what is acquired or given up, even in the absence of transaction costs or income effects. Through their meta-analysis of empirical literature on loss-aversion in consumer transactions they present a reference-dependent theory of consumer choice that maintains that individually perceived or real losses and disadvantages associated with a decision have a greater impact on preferences than gains or advantages. Loss aversion

refers to the impact of a difference between the dimensions of value/utility and loss/gain having a greater impact when that difference is evaluated as a loss than when the same difference is evaluated as a gain. The initial consequence of loss aversion is that the loss of utility associated with giving up a valued good is greater than the utility gain associated with receiving something else. This endowment effect (Thaler, 1980) is more or less pronounced as an individual's assets change in relation to the perceived loss or gain of a behavior (i.e. the greater the perceived loss in relation to one's initial assets the less inclined an individual will be to make that respective choice).

Loss aversion therefore creates a bias in decision-making among individuals that favors the retention of the status quo over other options even when options available to the individual are more advantageous (Samuelson and Zeckhauser, 1988); however, this assumes that there is a lack of alternative substitutable goods. Samuelson and Zeckhauser (1988) maintain that retention of the status quo results not only from loss aversion practices within the individual, but also in the absence of loss aversion practices when thinking and transaction costs are high, in addition to an individual having psychological commitments to prior choices. Moreover, perceived losses that are associated with a specific choice do not necessarily have to relate to monetary losses. An individual's past experiences with similar decisions, even when decisions have resulted in relatively advantageous monetary benefit, may result in status quo decision-making practices if either past experiences or public sentiment has yielded notions of unfairness about a particular option (Olmstead and Rhode, 1985; Kahneman et al., 1986).

The implications of loss aversion and the maintenance of the status quo in decision-making are three-fold in relation to helping to explain why people would or

would not apply for FEMA home assistance. First, in relation to loss aversion in general, individuals that perceive the results of applying or receiving aid as a loss or to have a negative impact on their normal existence, even when monetary benefits associated with the decision to apply are objectively more advantageous to not applying, will choose either not to apply or participate in the program. Although not the only explanation, this would help to explain why so many people were ineligible for home assistance in the Kousky (2013) study. The perceived loss of access and usage of their homes while repairs were completed through the assistance program potentially was perceived as a greater relative loss than the anticipated benefit of their home being repaired. Although, objectively, the gain associated with participating in the program potentially is greater than the individual living in a rental unit for the time needed to make repairs, the perceived immediate loss outweighs this benefit. Moreover, this loss aversion tendency would also hold if the costs of applying for aid were perceived as a loss, of either time, actual funds, or thinking power, when the potential benefits of applying are either perceived as having a low probability of success or if potential benefits are not great enough in the mind of the individual to outweigh these costs. Therefore, this research hypothesizes that when individuals are not rendered homeless by a disaster event, they will be less likely to apply for FEMA home assistance aid than those that are rendered homeless (**H1**).

Second, Tversky and Kahneman (1991) maintain that loss aversion practices are potentially the result of inefficient service provision practices within the agencies through which individuals are forced to interact because of a lack of substitutable alternatives. As a result, new organizations that emerge to provide similar services of similar or better

quality can do so without the rigidity of previous agreements and prior social dissatisfaction to create a competitive advantage within the minds of decision-makers. Although Tversky and Kahneman (1991) are specifically discussing firms, the same notion holds for FEMA assistance. Rivera (2014), maintains that path-dependent processes within FEMA have resulted in service provision inefficiencies, and that these inefficiencies perpetuate over time because of organizational behavior dynamics and a lack of competition within the realm of individual disaster assistance itself. These inefficiencies, in addition to past public sentiments surrounding FEMA assistance practices, such as perceptions of inequity, discrimination and/or institutional racism, potentially result in aversion to people attempting to engage with the organization even when potential benefits are available to the disaster victim. Rivera (2014) argues that if disaster victims were given alternatives in disaster assistance choices (i.e. a variety of other organizations that provide similar services at equal or better quality) that the public would choose to take advantage of programs offered by those other organizations, as opposed to FEMA. Along these lines, even though individuals may be loss averse in reference to applying for assistance through FEMA, they may not be in reference to other organizations. Therefore, when assistance programs are offered through organizations other than FEMA, such as non-FEMA state programs or programs offered through nonprofit or religious organizations, individuals may choose to apply to those organizations. As a result, this research will explore what potentially determines whether an individual applies for aid with other disaster assistance programs offered through the individuals' state of residence, the private sector, nonprofit organizations, or some other third-sector organization.

Finally, and in conjunction with both the previously described implications, the maintenance of the status quo on the behalf of an individual in deciding to apply for FEMA is an important dynamic for consideration. Maintenance of the status quo in the context of applying for FEMA aid or with any other organization is represented by an individual choosing not to apply to any assistance program. Although this may be a byproduct of loss aversion practices of the individual when they evaluate the costs and benefits of applying for aid with FEMA or any other agency, it could also be the byproduct of previous decisions or experiences of the individual such as personal disaster experiences, whether or not the person knows their eligibility for aid with a specific program, the potential of them receiving benefits, what the potential probability of them receiving a specific level of aid may be, and/or whether or not they have the minimum resources required to initially apply for aid. Moreover, if the individual has a variety of alternatives for applying for aid or a variety of alternatives with whom they can apply for aid (i.e. different organizations) their decision of whether or not to apply is complicated by their bounded notions of what is actually available to them, meaning that although there may be a variety of alternative decisions available to them, they may only perceive a limited few.

### **I.3.B Bounded Rationality**

According to Simon (1955), humans tend not to operate in an utility maximizing manner because of the limitations indicative to human cognitive processes, which he refers to as bounded rationality. Specifically,

“Bounded rationality is simply the idea that the choices people make are determined not only by some consistent overall goal and the properties of the external world, but also the knowledge that decision makers do and don’t have of the world, their ability or inability to evoke that knowledge when it is relevant, to

work out the consequences of their actions, to conjure up possible course of action, to cope with uncertainty (including uncertainty deriving from the possible responses of other actors), and to adjudicate among their many competing wants” (Simon, 2000, p. 25).

Additionally, and contrary to traditional rational choice assumptions, decision alternatives an individual has access to are not given, but found. In a general sense, the search for alternative decisions or courses of action occurs until a satisfactory alternative is found that reaches or surpasses the aspiration level on a particular goal that the individual is attempting to achieve (Selten, 2001). Moreover, these aspiration levels, similar to issues of decision framing, are not fixed but are dynamically adjusted to each situation; where, according to Selten (2001), they are raised if it is easy to find satisfactory alternatives, and lowered if satisfactory alternatives are hard to find. Lastly, sometimes decisions makers may think that a choice with known costs and benefits is rational, but still do not choose it. In this type of situation, rationality is not necessarily cognitively bounded but rather bounded by motivational characteristics.

With respect to deciding whether or not to apply for FEMA home assistance, an individual should theoretically aspire to gain resources needed to repair their home, although the exact level of this aspiration may vary. For example, some individuals may be primarily interested in simply making their residence livable so that they can move back in; however, others’ aspirations may be more ambitious. These more ambitious individuals may aspire to garner resources that could potentially surpass making their residence livable again, and actually seek to make improvements to their home in comparison to the pre-disaster state. These examples of differing aspiration may result in different tendencies to apply for FEMA home assistance, assuming the individual knows the eligibility requirements of the program and is cognoscente of the assistance’s proper

use. Moreover, these differing aspirations may be a byproduct of damage that was inflicted on their homes. The level of damage, or need for resources, alters the individual's frame of reference of potential benefits of program application, where those with more severe damage view potential resource benefits of the program as more satisfying than those with lower amounts of damage or need. Finally, if one were to control for aspiration levels, in addition to other characteristics, such as the need of the individual and knowledge of available programs, some individuals may simply choose not to apply for aid at all. Not applying for aid not only encompasses assistance from FEMA, but also other potential assistance alternatives, such as those provided by state programs, and third sector organizations. In this type of situation, which Selten (2001) describes as motivational characteristics, an individual's motivation to apply for assistance may be limited by a number of factors that may include both cognitive limitations, but also subjective impressions of program fairness and the individual's past experience with similar decision situations.

Although bounded rationality theory tends to focus on the psychological processes of the individual, rationality is also bound by the characteristics of the environment in which the individual acts. According to Simon (1956), the environment is not necessarily the total physically objective world, but only composed of those aspects that have relevance in the context of decision making. Therefore, the "objective environment" in which an individual acts depends on the needs, aspirations, and goals that the individual has, in addition to the subjective way in which the individual perceives that environmental structure. In this environment, an individual attains the most satisfaction through decisions by gaining access to resources at specific places or through

specific institutions, which are sparsely populated throughout the environment in which they reside that provide needed resources at a level that meets or exceeds the individual's aspirations.

When discussing disaster assistance in general, the environment in which the individual is making their decision to either apply for aid or not apply for aid is occurring not only with the limitations placed on them because of cognitive processes, but also by the actual presence of disaster assistance programs to which the individual has access. Although one may argue that through the internet, geographic confines of an individual have little bearing on their ability to access resources, especially given the rise of e-governance, there are actually several environmental limitations that influence an individual's decision making. First, in reference to access, although there is a growing trend in the scope of access and services available through the internet, issues associated with the digital divide still are prevalent amongst communities of color and the poor, which are most vulnerable to disasters and in most need of resources in the aftermath of disasters. Second, even if the individual is able to access programs through the internet or some other means, the institutional environment only provides a limited number of assistance options (Rivera, 2014), and the eligibility requirements for each of these options vary in respect to applicant characteristics and, in some cases, specific geographic locations. These institutional environmental limitations, not only limits the availability of potential alternative decisions to apply for aid, but they also constrict the cognitive processes of the individual by reducing the number of options that the individual is capable of evaluating.

Finally, and potentially most important in the context of applying for FEMA aid, there are the issues of unfamiliarity and time. Traditional rational choice models assume that an individual is able to fully evaluate the alternative choices available to them in order to maximize utility. For individuals that have experienced disasters in the past, the situation may be familiar to them, which allows them the potential of knowing optimal ways to meet their needs and therefore decision-making is made more easy. However, situations in which the occurrence of disasters is a new phenomenon and the problems the individual faces are unfamiliar, the decision-maker must first devise a method for finding decision alternatives and then devise a method for evaluating them against one another. Place on top of that process time limitations in reference to when a person is able to apply for FEMA home assistance. This limitation on time in addition to the time costs associated with finding information and evaluating possible alternatives makes truly optimizing utility in unfamiliar situations infeasible (Simon, 1956; Selten, 2001). Everything else equal, in situations where time is a limitation on decision-making and a situation is unfamiliar to an individual, time can be the most important variable that influences an individual's decisions in which maximum utility is not pursued. This can occur for potentially two reasons. First, limitations on the amount of time an individual has to apply for FEMA home assistance can discourage people from applying for the program if, through their process of finding decision alternatives, they are not able to become knowledgeable about the program until after the relevant deadline. Subsequently, those individuals that have not become knowledgeable about the program or those that have not been able to engage in decision alternative evaluation may not apply. Secondly, time constraints could also force the individual to make decisions that

they may not normally make. For example, because of time constraints, even when all possible decision alternatives are available and known to the individual, time may disallow a fully complete evaluation of the options provoking an individual to make an under-informed decision, which subsequently results in the individual applying for aid with another program that does not maximize utility or they may not apply for aid at all. As a result of these potential dynamics, this dissertation explores the influence that issues of bounded rationality, such as time, access to information, and access to resource providing locations has on individuals' decisions to apply for aid, either with FEMA or with other disaster assistance entities.

### **I.3.C Governmental Subcontracting of Services in Emergency Management**

Since the creation of the Department of Homeland Security the outsourcing of services has progressively become a mainstream operating function of emergency management. According to the Department of Homeland Security (DHS, 2009), FEMA's inadequate number of core personnel requires the organization to meet the demands of a disaster by supplementing its capacity through the implementation of contracts with stand-by partners. Because disaster management is typically a "seasonal" job, it is not economical for government to retain a large workforce in anticipation of a disaster on permanent and costly employment contracts (Sylves, 2008; Rademacher, 2011). Therefore, it makes more economic sense to hire contractors when a disaster situation calls for them. Moreover, Rademacher (2011) argues that by reviewing the active contracts that FEMA currently administers it is observed that the organization not only issues contracts in times of disaster but also throughout all times of normalcy. This tendency suggests that the organization's staff is insufficient to manage day-to-day

operations that specifically fall within the agency's official mandates. Moreover, the Inspector General of the Department of Homeland Security (DHS, 2009) has repeatedly found FEMA in violation of using contractors for governmental functions, in addition to service provision, which leads to potential detrimental issues in reference to oversight and accountability (Rademacher, 2011). With respect to accountability, contractors and subcontractors are complex and functionally ambiguous and understanding for what and to whom services are provided is difficult to discern because of the contractual relationships between public agencies, (Posner, 2002; Girth 2012).

Government outsourcing in general, but in particular emergency management, results in reductions of oversight, accountability and transparency, which is problematic when dealing with disaster-affected populations when not only the speed and volume of service delivery is important, but also the quality and appropriateness (Rademacher, 2011). Rademacher (2011) argues that the importance of quality and appropriateness of service provision in disaster management can not be underestimated, and that contracting by FEMA should not only take place with an emphasis on the capacity of service provision, but that contractors should have knowledge of the community and a certain degree of vested interest in the long-term building of community disaster resilience. Although FEMA as a governmental agency has these community, state and regional interests as part of its goals and objectives, it is unclear whether the contractors that FEMA uses to provide services do as well. According to Roberts (2010, p. 59),

FEMA, like other agencies contribute to the "hollow state" by locating much of its capacity outside government, as when it enters into contracts with private firms to provide public services. These firms create a state within the state, a network of firms whose employees are not subject to government regulations but who perform functions once carried out by federal employees.

These types of relationships in which the private sector has been progressively taking over the core functions of emergency management, providing services to individuals and businesses directly (Handmer, 2000; Kirschenbaum, 2004) within an environment of little oversight and government regulation further weakens government's capacity to hold contracting firms accountable to the public (Roberts, 2010).

Of specific importance to this dissertation is the way in which FEMA contracts out the services of home inspection to third-party organizations. According to the Office of Federal Procurement Policy (OFPP, 1994), when organizations similar to FEMA spend more time awarding contracts than administering them, contractor performance problems and delays in receiving services has the potential to manifest. FEMA home inspectors do not serve disaster-affected individuals in a time-efficient manner. Because FEMA contracts out this service, personnel used to provide the services may not be representative of client community characteristics or interests, which can further complicate the effectiveness of service provision. According to McEntire et al. (2012) and Downton and Pielke (2005), one of the most problematic issues associated with inspections is the inaccurate assessment of damage, which can result from miscommunication, disorganization, and a lack of training (Kelly, 2008), which is a direct result of a lack of accountability. The importance of this dynamic can not be underestimated considering that federal decisions to provide assistance to individuals is predicated on the information gathered through home inspection. In this way, contracted home inspectors act as indirect street-level bureaucrats for FEMA and gatekeepers for individual federal disaster assistance. Sylves (2008) and McEntire and Cope (2004) argue that although disaster recovery has been studied in various contexts, the process of

aid acquisition and the evaluation of contracted personnel to provide FEMA services has not been studied. As a result this dissertation explores how individual disaster aid applicants evaluate their experiences with these contracted personnel, and what potential effects their experiences may have on applicants' approval for funds through FEMA's home assistance program. However, the importance of representative bureaucracy and the discretionary powers of street level bureaucrats must be discussed to highlight these concepts' importance.

### **I.3.D Representational Bureaucracy, Street-Level Workers and Program Equity**

The theory of representational bureaucracy maintains that the powers of a bureaucracy can be made more responsive to the interests of the public if the personnel that staff administrative agencies reflect the demographic characteristics of client communities (Krislov, 1974; Meier, 1975; Thielemann and Stewart, 1996; Meier et al., 1999; Sowa and Selden, 2003). The reason for this responsiveness to the public lies in the potential matching of values and beliefs between bureaucrats and respective clients that share demographic characteristics such as race, ethnicity, and gender (Krislov and Rosenbloom, 1981). According to Sowa and Selden (2003), these values and beliefs harbored by bureaucrats directly influence their behavior and discretion in the administration of public programs. Along these lines, the work of Seldon et al. (1998), Hinderer (1993), Meier (1993), and Meier and Stewart (1991) all demonstrate that when minorities have access to positions within a bureaucracy there is a tendency within the respective bureaucracy to benefit minority clients. However, the potential benefits of representational bureaucracy have been more recently challenged by the devolution of administrative control between the national government and state, local, private and

third-sector actors (Lieberman and Lapinski, 2001), which is epitomized by the outsourcing of government services. According to Keiser et al. (2004; McConnell, 1966), the devolution of the state provides the potential for a loss of equity in the treatment of minorities participating and those seeking to participate in government programs.

Representational bureaucracy as a theory is not able to specifically explain the direct consequences of a representational bureaucracy because the theory does not sufficiently explain the role of administrator discretion (Meier et al. 1999). A number of studies have examined the impact of discretion on the provision of services by administrative agencies by studying the impact of the discretion held by street-level bureaucrats in the delivery of respective services (Lipsky, 1980; Kelly, 1994; Brodtkin, 1997; Sandfort, 2000). Lipsky (1980, p. 3) defines street-level bureaucrats as “public service workers who interact directly with citizens in the course of their jobs, and who have substantial discretion in the execution of their work.” Examples of these workers include, but are not limited to teachers, police officers, welfare workers, health and safety inspectors, and other public employees who control access to public programs or enforce public laws and regulations (Maynard-Moody and Musheno, 2000; Meyers and Vorsanger, 2003). In most cases these types of individuals are responsible for the central activities of public agencies, which ranges from determining eligibility for a program to allocating benefits, judging compliance, imposing sanctions and exempting individuals and businesses from potential penalties (Meyers and Vorsanger, 2003). What is problematic about this situation stems from the devolution of government and the subsequent oversight of these individuals’ decisions on the behalf of government

agencies. According to Maynard-Moody and Musheno (2000), even though street-level work is saturated by rules, the work itself is not rule bound. Even the authority of a supervisor has little constraining influence over the decisions and actions of street-level workers. This weakened authority of oversight and accountability makes street-level discretion inevitable during face-to-face interactions between street-level workers, the public and the potential beneficiaries of services (Lipsky, 1980; Brehm and Gates, 1997). As such, they not only deliver services, but also shape policy and program outcomes by interpreting and allocating resources to individuals within society (Lipsky, 1980).

The main defining characteristic of street-level workers is their direct contact and interaction with the public. Unlike other government officials and politicians, street-level workers see clients as individuals: “as clients, students, criminals, suspects, victims, and so on” (Maynard-Moody and Musheno, 2000, p. 334). As a result, Maynard-Moody and Musheno (2000) maintain that their interactions with clients are personal and emotional, and are rarely rational. This characteristic contributes to potential behaviors among street-level workers’ discretion to disregard the specific nature of a case or the individual they are working with for other characteristics they think are more important. Moreover, this can and typically does result in street-level workers identifying those who are “worthy” of services or treatment beyond the routine, in addition to identifying individuals who they perceive to require extra scrutiny or some form of punishment (Maynard-Moody and Musheno, 2003 and 2012). Subsequently, street-level workers act as “agents of social control” by forcing clients to conform to bureaucratic and majority social values and beliefs for the receipt of government services (Lipsky, 1980). As a result, street-level workers may have a tendency to favor clients who resemble

themselves and discriminate against those from different racial, class, or cultural backgrounds (Lipsky, 1980; Keiser et al. 2004).

Traditionally, past research that has attempted to observe the influence that racial and welfare attitudes have had on social program implementation (Fellowes and Rowe, 2004; Fording, 2003; Soss et al., 2001; Wright, 1976; Lieberman, 1998; Gilens, 1999; Soss, et al., 2008). In Soss et al.'s (2001) investigation of state restrictions placed on eligibility for Temporary Assistance to Needy Families (TANF), they found that the stringency of eligibility for TANF benefits increased within individual states that had higher percentages of African Americans and Latinos in their caseloads. This empirical study that surveyed all fifty states supports similar findings within studies administered in the 1970s (Orr, 1976; Wright, 1976) and 1990s (Howard, 1999) that consistently found that states where black recipients of Aid to Families with Dependent Children (AFDC) made up a higher percentage of the caseload benefits to this group were significantly lower in comparison to states with higher proportions of whites receiving aid.

In a study completed by Schram et al. (2009), case managers of social programs tended to differentially utilize programmatic sanctions against individuals across different racial categories. The researchers surveyed 144 Florida Welfare Transition case managers with sanctioning authority. According to Botsko et al. (2001), this program relies heavily on sanction to enforce client compliance, which has resulted in it having one of the highest sanction rates for any state in the nation. Schram et al. (2009) used two 2 X 2 experiments that were embedded in their survey, each of which presented case managers with a vignette and asked them to decide whether to impose a sanction. Their design included variation on race and a discrediting social marker, and each of the

vignettes portrayed a hypothetical TANF participant who arguably had fallen out of compliance with program requirements. Federal implementation of TANF programs stipulates that welfare sanctions be imposed as responses to client behavior; however, in practice this study found that they were also used in response to client characteristics. Latina clients with several children were more likely than their white counterparts with few children to be sanctioned. Additionally, African American clients with prior sanctions were significantly more likely than their white counterparts to be sanctioned. Overall, white clients in these experiments suffered no discernible effects when linked to characteristics that hold negative meanings in the welfare-to-work context. Most importantly, vignettes elicited a stable pattern of responses among case managers when clients were white; however, minority clients' odds of being sanctioned rose in the presence of discrediting markers, even when the details of their case were the same as their white counterparts. Although finding that street-level bureaucrats behave in a discriminatory manner does not prove that the social programs themselves are a form of social control,<sup>1</sup> it does show that their implementation has the potential to be so. Regardless of this caveat, Schram et al.'s (2009) testing of cognitive dynamics associated with the provision of social benefits (Quillian, 2008) contributes to the notion that the foundations of decisions made about how target groups are treated in welfare settings it still highly important (Schram, 2005) and subject to broader social notions of deservedness.

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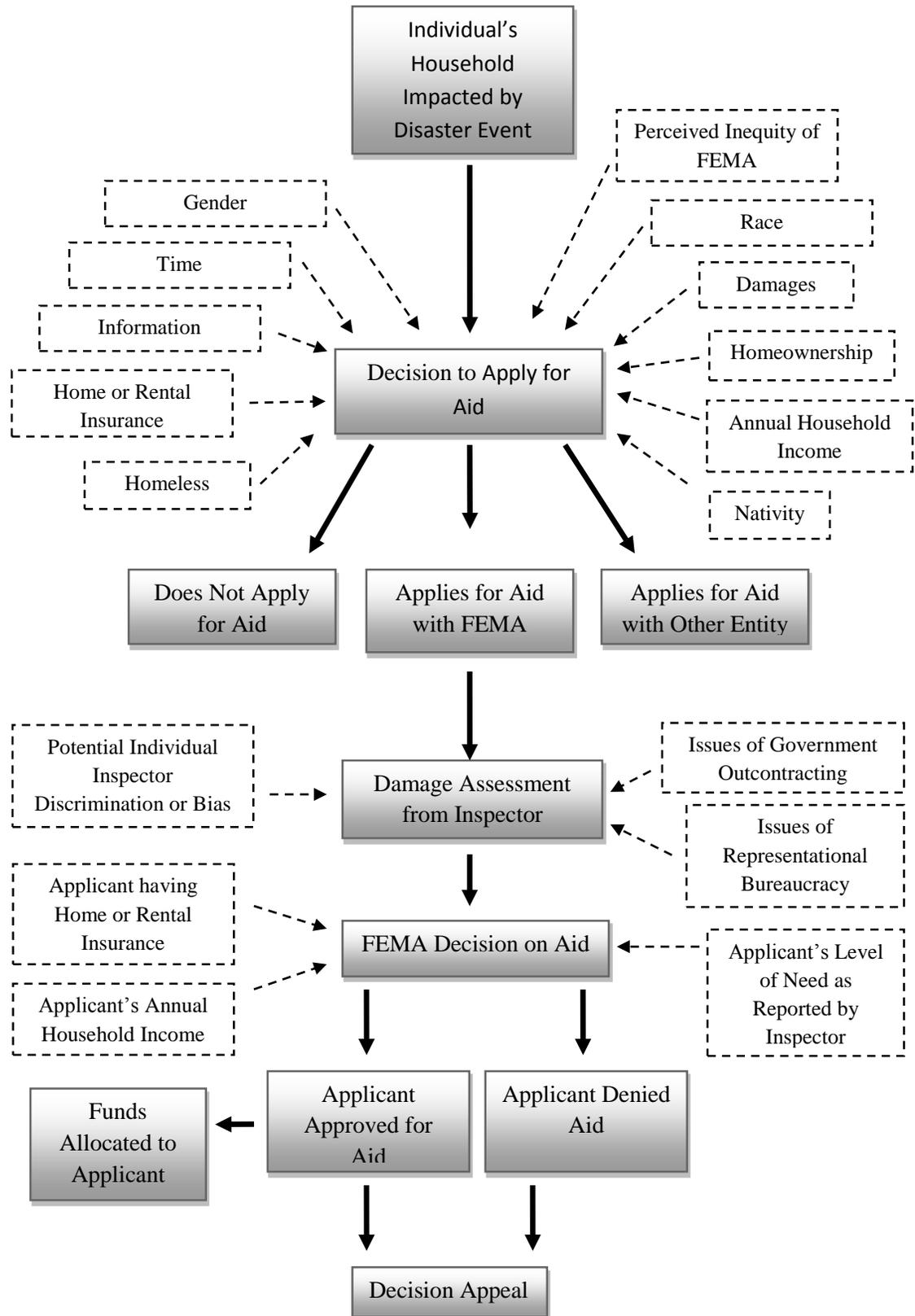
<sup>1</sup> In the context of this research, social control refers to the means by which collectivities secure adherence to ideological and behavior norms and actively seek to diminish "disruptive" forms of deviance (Piven, 1981; Black, 1998)

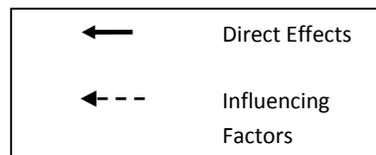
Based within the theoretical framework of representative bureaucracy and street-level bureaucratic discretion, this dissertation investigates the influence of street-level bureaucrats on applicants' approval of FEMA home assistance funds. In line with past research, I hypothesize that when FEMA home inspectors are not representative of their clients' race or gender, this leads to a decrease in the probability of an applicant being approved for FEMA home assistance funding (**H2**). Moreover, the lack of representation among FEMA home inspectors may also contribute to how FEMA home assistance applicants perceive the inspectors and FEMA as a contracting organization. Therefore, this dissertation examines these potential relationships.

#### **I.4 Working Model**

To explore the previously described dynamics of the FEMA home assistance application process and to test the previously stated hypotheses, a working model was created to illustrate what this current research suggests is having an influence on people's ability to access FEMA home assistance funds. Figure 1.1 illustrates the specific variable inputs that are thought to be of most influence in this process.

**Figure 1.1: Acquiring FEMA Home Assistance**





The first step in this entire process is that an individual's primary residence is impacted by a disaster event, and that the residence is located within a presidentially declared disaster area. As such, the case under study here is Hurricane Sandy, which occurred in 2012. Given the extent of disaster damages, an individual has to make a decision on whether to apply of some manner of disaster assistance that can be used to repair their residence. As indicated from the previously described literature, there are a number of factors that can contribute to this decision. Figure 1 highlights the variables of most concern to FEMA, which will be more specifically discussed in the next chapter, in addition to other potential influencing variables that were previously mentioned in the literature. The decision to apply for disaster home assistance has four potential outcomes: 1) an individual can decide not to apply for any type of assistance, 2) an individual can decide to apply to FEMA's home assistance program, 3) an individual can decide to apply to a disaster program offered by some other type of government, private, and/or third-sector organization, or 4) an individual can decide to apply to FEMA's home assistance program in addition to other government, private, and/or third-sector programs at the same time.

Because this research is only concerned with what dynamics influence the success of gaining FEMA home assistance, Figure 1 only illustrates what the potential influencing factors that may be working to influence a successful FEMA home assistance application. Therefore, after an individual applies to FEMA's home assistance program, the role of a home inspector becomes the next step in this process. At this stage in the

application process, I argue that issues associated with FEMA's outsourcing home inspections, representational bureaucracy, and potential discriminatory practices on the behalf of home inspectors all contribute to the level of damage an inspector reports on behalf of an individual applicant of having to their primary residence. After this stage of the process, the inspector files their report to FEMA, and a decision is made on an individual's home assistance application. Although, FEMA uses data acquired directly from an individual applicant in combination with an inspector's damage assessment, FEMA acknowledges that the inspector's damage assessment is a major contributing factor within an the organization's decision to grant home assistance (FEMA, 2008). After FEMA renders its decision on an individual's application, the individual then has the ability to appeal FEMA's decision. As such, Figure 1 highlights what this research argues are the main contributing factors to an individual's success of assistance approval.

### **I.5 Summary and Structure of Current Research**

This dissertation is primarily focused on assessing the influence of socioeconomic and demographic characteristics of individual FEMA assistance applicants on the approval or denial of assistance. Rather, does FEMA bias any racial/ethnic groups in their approval of public assistance applications? Although this is the main focus of this research, I also assess the determinants of individuals applying for disaster assistance, not only with FEMA, but with other alternative organizations as well to provide information about who enters into this process in the first place. After determining who applies for aid, I focus attention on the role of FEMA inspectors in the application process and their influence on disaster assistance decisions. Within this context, I explore how the representativeness of inspectors may affect client interaction experiences and the

potential influence these street-level bureaucrats' discretion in assessing damage impacts disaster assistance decisions.

Chapter 2 provides a description of the context under investigation, Hurricane Sandy. Not only does this chapter highlight the dynamics of the storm, it also highlights Hurricane Sandy's social and physical effects to human geography. Subsequent to discussing the actual effects of the storm, a description of the FEMA home assistance application process is presented to provide a better depiction of what FEMA officially views as the process through which applicants must navigate. Chapter 3 then presents the general methodological approaches to generate data for this study, which include the use of focus groups, an online survey instrument, and key informant interviews. Within this chapter preliminary descriptive statistics of this dissertation's samples are presented.

In Chapter 4, I discuss the specific statistical procedures used to empirically explore the determinants of an individual applying to FEMA for disaster assistance and/or to programs with other agencies or organizations. I also test my first hypothesis that individuals not rendered homeless by Hurricane Sandy are less likely to apply for disaster assistance with FEMA. Through the use of various OLS regression models and the analysis of focus group transcripts and key informant interviews, findings indicate that individuals that were not rendered homeless by Hurricane Sandy have a lower probability of applying for disaster assistance. The statistical analyses also indicate that neither race nor other demographic variables significantly predict the whether or not an individual applies to FEMA for assistance. However, the analyses predict that African Americans have a higher probability of applying for assistance with a third-sector organization(s) in comparison to whites. Finally, through the data generated by the focus

groups and key informant interviews, evidence suggests that notions of bounded rationality, specifically access to quality and timely information, is an extremely significant factor in people applying for aid with FEMA or any other organization.

Chapter 5 explores the relationship between an individual's personal characteristics, specifically their race/ethnicity and gender, and their probability of being approved for assistance from FEMA. In a two stage analytic process I explore how an individual's personal characteristics influence FEMA's application approval, and then whether the representativeness of FEMA home inspectors have an influence on an applicant's probability of receiving assistance. As such, my second hypothesis, that when FEMA home inspectors are not representative of their clients in reference to race or gender applicants have a lower probability of receiving aid, is tested. Again, through the use of various OLS regression models, and through the analysis of focus group and interview data, the findings indicate that neither the race nor gender of an applicant has a statistically significant effect on whether or not FEMA grants them assistance. However, the statistical models do indicate that the level of damage an individual incurs to their primary residence and their employment status do seem to have an influence on FEMA's decision to grant an applicant assistance. In reference to the representativeness of home inspectors, the empirical analysis does not find support for my second hypothesis. Despite this statistical finding, the focus group analysis indicates that although there may not be empirical discrimination being practiced by FEMA street-level bureaucrats, perceptions of FEMA as a racially discriminatory organization persist among African American respondents.

Finally, Chapter 6 summarizes the findings of this work, and discusses the implication of these findings for disaster recovery. The findings of this work are then interpreted and situated in broader theoretical discussions of bureaucratic representation, perceptions of institutional racism, cultural competence and government equity. Policy recommendations are then presented as a means of overcoming the challenges of perceptions of institutional racism and government inequity in both the emergency management field, but also more generally within American society itself. Finally, this research's limitations are summarized, and suggestions for future research are presented.

The sheer lack of investigation in this area of disaster recovery significantly disables researchers from directly understanding the impact that FEMA home assistance has on the recovery of racial and ethnic communities. Moreover, the lack of emphasis on bureaucratic influences makes organizational and program assessments of FEMA in general extremely difficult. The investigation of this universal non-means-tested program both enhances our understanding of disaster recovery experiences, but also the transparency of government.

## **Chapter 2: Hurricane Sandy and Disaster Assistance**

### **II.1 Introduction**

To explore the equity of FEMA's home assistance program, this dissertation explores how the program functioned in the aftermath of Hurricane Sandy. This chapter provides a description of the storm and its community impact. Overall, at least 650,000 houses were either damaged or destroyed as a result of Sandy nationally, with the majority of the damage caused by storm surges and/or waves. About 8.5 million customers lost power as a result of the storm or its remnants, with power cut off for weeks and even months in some areas (Blake et al., 2013). According to Blake et al. (2013), Sandy is ranked as the second-costliest cyclone on record, after Hurricane Katrina in 2005, at about \$50 billion in damages. However, more recent reports from the U.S. Department of Housing and Urban Development (2013) have assessed the economic damages and losses at around \$65 billion. Private insurance companies have paid about \$18.8 billion to their policyholders in claims related to Sandy, compared to \$48.7 billion in claims related to Hurricane Katrina (Insurance Information Institute, 2013). Although Hurricane Sandy affected a large geographic region, this study specifically observes the effects of the storm on New Jersey communities because that is where the storm made landfall. In addition to describing the effects of the storm, this chapter highlights the federal government's response to the storm, and outline FEMA's home assistance program.

## II.2 Hurricane Sandy

Sandy was the tenth named hurricane during the 2012 hurricane season. The storm initially developed in the southwest region of the Caribbean on October 22<sup>nd</sup>, and became a hurricane on October 24<sup>th</sup>. Between the October 23<sup>rd</sup> and 31<sup>st</sup>, the storm traveled through the Caribbean striking the Bahamas, Cuba, Jamaica, Puerto Rico, the Dominican Republic and Haiti. After passing through Cuba on October 25<sup>th</sup> as a Category 2 hurricane, the storm moved north over the Atlantic Ocean, travelling parallel to the southeastern United States. Before making landfall, Sandy produced severe flooding along the Atlantic Coast from Florida to Maine as it moved north. The highest storm surges and greatest inundation on land occurred in the states of New Jersey, New York and Connecticut, especially along the coast of central and northern New Jersey, Staten Island, and the southward-facing shores of Long Island. The storm produced blizzard-like conditions in the Appalachian Mountains, dropping more than two feet of snow in areas of West Virginia, Virginia, Maryland, and North Carolina, and extreme winds and localized flooding in the Coastal areas of the Great Lakes. On the morning of October 29<sup>th</sup>, the storm's trajectory shifted northeast toward southern New Jersey, and by that evening Sandy made landfall near Brigantine, New Jersey as a post-tropical cyclone with winds up to 80 miles per hour. Sandy weakened as it moved west across southern Pennsylvania on October 30<sup>th</sup>, and by November 1<sup>st</sup>, the wind and rains from the storm had diminished across the affected states.

Sandy was the second-largest Atlantic storm on record, with storm-force winds extending 580 miles from its center (FEMA, 2013). Although the storm affected the entire east coast of the United States, it also affected states as far inland as West Virginia,

Ohio, and Indiana. In New Jersey, the highest storm surge was 8.57 feet above normal tide levels at the northern end of Sandy Hook in the Gateway National Recreation Area. However, according to Blake et al. (2013) at the National Hurricane Center, this is likely a very conservative estimate with the actual storm surge being much higher. In the southern part of the state, tide gauges in Atlantic City and Cape May measured storm surges of 5.82 and 5.16 feet, respectively.<sup>2</sup> Water levels were highest along the northern portion of the Jersey Shore in Monmouth and Ocean Counties, which is north of where Sandy made landfall. The barrier islands were almost completely inundated in some locations, and in some areas breached as a byproduct of the storm surge and large waves from the Atlantic Ocean meeting with rising waters from back bays such as Barnegat Bay and Little Egg Harbor. In the northern part of the state, storm tide measurements were as high as four to nine feet in Monmouth and Middlesex Counties, and as high as two to four feet in Atlantic and Cape May Counties (Blake et al., 2013).

Early estimates on the number of direct deaths<sup>3</sup> caused by Sandy were 147 (Blake et al. 2013); however, more recent estimates indicate that the number of casualties was closer to 233 across all the countries affected by the storm (Diakakis et al., 2015). In the United States, 72 direct deaths were recorded, making Sandy the deadliest U.S. cyclone outside of the southern states since Hurricane Agnes in 1972. The storm surge was responsible for most U.S. deaths, with 41 out of the 72 fatalities being specifically attributed to the storm itself. Falling trees during the storm killed twenty people, whereas

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<sup>2</sup> The term storm surge refers to an abnormal rise in water level above the normally predicted astronomical tide level. Storm surge should not be confused with storm tide, which is defined as the water level rise due to the combination of storm surge and the astronomical tide.

<sup>3</sup> Direct death counts do not typically include deaths resulting from storm surges after a storm nor secondary effects of a disaster that may cause people to die; however, because of the unique nature of Sandy's storm classification when it made landfall these fatalities were included.

the rest of the U.S. fatalities were due to other wind-related issues, inland freshwater flooding, near-shore waves, drowning in coastal waters, and unknown causes. At least 87 deaths, were indirectly associated with Sandy or its remnants in the U.S, which brings the total fatality count within the United States to 159 (HUD, 2013). About 50 of these deaths were the result of extended power outages during cold weather that led to deaths from hypothermia, falls in the dark by senior citizens, or carbon monoxide poisoning from generators or cooking devices. The rest of the fatalities generally resulted from individuals being fatally injured during storm cleanup efforts, falling trees, or car accidents. Although nine states recorded fatalities due to Sandy, New York, New Jersey and Pennsylvania suffered the highest death counts. Moreover, the largest proportion of deaths occurred near the coast, as about half the fatalities were found to be recorded within 2 kilometers from the coastline (Diakakis et al., 2015).

The damages inflicted on the New Jersey coast were unprecedented in the state's history. According to New Jersey's governor Chris Christie, "I've called this experience New Jersey's Katrina because the damage to our state is nothing that we've experienced ever before" (Office of the Governor, 2012). Although the entire state was affected, the most severe damage was sustained in Monmouth and Ocean Counties. Entire communities in the state were "inundated with water and sand, houses were washed from their foundations, boardwalks were dismantled or destroyed, cars were tossed about, and boats were pushed well inland from the coast" (Blake et al. 2013, p. 17). Power outages lasted for weeks in some New Jersey communities – in all affecting about 5 million residents. As of February 2013, the state's governor's office had reported that 346,000 housing units had either been damaged or destroyed by Sandy, with 22,000 of those units

being classified as uninhabitable. In reference to the private sector, 19,000 businesses sustained damages of \$250,000 or more, and total business losses were estimated at \$8.3 billion. In addition, Sandy ruptured natural gas lines, which cause fires in some areas contributing to the loss of housing units. Power and gas line repairs were estimated to cost about \$1 billion and repairs to waste, water and sewer services were estimated to cost another \$3 billion. Overall, the governor's office estimated the cost of returning the state to normalcy to be upwards of \$36.9 billion (Office of the Governor, 2012).

On a more local level, Sandy spared few areas of the shore. Sandy made landfall in Brigantine, New Jersey, a city adjacent to Atlantic City. In addition to Atlantic City, many shore communities suffered extensive damage. Some of these cities included Seaside Heights, Surf City, Toms River, Long Beach Island, Point Pleasant, Perth Amboy and Belmar (Mildenhall et al., 2013). In Seaside Heights, the Casino Pier, a historical icon, and Funtown Pier were destroyed. On Long Beach Island, nearly every house on the seaside shore of the barrier island suffered extensive damage. The storm surge pushed water into New York Bay and up the Hudson River, which resulted in massive flooding within Jersey City. In Hoboken, New Jersey about half the city was reported to be flooded, and at least 20,000 of the city's residents were surrounded by water during the peak of the storm surge (Blake et al., 2013). Although these are only a few examples, Sandy damaged or completely destroyed amusement parks, casinos, piers and boardwalks up and down the Jersey shore. Moreover, the amount of beach erosion that occurred subsequent to the storm surge only added to the devastation (Mildenhall et al., 2013). In all, the Insurance Information Institute (2013) estimates that private insurance companies

will have pay around \$4.83 billion to policyholders as a result of Sandy in New Jersey alone.

In addition to the physical damages, the storm damaged other infrastructure. In Salem County in southern New Jersey, the nuclear power plant automatically shut down when four of its six water pumps failed. Sandy's impacts resulted in a statewide shutdown of transportation. The rail operations center of the New Jersey Transit Authority was flooded by eight feet of water, which damaged 74 locomotive engines and 294 rail cars, at a financial cost of \$400 million (Mildenhall et al., 2013). Amtrak resumed partial service from Newark, New Jersey on November 1, 2012. All tunnels, with the exception of the Holland Tunnel, from New Jersey to New York were reopened for travel by November 1, 2012. A majority of the state's school districts were closed (at least 509 of 580) because of structural damages or power outages. Finally, the storm caused major disruptions on Election Day (November 6, 2012) resulting in the lowest voter turnout for a presidential election in the state's history at 67% (Mildenhall et al., 2013).

### **II.3 The Federal Disaster Response to Hurricane Sandy**

In response to Hurricane Sandy the federal government took several actions immediately before and after the storm's landfall. On October 28<sup>th</sup>, the day before Sandy made landfall, the President approved emergency declarations under the Robert T. Stafford Act for New Jersey, New York, Connecticut, Massachusetts, Maryland, and the District of Columbia. By declaring these areas disaster areas, it allowed for federal support to be provided within these areas to save lives, protect property, and enhance public health and safety. Also, the day before the storm made landfall, 1,500 FEMA

personnel were deployed along the east coast to support disaster preparedness and response operations (FEMA, 2014). During the storm's landfall and in the immediate days following the storm, President Obama declared additional emergency declarations in Delaware, Virginia, West Virginia, Rhode Island, and Pennsylvania (HUD, 2013). In all, the President authorized major disaster declarations for twelve states, in addition to the District of Columbia (FEMA, 2013). At the peak of disaster response activities, the federal government mobilized 17,000 volunteers in affected areas (FEMA, 2012a) and provided more than \$200 million in federal services and resources to address immediate recovery needs (FEMA, 2012a). According to FEMA (2013), the agency established a large presence of Disaster Recovery Centers (DRCs) to help meet survivors' needs, which included 35 centers in New Jersey. Within four weeks of Sandy's landfall, HUD (2013) reports that about 450,000 individuals across the disaster affected region applied for some manner of assistance from FEMA and more than 4,700 applicants received shelter assistance. By July 2013, the number of individuals that had applied for some manner of disaster assistance from FEMA had reached over half of a million (FEMA, 2013).

As a byproduct of President Obama declaring New Jersey a disaster area, individuals, political jurisdictions and private organizations became eligible to apply to various FEMA disaster assistance programs. First, the Public Assistance (PA) program was made available to state, local, and tribal governments, in addition to certain private nonprofits with disaster response and recovery responsibilities, which provides grant assistance in debris removal, emergency protective measures, and permanent restoration of infrastructure. Second, the Hazard Mitigation Grant Program (HMGP) was made

available to state, local, and tribal governments to assist with the implementation of long-term hazard mitigation measures that include projects to reduce or eliminate losses from future disasters. Finally, the Individuals and Households Program (IHP) was made available to Sandy survivors to provide financial assistance and direct services that includes housing repair, temporary housing, and medical expenditures. In addition to these traditional federal responses Congress passed the Sandy Recovery Improvement Act of 2013 (P.L. 113-2) in January of 2013. This act significantly amended the Stafford Act in specific reference to the PA program, assistance to individuals and households, hazard mitigation and environmental and historical preservation. Overall the amendments provided FEMA with greater flexibility to administer the agency's assistance programs. As a result of these federal government actions, FEMA reported that the agency approved 61,442 applications for individual assistance by February 6, 2015. Under the IHP, FEMA reported approving about \$423 million, and another \$366 million for housing assistance in New Jersey. In addition to these appropriations, the agency also approved another \$57 million to provide Sandy survivors from New Jersey with assistance in reference to medical, transportation and home furnishings. It must be pointed out, that although FEMA reports the allocation of aid among these different categories, it does not specifically indicate the extent to which these allocations were dispersed (FEMA, 2015).

FEMA has stated that the agency's response to Hurricane Sandy was generally successful, but the agency also reported that there were several severe challenges that the organization had to overcome during its response activities in reference to survivor interactions. First, the agency reports that it faced challenges caused by inexperienced

staff and insufficient management, which was magnified by the volume of personnel they deployed. For example, many of the individuals deployed had only taken a three-hour training course, more than 70 percent of the personnel were new to their assignments and half had no prior disaster experience. As a result, many of the agency's personnel lacked the confidence to perform their assignments, and some were severely unprepared to answer questions by survivors in reference to FEMA's own programs. Thirty percent of the deployed personnel did not even have officially recognized titles, which resulted in these individuals being assigned positions that they were not necessarily qualified to fill (FEMA, 2013, p. 32). Moreover, because of a lack of leadership, many FEMA teams visited several disaster areas multiple times, frustrating residents who were eager to receive services (FEMA, 2013, p. 20). Second, the DRCs, where survivors could go to get information about and register for disaster assistance programs were not oriented to efficiently meet survivor needs. According to FEMA (2013, p. 21), the process of seeking assistance at a DRC required people to repeat the same information to multiple individuals, lengthening and frustrating survivors' experiences. Additionally, DRCs were not consistent in the services they provided to survivors, and the differences were not related to customized needs of the local community. Finally, FEMA served disaster survivors through three National Processing Service Centers (NPSC), which were responsible for answering questions about and registering individuals for disaster assistance. Even though the call centers processed over half a million assistance applications, the agency reports that the centers could not keep up with the pace of survivors' requests for information. Initially after the storm, call volume peaked on November 3, with more than 235,000 call attempts; however, 38 percent of these calls

were deflected by an automated message instructing callers to refer to FEMA's website for information or to call back at a later time (FEMA, 2013, p. 21). Although FEMA acknowledges that there were a number of other challenges and successes to the agency's response to Hurricane Sandy, these specific challenges to client interactions may have hindered some individuals and even some groups' ability to access disaster assistance resources. However, prior to exploring whether certain groups were able to acquire aid with more success than others, it is important to understand the actual disaster assistance application process for individuals.

#### **II.4 Understanding the Disaster Assistance Process**

The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Pub. L. No. 101-707.102 Stat. 4689) currently provides authority for federal disaster relief throughout the United States. However, before any funds can be dispersed, the president must issue either a major disaster declaration or an emergency declaration. In summary, the disaster declaration process goes through the following steps:

1. A disaster occurs;
2. A governor requests a disaster declaration;
3. FEMA administers an assessment and recommends whether the president should approve the request;
4. The president makes a decision;
5. If a disaster is declared, FEMA dispenses aid from the Disaster Relief Fund (DRF); and
6. If more aid than is available in the DRF is needed, the U.S. Congress must authorize and appropriate additional funding.

Over the last two decades there has been a growing amount of literature that has sought to explain the actual disaster declaration process at both the state level (Beauchesne, 2001; Sylves and Búzás, 2007) and federal level (GAO, 2001; 2012), in addition to the potential influence that politics may have on presidential disaster decisions and domestic

Congressional disaster allocations to the Disaster Relief Fund (Downton and Pielke, 2001; Garrett and Sobel, 2003; Sylves and Búzás, 2007; Reeves, 2009). Although this research is important, it is currently peripheral to understanding the individual process that disaster victims must go through to acquire aid.

After a presidential disaster declaration is made, FEMA is then allowed to provide disaster relief through two specific channels: 1) the Individual and Households Program (IHP), and 2) the Public Assistance (PA) program. While the PA program provides funding to state, local and tribal governments, the IHP provides direct aid to individuals (GAO, 2001).<sup>4</sup> The IHP provides both housing assistance and/or other needs assistance. Other needs assistance is designed to reimburse disaster-related, non-housing expenses, such as replacing damaged household items, transportation, disaster-related medical or funeral expenses. Housing assistance can be used to repair and rebuild or to cover the costs of temporary housing. In 2012, individual grants were limited to \$31,400 per household;<sup>5</sup> however, the average aid for household repair is only around \$4,000 (McCarthy, 2010). Interestingly, most FEMA documents, including *Help After Disaster: Applicant's Guide to the Individuals & Households Program* (FEMA, 2008)<sup>6</sup> which is the public's guide to filing for disaster aid, fails to mention this maximum amount available to each household. Moreover, this cap includes both potential payouts to individual households from both other needs assistance and housing assistance initiatives (Kousky, 2013). As a result, FEMA (2008) explicitly states that:

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<sup>4</sup> The availability of these programs is designated within the presidential disaster declaration that stipulates whether IHP and/or PA assistance is available; however, the president uses his/her own discretion in making these programs available (Kousky, 2013).

<sup>5</sup> This figure is indexed to inflation.

<sup>6</sup> Here after referred to as *Help After Disaster*.

IHP will not cover all of your losses from damage to your property (home, personal property, household good) that resulted from the disaster.

IHP is not intended to restore your damaged property to its condition before the disaster. In some cases, IHP may only provide enough money, up to the program limits, for you to return an item to service (FEMA, 2008, p. 1).

When an individual decides to apply for household assistance and/or other needs assistance, they have the option of either applying online or over the phone; however, updates and amendments to an individual's application must be done online. Both of these options and the contact information for both options are provided online through FEMA's general website and the *Help After Disaster* guide. In addition to having something to take notes with, applicants are advised to be ready to provide FEMA with their social security number, a description of the losses that were caused by the disaster, the applicant's insurance information, directions to the damaged property, and a current telephone number where FEMA can contact them (FEMA, 2008). At no time is the individual applicant asked to identify their race or ethnicity or any other demographic information.

After the initial contact is made by the applicant, an inspector will call the applicant to schedule an appointment to visit the damaged property. Inspectors are contractors, and explicitly not FEMA employees. According to PB Disaster Services (2015), a consistently contracted organization to perform disaster home inspections by FEMA, inspectors "must complete and demonstrate proficiency in all required eLearning courses, webinars, readiness exercises and travel to workshops on an annual basis, or as necessary." However, the extensiveness of this training is unclear. Based on their interviews with several FEMA home inspectors, Kestin et al. (2004) found that many inspectors only have a total of eight hours of official training of any kind and consistently

have varying levels of professional construction experience that often results in underqualified individuals being used to evaluate the damages to a disaster victim's home. In addition to official training, PB Disaster Services (2015) maintains that eligibility to be a home inspector is also predicated on an individual having a high school diploma or GED, a minimum of one year experience with conducting home inspections, general construction experience, the candidate must be fluent in speaking, reading and comprehending English, a proficiency in basic math and computer skills, have a professional demeanor, and the individual must have a valid driver's license. Although disaster aid applicants could potentially be contacted by an inspector the same day they apply for aid, in most cases, inspectors contact applicants to schedule a visit within ten days (FEMA, 2008). When the inspector visits the property, they assess any disaster-related damage free of charge. At the time of the inspection, there must be at least one person present that is 18 years of age that lived in the household prior to the disaster occurrence that has personal identification, and either has proof of homeownership and/or occupancy. After the inspection is complete, the inspector files their damage report with FEMA.

Within ten days of the inspector filing their report, the applicant will receive a letter from the IHP informing them of FEMA's decision on their assistance application. If the applicant is eligible to receive aid, the letter will be followed by either a U.S. Treasury/State check or the funds will be transferred to the applicant's bank account. The letter of approval will also specify what the money can be used to pay for, and beneficiaries are urged to use the funds in the manner explained in the letter. If FEMA decides that the applicant is not eligible for aid, the letter will give the reasons for that

decision, in addition to informing the applicant of their appeal rights. Although applicants that are denied aid are provided with information about the appeal process, any applicant may appeal FEMA's decision. According to FEMA (2008, p. 9),

Appeals may relate to your eligibility, the amount or type of help provided to you, late applications, requests to return money, or questions regarding continuing help. When you appeal a decision, you are asking IHP to review your case again.

Appeals must be made in writing, specifying the reason for the appeal. The letter must be notarized, include a copy of a state issued identification card or include the statement, "I hereby declare under penalty of perjury that the foregoing is true and correct", and must be signed by the appealing individual. Appeal letters can be mailed or faxed to FEMA, but must be postmarked within sixty days of the date of the individual or household decision letter's date (FEMA, 2008).

Because all disaster aid distributed by FEMA is intended to be short-term, disaster aid can only be dispersed up to eighteen months from the date that the initial disaster declaration is made. When the 18 month period has ended, FEMA policy requires that all payments be halted, and, if any individuals are still inhabiting FEMA-provided housing, FEMA will begin to charge rent that can be garnished from individuals' social security if they fail to pay (Rice, 2012). According to Kousky and Shabman (2012), this policy is intended to encourage individuals not to take advantage of federal relief and to provide an incentive for people to get back on their feet by not continuing to rely on the federal government and creating situations of federal resource dependence.

In addition to the previously mentioned information that applicants need to provide upon applying for aid, FEMA (2008, p. 4) specifically stipulates what criteria

each applicant must meet in order to receive funds for housing assistance. These criteria include:

- The applicant has filed for insurance benefits and the damage to their property is not covered by their insurance;
- The applicant or someone that lives with them is a citizen of the United States, a non-citizen national, or a qualified alien;
- The applicant's home is in an area that has been declared a disaster area by the President;
- The applicant's home in the disaster area is where they usually live the majority of the year; and
- The applicant is not able to live in the damaged home at the time of application, is not able to get to their home due to the disaster, or their home requires repair because of damage from the disaster.

For someone to be considered eligible for housing assistance funding, all of these criteria must be true. Additionally, FEMA (2008, p. 5) stipulates what criteria would specifically disqualify an applicant from being ineligible for aid:

- The applicant has other, adequate rent-free housing that they can use (for example, an unused rental property);
- The applicant's home that was damaged was a secondary or vacation residence;
- The applicant's expenses resulted only from leaving the home as a precaution and was able to return immediately after the incident;
- The applicant has refused assistance from their insurance provider(s);
- The applicant's only losses are business losses or items not covered by the program; or
- The damaged home where the applicant lives is located in a designated flood hazard area and their community is not participating in the National Flood Insurance Program (NFIP).

This last disqualifying criterion is potentially the most problematic out of all of the other criteria due to the lack of control that each individual applicant has over this specific characteristic. According to Kousky and Shabman (2012) this criteria is enforced by FEMA in order to encourage the participation of communities in the NFIP. As such, if an applicant's home is located within a community that resides in a 100-year floodplain and is not part of the NFIP, the applicant is automatically ineligible to receive any assistance

for flood damage. However, the applicant could still potentially qualify for rental assistance or coverage for items that are specifically excluded from NFIP policies, such as septic tanks, water wells, medical, dental, or funeral expenses (FEMA, 2008).

## **II.5 Summary**

As indicated in the beginning of this chapter, Hurricane Sandy was an unprecedented disaster event within New Jersey's history. Moreover, it has become known as the second most-costly natural disaster in the United States after Hurricane Katrina. In addition to a description of Sandy as an event, I have also presented a description of the federal government's response to Sandy and the process through which individuals had the opportunity to access individual disaster assistance resources. Although federal response to the disaster has been rhetorically touted as a success by FEMA, it is still not clear how much of the allocated funds have been dispersed to individuals, and, more importantly, whether the access to these resources has occurred along equitable lines. With this more broad understanding of the context of this study, in the next chapter I present the general methodological approaches used to explore whether individuals have been able to equitably and successfully access FEMA home assistance within the framework outlined in Chapter 1.

## **Chapter 3: Methods of Investigation**

### **III.1 Introduction**

As discussed in Chapter 1, there is currently a lack of research on the evaluation of the FEMA application process. Therefore, it was not possible to draw on preexisting statistical or qualitative data sources. Moreover, because FEMA does not keep racial or ethnic characteristics on individual disaster applicants, it was necessary to acquire new primary data. Primary data for this project were acquired through conducting focus groups, administering an online survey instrument, and through the conduction of key informant interviews. This methods discussion provides the protocols used to gather this data, and subsequently analyze it.

### **III.2 Survey Instrument Pretesting**

Prior to the use of a survey instrument as a primer for focus group discussions, the draft instrument went through two stages of presurvey evaluation. First, in line with common social science practice (Fowler, 2014), the draft instrument was administered to friends, family, coworkers and academic colleagues of the researcher. The friends, family, and coworkers of the researcher were diverse in reference to race, ethnicity, age, socioeconomic status, educational attainment, nativity, and English as a primary language. This diversity allowed for the researcher to augment initial survey questions that contained confusing language or variation in respondent interpretation (Fowler,

2014). In all, eight individuals agreed to take the draft instrument.<sup>7</sup> Three academic colleagues of the researcher were chosen based on their substantive knowledge on community and social group disaster recovery experiences. These academics, who are all sociologists, reviewed all of the draft questions with specific attention to observing the validity of question wording over a range of possible cultural interpretations (Brady, 1985; King, et al., 2004) and whether the possible responses to each question were appropriate based on past research in the field of disaster studies.

The second stage of presurvey evaluation utilized a cognitive testing strategy (Willis et al., 1999; Willis, 2005; Presser et al., 2004; Madans et al., 2011). This strategy employed the aid of volunteer respondents that were willing to spend more time with the researcher to discern how various questions worked. In all, four volunteers agreed to participate in this stage of the research.<sup>8</sup> A typical protocol was observed (Fowler, 2014), in which respondents were asked a set of proposed questions, after which they were asked how they understood each question and how they thought about answering them. Specifically, for each question the respondents were asked to do the following:

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<sup>7</sup> The composition of this group of individuals was as follows: 4 were male and 4 were female; 2 were African American, 2 were white and 4 were Latino; 5 individuals were between 18 and 35 years old, 2 individuals were between 49 and 65 years old, and 1 individual was more than 65 years old; 3 individuals had a high school diploma or below, 2 individuals had some college education, 1 had a college degree, and 2 had at least a graduate degree; 3 individuals fall below the poverty line, and 5 individuals were consider themselves middle-class; 2 individuals were classified as legal residents, 1 was a naturalized citizen, and 5 individuals were native born U.S. citizens; English was a second language for 4 individuals and for 4 individuals English was their primary language.

<sup>8</sup> The composition of this group of individuals was as follows: 2 male and 2 female; 1 African American, 1 white, and 2 Latino; 2 individuals between the ages of 23 and 27 and 2 individuals between the ages of 49 and 65; 2 individuals had a high school diploma, 1 individual had a college degree, and 1 individual had a graduate degree; 1 individual was below the poverty line, 1 individual considered themselves lower-middle class, and 2 individuals considered themselves middle-class; 1 was a legal resident, 1 was a naturalized citizen, and 2 were native born citizens; for 2 individuals English was a second language and for 2 individuals English was their primary language.

1. To say in their own words what they thought the questions were asking;  
and
2. To explain in their own words how they chose a particular answer over others.

In two cases, respondents were asked follow-up questions about the way they understood some of the questions and about the issues related to their answers due to issues of confusion about the questions' wording. It should be noted that this additional protocol was necessary only for the individuals for whom English was not their first language.

The motivation behind this strategy was to gather information about the respondents' comprehension and preparation of responses to evaluation whether each respondent understood each question and whether the answers provided in the instrument were appropriate choices (Fowler, 2014). Although information gathered through this pretesting strategy was useful in the refinement of the instrument, it was limited in reference to the representativeness of possible cognitive scripts respondents could use to interpret and answer questions, which is primarily due to the low number of volunteers that participated. Additionally, because this type of testing occurred under artificial conditions, thought processes that respondents were willing and able to perform for each question may not have been the same as those used in a cross-sectional sample of the population (Fowler, 2014). However, according to Fowler (2014, p. 103) when cognitive testing is normally employed in social science research, it tends to only be completed with fewer than ten individuals due to the testing's costs of time for the respondent and labor for the researcher.

### III.3 Focus Groups

Because the occurrence of hurricanes is not typical within the New Jersey region, it became important that before any survey instrument was placed in the field that it was further piloted with potential survey respondents. Moreover, the use of focus groups to both pilot the instrument and also generate qualitative data provided a means of triangulating the data from the survey. Piloting a survey is important when developing an instrument within a new context or for administration within a new population because it allows the researcher to observe potential problems associated with the respondents' interpretation of survey items that may result in misinterpretations (by both respondents and researchers), falsified answers, missing responses (to the survey as a whole or to specific items or sections), and possibly even the offending of a respondent that may encourage other respondents to refuse taking the survey (Bowden et al., 2002). According to Bowden et al. (2002, p. 232), pre-testing, or the piloting of a survey, allows a researcher to gauge the meaning attributed to survey questions "before it's too late" and too much investment is attributed to the wrong questions or in questions where the researcher or respondents are not sure what is being asked.

Focus groups allow participants to be studied in an atmosphere that is more natural and relaxed than one-on-one interviews; thereby eliciting more candid responses from subjects (Marshall and Rossman, 2006). However, focus groups can sometimes be subject to power dynamics, which have the potential of shifting the discussion towards subjects that the most powerful in the group chooses to speak about and/or a discussion being dominated by the most assertive individuals in the group. Focus groups can also be difficult to assemble, and logistical problems can arise from the need to manage a

conversation while getting good data (Marshall and Rossman, 2006). But, focus groups have several advantages. If the methods employed within the administration and moderation of the focus group are well documented and the moderator is able to appropriately guide group discussion in a way that decreases the manifestation of detrimental power dynamics, the results of focus groups have high “face validity”. Moreover, the costs of focus groups are relatively low, provide quick results, and they tend to have larger sample sizes than other qualitative approaches because more people are interviewed at one time (Krueger, 1988; Ryan et al., 2013).

There are a variety of different types of focus groups that would be conducive to the specific objective of exploratory research; however, scoping and theory-building focus groups are the most appropriate for this research. Scoping focus groups are typically used in survey design in order to discern the range of respondents’ responses (perceptions and understandings) of concepts being assessed by the researcher (Kaplowitz et al., 2004). The instrument being tested is used as a stimulus for group discussion, which is similar to the way in which focus groups are conducted in consumer research involving product evaluations or testing (Ryan et al., 2013). This approach operates from the assumption that respondents’ opinions are characterized as stable personal dispositions (Fazio, 2007; Markovà et al., 2007), and therefore, the information gathered from this type of focus group is based on people’s thinking and reasoning that is prompted and elaborated on in the focus group setting (Morgan, 1997; Belzile and Oberg, 2012).

Although the focus groups’ findings are not generalizable, there is a scientific orientation toward replication. The researcher maintains an objective stance by following

a standardized protocol with structured questions. Moderators take notes on the verbal content of the discussions with specific attention to relevant information that is germane to the prescribed questions and manages the exchanges between and among focus group participants (Lezaun, 2007; Farnsworth and Boon, 2010). They also make note of salient issues in addition to interventions that they must make both directly and indirectly to manage group dynamics (Ryan et al., 2013). Within this approach, the opinions of respondents are thought to be stable; therefore, data analysis primarily focuses on verbal content, with little to no attention paid to analyzing participant interactions and how knowledge might be socially constructed because it is presumed to have a limited impact on people's opinions (Belzile and Oberg, 2012; Ryan et al., 2013).

Theory-building focus groups are used to gather rich information about meaning, processes, and experiences from respondents' point of view (Jarrett, 1993). Descriptions include both respondents' personal opinions and their collective experiences that are articulated together during a focus group. Although utilization of this method presumes that some respondents' opinions are stable, similar to the assumptions used in scoping focus groups, this approach also assumes that some opinions are "socially shared knowledge" that is generated, maintained, and changed through social participation (Hacking, 1999; Markovà et al., 2007). Ryan et al. (2013) explains that when assuming that some participants' opinions are not stable, focus groups are used to explore the opinions, beliefs, and understandings about a program or policy within a group dynamic through a type of collective sense-making (Wilkinson, 1998). Unlike in a scoping focus group where the moderator tries to remain objective to minimize biasing the group, the moderator in a theory-building focus group tends to take an empathic stance to

purposefully break down barriers between the researcher and the participants (Jarrett, 1993). Therefore, the researcher must structure the focus group in such a way that enhances disclosure and uses interview protocols that access respondents' own language and concepts, especially when potentially sensitive or politically incorrect topics are being discussed, so that the researcher can elicit meaning from the respondents' subjective experiences (Wilkinson, 1998; Morgan, 2012). In this type of focus group a note taker is commonly used to record what is said, make note of salient issues, document conformity in responses, and make note of other interactions that could be relevant to future analysis.

Because both scoping and theory-building focus groups were appropriate approaches to pretesting the instrument and generating data for this research, a hybrid of the two approaches was employed. Aspects of a scoping focus group were used, such as using the draft instrument as a stimulus and structured questions were prepared prior to the group meetings to guide group discussions, which were based on questions in the stimulus survey. This allowed for the researcher to observe if there were any issues of misunderstanding or misinterpretation of the instrument's questions among potential respondents in the field. However, because some of the questions under investigation in the focus groups were of a sensitive nature, such as perceived discrimination of the FEMA application process in addition to personal losses, it was necessary to employ aspects of a theory-building focus group that facilitated the rapid development of disclosure and comfort among participants. As such, although focus group questions were structured, once discussion on a topic was initiated the moderator allowed the conversation to be fluid among participants, only guiding the discussion if the

participants strayed too far from the initial topic. Moreover, participants were encouraged to express themselves in their own language and with their own concepts as opposed to the language of the researcher, and when the moderator was unclear of what a participant meant by a specific term or concept, the participant was asked to explain and provide examples of what they meant.

### **III.3.A Sampling and Description of Focus Group Participants**

Funding for the focus group portion of this project was provided by the Center for Urban Research and Education (CURE), the Department of Public Policy and Administration, and the Graduate School at Rutgers University – Camden. However, the funding was not sufficient to draw a large stratified random sample of New Jersey residents to participate in the focus groups. While it would have been ideal to facilitate four or six different segmented focus groups each containing 8 to 12 individuals each (Folch-Lyon et al., 1981; Morgan, 1996), funding limited the number of focus groups to only two. Therefore, focus group sampling occurred regionally: one for northern New Jersey and one for southern New Jersey. Additionally, in order to increase the probability of an individual being affected by Hurricane Sandy the sampling frame was confined to three municipalities in the north, Long Branch, Asbury Park and Ocean Township, and three municipalities in the south, Atlantic City, Brigantine and Pleasantville. These cities were chosen because they are located on the coast, and they all experienced similar disaster affects, such as damages due to flooding, storm surge, and windshear.

The Eagelton Institute of Politics was hired to help recruit the participants for the focus groups. Random digit dial samples were developed independently for the northern and southern focus groups, including both cell phone and landline numbers. The RDD

samples were dialed from August 21 - 25, 2014. To the extent possible, the RDD samples were developed within the communities that were identified for investigation within those respective regions. Because cell phone samples are generally available at the county level, additional screening was done by the callers to ensure potential subjects lived in a targeted community. While both landlines and cell phones were dialed, success in finding potential participants was much greater over the cell phone dialing, and so most potential participants came from the cell phone samples. Once a household was reached on the telephone, a random process was used to identify one adult in the household to talk to. Then, expressing willingness to be interviewed, potential participants were screened for 1) living in the same community when Sandy hit, 2) having experienced damage to owned or rented property during Sandy, and 3) having filed a FEMA claim. Screening participants on the characteristic of filing a FEMA claim was needed in order to ensure that participants would have some level of experience with the FEMA assistance process and therefore be able to comment and discuss their experiences in the focus group, but also critique questions on the draft instrument in reference to the application process. Potential participants who met all three criteria were then asked if they would be interested in participating in a focus group. Those who said yes were asked for detailed contact information, their age, race, and whether they owned or rented their residence. Finally, gender was recorded by the caller.

Calling continued until at least 25 potential participants were identified for each focus group. Those names and contact information were then provided to the researcher who attempted to recruit as many as possible to come to each of the respective focus groups. A total of 6,239 phone numbers were dialed. Of these, 685 resulted in

respondents willing to begin the screening survey, and 804 people unwilling to do the survey. Of the 680 who began the survey, 659 completed it or were screened out, and 21 were partial completes. Among those beginning the screening, 68 were not in an appropriate zip code, 249 reported no Sandy damage, 186 did not live in the location during Sandy, and 100 had not filed a FEMA application. This left 56 potential participants for focus group recruiting. The focus groups were scheduled for Saturday September 6<sup>th</sup> and Tuesday September 9, 2014. The northern focus group that was held at the Long Branch Free Public Library in Long Branch, New Jersey, and the southern focus group that was held o at the William J. Hughes Center for Public Policy at Stockton University in Galloway Township, New Jersey.

After the recruitment process was completed by the Eagleton Institute of Politics, there were 56 individuals that had indicated that they would participate in one of the focus groups. In the northern region, 25 individuals had expressed interest in participating in the project, whereas 31 had expressed interest in the southern region. Although every effort was made through the recruiting process to attract a diverse set of individuals to participate in the focus groups, the racial and ethnic composition of both the northern and southern potential participants was very different from the general population. Specifically, in the northern region, only individuals that self-identified as white or African American expressed interest in participating. Additionally, most of these individuals were relatively older individuals being forty-five years or older. A similar dynamic presented itself in the southern group of potential participants, in which the majority of the potential participants were white or African American, and were predominately older individuals relative to the population for the area (forty-five years or

older). In the southern region, however, there were three individuals that self-identified as Asian that expressed interest in participating.

Over the two weeks leading up to the scheduled focus group meetings, the principle investigator made follow-up calls to each individual that had expressed interest in participating in one of the focus groups, reminding them of their expressed interest of participation in the focus group meetings, providing directions to the meeting sites, and reminding them of the cash stipend they would receive for participating in a focus group. Initially, the cash stipend used to incentivize participation was \$30. Three days before each of the focus group meets, participants that had indicated their participation in each respective meeting were called to confirm their attendance at a respective meeting. Although a total of four calls were made to each of the potential participants in the northern cohort, the confirmation rate for participants in that specific focus group was extremely low. Three days prior to the meeting of the northern focus group only six individuals had confirmed attendance, and all of these individuals had self-identified as white. In an effort to increase the number and diversity of participants, the participant incentive was increased to \$40 for the northern group. As a result, eleven individuals confirmed their attendance by the day before the meeting, and the cohort had been diversified to be composed of six whites and five African Americans. In reference to the southern region, the confirmation of attendees did not pose as significant a problem, and therefore, the cash incentive for participation did not need to be increased for these individuals. Of the sixteen that confirmed attendance for the southern focus group, ten self-identified as white and six self-identified as African American. Unfortunately, in the process of making call-backs to potential participants, those that had self-identified as

Asian mentioned that they would be unable to attend their respective focus group meeting because of personal scheduling issues. Again, similarly to the northern group most of the individuals that confirmed attendance were forty-five years or older.

Based on the phone confirmations from potential participants, each of the focus groups were expected to be diverse in reference to race and municipality of origin; however, when the focus groups took place the individuals that actually turned out to participate were extremely different from the researcher's expectations. Table 3.1 documents the descriptive statistics of the demographics of the individuals that actually did participate in each of the two focus groups.

**Table 3.1: Comparison of Focus Groups' Composition (N=16)**

<i>Variable</i>	<u>Frequency</u>		<u>% of Sample</u>	
	Northern Group	Southern Group	Northern Group	Southern Group
<b><i>Race</i></b>				
White	1	3	10.00%	50.00%
African American	9	3	90.00%	50.00%
<b><i>Age</i></b>				
26 to 34 Years Old	0	1	0.00%	16.60%
35 to 44 Years Old	1	1	10.00%	16.60%
45 to 54 Years Old	2	1	20.00%	16.60%
55 to 64 Years Old	2	2	20.00%	33.30%
65+ Years Old	5	1	50.00%	16.60%
<b><i>Marital Status</i></b>				
Married	6	3	60.00%	50.00%
Single	1	2	10.00%	33.30%
Divorced/Separated	2	1	20.00%	16.60%
Refused	1	0	10.00%	0.00%
<b><i>Children in Household</i></b>				
0	6	4	60.00%	66.60%
1	3	0	30.00%	0.00%
2	1	0	10.00%	0.00%
4	0	1	0.00%	16.60%
5	0	1	0.00%	16.60%
<b><i>Employment Status</i></b>				
Unemployed	3	1	30.00%	16.60%
On Medical or Disability Leave	1	0	10.00%	0.00%
Employed Full-Time	5	5	50.00%	83.30%
Refused	1	0	10.00%	0.00%
<b><i>Educational Attainment</i></b>				
Some High School	1	0	10.00%	0.00%
High School Diploma	1	0	10.00%	0.00%
Some College, No Degree	4	1	40.00%	16.60%
Associate's Degree	2	1	20.00%	16.60%
Bachelor's Degree	1	2	10.00%	33.30%
Master's Degree	0	2	0.00%	33.30%
Refused	1	0	10.00%	0.00%
<b><i>Household Income</i></b>				
Less than \$25,000	1	0	10.00%	0.00%
\$25,000 to \$34,999	2	0	20.00%	0.00%
\$35,000 to \$49,999	2	2	20.00%	33.30%

	\$50,000 to \$74,999	1	2	10.00%	33.30%
	\$75,000 to \$99,999	2	2	20.00%	33.30%
	\$100,000 to \$124,999	2	0	20.00%	0.00%
<i>Gender</i>					
	Male	6	4	60.00%	66.60%
	Female	4	2	40.00%	33.30%
<i>Country of Origin</i>					
	United States	10	5	100.00%	83.30%
	Other	0	1	0.00%	16.60%

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As previously indicated, based on the eleven individuals that had confirmed to attend the northern focus group, the researcher expected that there would be a racial mix of participants. This did not turn out to be the case. On the day the northern focus group was held, 90 percent of the participants were African American and only ten percent (one participant) was white. This composition was completely unexpected based on the individuals that had confirmed attendance. Additionally, in reference to the southern focus group, although sixteen individuals had confirmed attendance, only six actually participated in the focus group. The southern focus group was more racially balanced than the northern group, with half the group self-identifying as African American and the other half self-identifying as white. Moreover, participants only came from two municipalities in each of the study regions. In the northern focus group, participants only resided in Long Branch and Asbury Park, New Jersey with 80 percent of the participants residing in Long Branch. In the southern focus group, participants were only from Atlantic City or Brigantine, New Jersey with half the participants in this group residing in each of these two municipalities.

Several other demographic characteristics of the groups are worth mentioning. First, although participants that had confirmed attendance were predominately older, those that actually attended the focus groups were more diverse. In the northern focus

group, participants were skewed towards being older, with half of the individuals being sixty-five years or older. The southern focus group showed greater variance in age, with half of the group being less than fifty-five years of age and the other half being over the age of fifty-five. Educational attainment and household income were also variables that were different when comparing the groups to one another. In reference to educational attainment, the northern group was composed of individuals that had completed everything between some high school and a bachelor's degree, with a significant proportion of this group (40 percent) having completed some college even though they had not earned a degree. The southern group was skewed toward the upper end of educational attainment with the majority of participants (66.6 percent) having earned either a bachelor's or master's degree. Household income also varied between the groups. The northern group had a great deal of variation in reference to household income, with at least one individual falling into every income category provided, and half of the group earning less than fifty thousand dollars a year and the other half earning more than fifty thousand dollars a year. By comparison, participants in the southern group were less diverse. All of the participants within this group earned between thirty-five and one hundred thousand dollars a year with an equal distribution of participants (2 individuals) claiming to be in each of the provided income categories. As far as gender was concerned, both groups were composed of a majority of male individuals. In the northern group this equated to 60 percent of the participants being male and 40 percent being female. The southern group exhibited similar composition, with 66.6 percent of the participants being male and 33.3 percent of the participants being female. In both groups, all of the participants indicated that English was their primary language. Moreover, in

reference to nativity, only one individual in the southern group was not born within the United States, but indicated that he was a naturalized citizen from Liberia.

The two remaining demographic variables, marital status and children living in the household were more complex than originally assumed. In reference to marital status, both groups were relatively similar. In both groups, a majority of the participants were married, 60 percent of the northern group and 50 percent of the southern group. 20 percent of the northern group (2 individuals) and 16.6 percent of the southern group (1 individual) indicated that they were either divorced or separated. However, two of these individuals, one in the northern and one in southern focus group, explained that one of the primary causes for their divorce stemmed from the emotional stress brought about by the damages to their home from Hurricane Sandy. Therefore, they were unsure of what category to choose on the survey. The reason for this lack of assurance stemmed from them being unclear in reference to whether they should indicate what their circumstances were when they initially applied for aid with FEMA or what their situations were currently. This was also an issue in reference to the number of children within the household. In both groups the majority of individuals indicated that they had no children living within their households, 60 percent or more in either group. However, through the focus group discussions these statistics were more of a reflection of current situations as opposed to when Hurricane Sandy occurred or when individuals attempted to apply for aid. In both groups there were individuals that indicated that although they did not have children living with them currently, they did at the time Sandy occurred; however, because of disaster responders' inability to rescue them, their children had passed away. One participant in the northern group related:

I've been there for 47 years and the water came up all the way up to the first floor, started upstairs, behind that I lost my [oxygen dependent] daughter because we couldn't get no oxygen, no electric, no nothing.

These situations were unexpected when the questions for the survey were initially developed. The responses given by the participants on these two variables indicated that asking certain cross-sectional questions such as a person's marital status and children living in the household assumed that these dynamics did not change much overtime nor would they be influenced by the disaster itself. Therefore, it became apparent that if these questions were to be asked in the final online survey instrument, respondents would typically only provide what their current situation is and not what it was when they applied for FEMA assistance.

### **III.3.B Focus Group Protocol and Analysis**

Although the focus groups were used to test the survey instrument they also provided a means of exploring potential variation in the experiences each individual participant had with the FEMA home assistance application process. As such, at the beginning of each focus group, participants were provided with a survey to complete, which also served as a guide for discussion. After everyone had completed the survey the researcher asked a series of questions that had been previously developed, and asked follow-up questions when information of interest to the study was brought up by the participants that the researcher had not thought to discuss. Each focus group lasted approximately one and a half hours, and everyone that started the focus group remained throughout the entire group meeting. Finally, both focus groups were audio recorded for future transcription and analysis.

The focus groups were conducted around a number of key questions within the stimulus survey. This provided two benefits. First, it allowed for the grouping of data within categories that were specific to the information of interest to the researcher for each respective survey question. Second, by using a semi-structured approach within the focus group, the researcher was able to direct the generation of data appropriate to each question in such a way that non-pertinent data or the discussion of topics not germane to the question were avoided. In this way, whenever respondents attempted to steer the focus groups to other topics of their own personal interest, the researcher directed the discussion back to what was germane to respective question that the researcher wanted to discuss. This process allowed participants to contribute information about their experiences with the FEMA home assistance application process as it generally pertained to each respective discussion topic. Moreover, it allowed the researcher greater ease of analysis because the way the data was generated resulted in the grouping of data into topic specific categories, as opposed to data for one topic being discussed at random points throughout the focus group discussion, which may have increased the tendency of some responses to be skewed or changed based on what participants had heard throughout the progression of the discussion.

The analytical approach used to analyze the focus group data was similar to a framework analysis (Ritchie and Spencer, 1994). Using this approach, after data was collected from focus groups in a structured way, the audio recordings were listened to and the transcripts were read several times in order for the researcher to gain familiarity with the data. Next, thematic categories were identified within the data based on the statements made by participants. Third, the indexing of data was carried out, in which

the highlighting and sorting out of quotes within each of the thematic categories was performed in order to make comparisons among and between the different focus groups. Fourth, the charting of data was performed, which entailed moving participants' quotes from their original context and re-arranging them under the thematic categories developed in the second step of this analytical approach. The point of this step was data reduction, which was achieved by comparing and contrasting data and cutting and pasting similar quotes together (Krueger, 1994). Typically, the final step of this approach is for the researcher to interpret the individual quotes; however, because participants were asked to clarify the meaning of their statements within each of the respective focus groups, the verbal data used in the analysis was taken at face value, and not reinterpreted by the researcher.

#### **III.4 Survey Administration Protocols**

After the focus groups were completed, the generated transcripts and group notes were analyzed to discern any issues that respondents had with the survey. Problems that were identified with question wording were altered in order to reduce miscommunication and/or misinterpretation by respondents in the field. Moreover, some questions and responses were added to provide clarity of understanding to concepts the researcher was trying to measure and provide more appropriate categories of answers from which respondents could choose from. When the instrument was finalized it was administered in two ways, through the use of a traditional snowball sampling technique and through a virtual snowball sampling technique in which Facebook groups were used as a sampling frame. The following sections document the methods used to implement these strategies.

### **III.4.A Traditional Snowball Sampling of the Instrument**

Although it would have been ideal to administer the final survey instrument to a randomized-stratified sample of the population, budgetary confines did not allow for such an approach. The main reason that this type of strategy could not be employed was due to the cost of reaching a large enough sample of individuals that had applied for FEMA assistance that could be compared to the larger general population. Many individuals and households must be screened before members of the population of interest are located and can be interviewed. The cost of this screening is always many times the actual cost of interviewing subjects that are members of the population of interest (Sudman et al., 1988). In this way, FEMA aid applicants are similar to other hidden populations within social science research. Normally, individuals who comprise hidden populations become more visible when they enter institutional settings or participate in government programs (Watters and Biernacki, 1989). As such, many social science studies are replete with studies of captive, institutional, and clinical populations. In the case of FEMA assistance applicants, data that can be retrieved through the Freedom of Information Act does not contain socioeconomic or other demographic information about applicants or program participants (Kousky, 2013), which makes any analysis of applicants on traditional individual level demographic variables extremely difficult. Moreover, even if FEMA kept track of this information, there would be limited generalizability of an analysis to the larger non-institutional population that may or may not share important attributes of their institutional counterparts (Watters and Biernacki, 1989). This is particularly a problem for this current research where one of the objectives is to explore differences among

FEMA applicants and between those individuals that were affected by Hurricane Sandy, but did not apply of assistance.

To over-come these issues of external validity indicative to non-probabilistic sampling, time/space sampling is commonly used. This type of sampling tends to identify accurate subjects in certain locations. In the context of hurricane disaster victims, this would mean focusing on people living close to the coastline or along river channels. However, because the geographical conditions of potential respondents can change over time, there is potential sampling bias that makes it necessary to update the sampling frame that results in increased costs. Moreover, it is important to remember that hidden populations might not always be reached in a specific geographic location (Baltar and Brunet, 2012). In the case of disasters, this is of prime importance when one considers the relocation of disaster victims into areas outside the affected area. Therefore, because of the cost of research administration, geographical constraints, and the specificities of this hidden population, snowball sampling is an appropriate sampling methodology (Browne, 2005).

Snowball sampling can be defined as:

...a technique for finding research subjects. One subject gives the researcher the name of another subject, who in turn provides the name of a third, and so on. This strategy can be viewed as a response to overcoming the problems associated with sampling concealed hard to reach populations... (Atkinson and Flint, 2001, p. 1).

This type of methodology is useful in exploratory, qualitative and descriptive research, especially when respondents are few in number relative to the whole population. Initial seeds in snowball sampling are supposed to be randomly chosen; however, this is typically difficult to accomplish and therefore convenience sampling is used to find initial

respondents (Baltar and Brunet, 2012). Because samples are composed and influenced by the choices of initial respondents, samples have the potential of being bias towards more cooperative individuals. Additionally, there are problems with the representativeness of the sample in relation to the population and selection bias which limits the external validity of the sample when using an ascending methodology (Van Meter, 1990; Johnston and Sabin, 2010). However, it is important to note that in ascending methodologies samples are strictly related with the objectives of the research and even if results can not be generalized to the population because units are not randomly selected, the importance of theory generation must also be considered as an alternative objective (Wong, 2008). Therefore, the notion of transferability of the method is more important than the generalizability of inferences generated from the snowball sample (Baltar and Brunet, 2012).

For these reasons, one method of survey administration used in this study was snowball sampling. As described previously, targeted sampling was used to recruit focus group participants. Although this type of sampling is not totally random, these samples are also not convenience samples. They utilized a strategy to obtain systematic information when true random sampling was not feasible and when convenience sampling was not rigorous enough to meet the assumptions of the research design (Watters and Biernacki, 1989). As with other studies that have attempted to reach hidden populations (Bergeron and Senn, 1998; Sarantakos, 1998; Browne, 2005), this research employed individuals' social networks to access and snowball sample other people that have been affected by Hurricane Sandy. Thus snowball sampling relied on the behavior or "trait" under study (Faugier and Sargeant, 1997), which was being affected by

Hurricane Sandy, and the social networks of individuals that attended the focus groups that were conducted in the first phase of this research. As such, after the focus groups were completed, the researcher reached out through email to all the participants thanking them for their participation. This email also contained a flyer that had a brief description of the project and an electronic link to an online version of the survey instrument. After thanking each of the focus group participants, they were asked to forward the study flyer to anyone they believed would be interested in participating in the study, but only in a survey format. This snowball sampling technique assumed that the individuals that had applied for FEMA aid after Hurricane Sandy that also participated in one of the focus groups would forward the study's information and survey location to others that had either applied for FEMA aid or had just simply been a victim of Hurricane Sandy.

#### **III.4.A Virtual Snowball Sampling of the Instrument**

In addition to the traditional snowball sampling technique, the survey was also administered through a virtual snowball sample. The use of the internet in survey administration has several advantages relative to telephone administration: significantly lower cost, superior capability in providing information (including visual stimuli), and the minimization of interviewer bias (Berrens et al., 2003). Within the context of exploratory research where probability samples are not necessary to make valid inferences about relationships, internet surveys have a great deal of potential to reach relevant research respondents. Although there is a growing body of research that observes the use of online data collection tools (Wilson and Laskey, 2006; Benfield and Szlemko, 2006), there is less information on the analysis and the development of online sample recruitment strategies (Baltar and Brunet, 2012). As a result, most of the

contribution to theory on online sampling comes from academic disciplines within the health sciences. Although virtual snowball sampling has several problems, they have great potential in facilitating access to hard-to-reach populations, in addition to expanding the sample size and scope of a study at the same time as reducing research costs and time (Benfield and Szlemko, 2006). According to Evans and Mathur (2005), online surveys have several specific advantages:

- The flexibility to apply them in different formats or languages;
- They can be administered in a time-efficient manner, minimizing the period to collect and process data;
- Respondents can answer questionnaires at a convenient time for themselves;
- Online surveys can include all kinds of questions, such as dichotomous, multiple-choice, multi-response, scales and open-ended questions;
- The researcher has more control over the order in which respondents answer questions; and
- Online surveys can be developed so that the respondent must answer a question before continuing to the others, which ensures that the respondents only answer the questions that specifically apply to them.

However, Evans and Mathur (2005) also caution researchers about the problems that online surveys can pose to the research process:

- Selection bias related with the internet population (i.e. issues of gender, age, education level, socioeconomic status);
- Respondents' potential lack of online experience or computer literacy;
- Unclear answering instructions because online surveys are self-administered;
- There is usually no human contact, which makes online instruments seem impersonal; and
- There is the potential for low response rates (Fricker and Schonlau, 2002; Wilson and Laskey, 2003).

Although these potential problems can directly affect validation and the quality of data, traditional methods such as community sampling can be applied in an internet-based project. Under this type of strategy, the main problem is not the sampling technique used

in the research, but the selection criteria or the screening out of inappropriate research subjects (Benfield and Szlemko, 2006; Baltar and Brunet, 2012).

Explicitly for this reason, several questions were used as a means of screening out respondents that are not germane to this specific research (see Appendix C). One question asked respondents whether or not they had experienced damages inflicted on their primary residences as a direct result of Hurricane Sandy. This question was important for screening because if respondents did not experience damage to their primary residence they would more than likely not apply for FEMA home assistance aid, nor would they qualify for any funding allocations. Those that refused to answer this question or that answered “No” were dropped from the survey. Another question provided a second level of screening by asking whether or not a respondent applied for some type of disaster assistance. If “yes” was not selected by the respondent they were also dropped from the survey. This is done for two reasons. First, if the respondent did not apply for any type of aid, then any answers they would provide in reference to disaster the assistance application processes would come from secondary sources at best, and therefore not reflect of their own personal experiences, which is the main objective of this research. Second, if they “do not remember” applying for any type of assistance, then this raises serious issues in reference to respondent recall and any responses to questions about their application experiences would be viewed with extreme skepticism. Finally, a third question asked the respondent whether one of the disaster assistance programs they applied to was with FEMA. Again those respondents that do not select “yes” were dropped from the survey. The reason these respondents are also redirected is because for an individual to answer questions about the FEMA application process, they

would have had to participated in it. In addition to screening out inappropriate respondents and directing respondents to questions that only concern them, this allowed for the generation of separate samples of individuals with which to compare FEMA aid applicants so that more generalizable inferences can be made from the data.

Although these mechanisms are helpful in making sure only the most germane respondents are incorporated into the administration of the survey, it does not solve the problem of respondent recruitment. For this, a strategy discussed by Best et al. (2001) and Baltar and Brunet (2012) is used to recruit candidates for participation. According to Best et al. (2001), the use of heavily trafficked websites as a mechanism for developing a sampling frame of the internet population is an appropriate start to developing a snowball sample (see also Johnson and Kaye, 1998 and Wherrett, 1999). Researchers generally select websites from among those that have generated a threshold number of downloads per day or per month, or that have a threshold number of members that have previously volunteered to be associated with the site. After appropriate websites have been identified, advertisements are posted that direct site visitors and members to a separate page that contains the researcher's survey. At the time Best et al. (2001) published their article, Facebook was only beginning to become a prominent social networking site, which is why social media is excluded from their analysis; however, Baltar and Brunet (2012) expand upon Best et al.'s (2001) sampling frame technique. According to Baltar and Brunet (2012), Facebook is a free social networking site that allows registered users to create profiles, send messages and keep in touch with friends, families and colleagues, in addition to developing new relationships with people the average person would never meet face-to-face in the real world. The site is available in 37 different languages and

includes features such as groups and pages that allow members that share common interests to find one another, interact, and disseminate information to the public about specific topics of interests. In this way, Facebook has been used to identify and contact hard to reach populations in various research contexts. Finally, past research has shown that information obtained through the use of online survey instruments tends to be reliable in reference to truthfulness (Fricker and Schonlau, 2002; Acquisti and Gross, 2006; Dwyer et al., 2007; Zhou, 2011). Moreover, Best et al. (2001) conclude in their research that compares survey responses between both internet surveys and traditional phone and face-to-face surveys that the same conclusions on their specific research questions would have been reached using either method of data acquisition, but that the use of internet surveys is more cost and time efficient.

Facebook has been used by governmental agencies and departments, private and nonprofit organizations, numerous emergency management and disaster-related organizations, and individuals to disseminate information, coordinate activities such as emergency management planning and exercises, to warn the public and specific individuals of unsafe areas or situations, inform friends and family that someone is safe, raise funds for disasters, disseminate information about FEMA disaster assistance programs, and foster social capital development within communities in the aftermath of disasters (Ellison et al., 2007; White et al., 2009; American Red Cross, 2009; Lindsay, 2011; Glassman et al., 2013). Because Facebook has become an important medium for disseminating information about disasters, in addition to being a mechanism through which disaster victims communicate with one another, several Facebook groups were identified as appropriate pages on which to advertise this current research study. The

choice of appropriate groups consisted of finding Facebook groups that had the phrase “Hurricane Sandy” or “Superstorm Sandy” in their titles, whether group members had actively posted material to the site in the last two weeks, and the whether the group had more than 1000 members associated with the site. Using these criteria, three groups were identified as appropriate groups to advertise the survey: *Hurricane Sandy Updates* (83,413 members/followers), *Hurricane Sandy* (155,613 members/followers), and *Hurricane Sandy Support Page – South Jersey* (1,968 members/followers). Once these groups were identified, advertisements for the study were posted on each of these pages on a weekly basis. The advertisement solicited people to participate in the study and also pass information about the study along to people that they knew that may also be interested in participating.

In addition to these public Facebook groups, the researcher also used his personal academic network of disaster and emergency management professionals on Facebook to target the study’s advertisement to individuals and/or organizations that would be potentially interested in either participating in the study or disseminating information about the project among potential disaster victim populations. The dissemination of the advertisement among the researcher’s personal social network was only attempted once to reduce problems with bias that may have occurred from this additional nonrandom facet of the sampling frame. Moreover, through the social networks of individuals that accessed the online instrument, various organizations contacted the researcher to ask if they could disseminate the study flyer to their own constituents. These organizations consisted of various branches of the United Way in New Jersey and the Sea Isle

Taxpayers Association, which is located in Sea Isle City, New Jersey. The survey instrument was administered in the field between October 8, 2014 and December 2, 2014.

### III.4.B Description of Survey Respondents

As a result of the traditional and virtual snowball sampling techniques previously discussed, 70 individuals attempted the survey. Of these 70 observations, 12 were dropped from analysis because they left large portions of the survey incomplete. As a result, 58 observations are used within the analysis of this study. Table 3.2 documents the descriptive statistics of the demographics of the individuals that completed the survey and that will be used to help answer this study's research questions.

**Table 3.2: Descriptive Statistics of Online Survey Respondents (n=58)**

<i>Variable</i>	Frequency	% of Sample	<i>Variable</i>	Frequency	% of Sample
<i>Race</i>			<i>Primary Language</i>		
White	48	82.75	English	58	100
African American	10	17.24			
<i>Current State of Residence</i>			<i>Nation of Origin</i>		
New Jersey	42	72.41	United States	55	94.83
Pennsylvania	5	8.62	India	1	1.72
New York	1	1.72	Germany	1	1.72
Florida	1	1.72	Jamaica	1	1.72
Maryland	1	1.72			
Refused Response	8	13.79	<i>Marital Status</i>		
<i>Age</i>			Married	37	63.79
18 to 25 Years Old	0	0	Single	8	13.79
26 to 34 Years Old	2	3.45	Divorced/Separated	6	10.34
35 to 44 Years Old	4	6.90	Widowed	7	12.07
45 to 54 Years Old	10	17.24	Living with Partner	0	0
55 to 64 Years Old	22	37.39	Not Sure	0	0
65+ Years Old	20	34.48	<i>Number of Children within the Household under 18</i>		
<i>Educational Attainment</i>			None	50	86.21
Some High School	1	1.72	1 to 2	6	10.34
High School Diploma	6	10.34	3 to 4	2	3.45
Technical or Trade Certification	0	0	5 or More	0	0
Some College, No Degree	6	10.34	<i>Damage Sustained to Primary Residence</i>		
Associate's Degree	6	10.34	Yes	37	63.8
Bachelor's Degree	20	34.48	No	21	36.2
Master's Degree	13	22.41			
Doctoral Degree	3	5.17			
Professional Degree (law, medicine)	2	3.44			
Refused to Respond	1	1.72			

*Household Income*

Less than \$25,000	1	1.72
\$25,000 - \$34,999	4	6.89
\$35,000 - \$49,999	7	12.06
\$50,000 - \$74,999	10	17.24
\$75,000 - \$99,999	11	18.96
\$100,000 - \$124,999	6	10.34
\$125,000 - \$149,999	2	3.44
More than \$150,000	14	24.13
Refused to Respond	3	5.17

*Gender*

Male	34	58.62
Female	24	41.38
Other	0	0

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Although it was not assumed that the online survey would yield a representative sample of the population, the presumption was that it would potentially yield a relatively diverse sample; however, this did not turn out to be the case. About 83 percent of the respondents were White, and the remaining 17 percent of the sample self-identified as African American. Out of all the respondents, only 2 individuals (3.4 percent) of the sample self-identified as being Hispanic or Latino. As far as geographic representation, the majority of respondents were New Jersey residents (72.4 percent); however, there were other respondents residing in Pennsylvania (8.6 percent), New York (1.7 percent), Florida (1.7 percent), and Maryland (1.7percent). Out of all of the respondents, 8 individuals (13.8 percent) refused to indicate where they currently reside. Additionally, in reference to gender, 58.6 percent of the sample self-identified as male and 41.4 percent of the sample self-identified as female.

In reference to the other demographic characteristics, there are several items worth mentioning. First, in the reference to the age of respondents, the majority of respondents (89.7 percent) indicated that they were forty-five years or older, and 71.8 percent of the sample indicated that they were over the age of fifty-five. Second, in

reference to educational attainment, the majority of the sample (65.5 percent) had earned at least a bachelor's degree at the time of completing the survey, and about 31 percent of the total sample had earned a graduate degree, which includes a master's, doctoral, or professional degree in law or medicine. Household income was also asked of each of the respondents. Only one individual within the sample indicated that they had a household income less than \$25,000. 55.2 percent of the sample indicated that their household income was between \$25,000 and \$99,999; however, a significant proportion of the sample (37.9 percent) indicated that their household income was \$100,000 or more. Finally, it is worth mentioning that about 24 percent of the sample indicated that their household income was more than \$150,000, which indicates a relatively affluent composition of the sample used in this study.

As far as respondents' marital status, the majority of survey respondents (63.8 percent) indicated that they were married. 13.8 percent indicated that they were single, 10.3 percent indicated that they were divorced or separated, and the remaining 12.1 percent indicated that they were either a widow or widower. The majority of the respondents (86.2 percent) indicated that they did not have any children within their household, 10.3 percent indicated that they had either one or two children living within their household, and only 3.4 percent indicated having three to four children living in their household. No respondents within the sample indicated having five or more children living within their household. In reference to national origin, 94.8 percent of the sample indicated that they were born within the United States. The remaining three respondents indicated that they were from Jamaica, India, and Germany. All of the respondents indicated that English was the primary language that they speak within their

household. Finally, because whether a respondent incurred damages to their home from Hurricane Sandy was used as a screening question for subsequent sections of the survey, it is important to point out that about 64 percent of the sample indicated that they had incurred damage to their primary residence as a byproduct of Hurricane Sandy; whereas the remaining 36 percent of the sample indicated that their primary residence was not affected from Hurricane Sandy.

### **III.5 Key Informant Interviews**

To supplement the information from the focus groups and survey, key informant interviews were conducted with various New Jersey county emergency manager coordinators, county level coordinators of Voluntary Organizations Active in Disasters (VOADs), and nonprofit organization leaders mentioned by focus group participants in order to triangulate the findings generated by the focus groups and survey instrument. Interviews have been documented as being extremely useful in disaster research (Oliver-Smith 1996; Phillips 2002; Stallings 2006; Phillips 2014), especially for gaining access to respondents that are difficult to access through traditional surveying techniques. Moreover, Phillips (2014) maintains that interviews offer an unobtrusive means of triangulating findings. By triangulating the findings of a study's focus groups and survey instrument, a more holistic depiction of what actually occurred in the aftermath a disaster can be discerned (Phillips, 2014).

As such, after the focus group transcripts and survey instrument were analyzed, coastal county level emergency managers, coastal county VOAD coordinators, and other nonprofit organizations mentioned by focus group respondents were contacted through email. The email sent to these individuals described the focus of this dissertation and

asked if a respective coordinator/nonprofit leader would be willing to participate in a half an hour phone interview. The focus of the interview was described to potential respondents as a means to cross-check the initial findings of this study in relation to what they and/or their organization experienced in their Hurricane Sandy response and recovery activities. An alternative to the phone interview was provided as an option for participation in which the research would email the potential respondent a series of open-ended questions, and the respondent could answer those questions at their leisure. As a result, all of the key informants that chose to participate in this research opted for participation by email.

Once individuals were identified as willing to participate in this research an email was sent to them restating the focus of the study, and their rights as a research participant. Respondents were notified that their answers to the researcher's questions would be confidential, and no identifying information about the respondent's exact office of work would be included in the analysis of data. Specifically, respondents were told that although they would be identified as either a New Jersey emergency management coordinator or a New Jersey VOAD coordinator, the county in which they specifically worked would be kept confidential. The only exception to this was nonprofit leaders, in which case their name and title would be kept confidential; however the specific organization that they worked for would be identified. In all, three county emergency management coordinators and two county VOAD coordinators participated in interviews. Although representatives from Helping Hands and various county chapters of the United Way in New Jersey expressed interest in answering questions, these individuals never completed the questionnaire sent to them. Attempts were made to recontact the

representatives of these organizations through email and by phone, but they did not respond to these secondary requests. The data generated from the interviews were analyzed using a framework analysis similar to the manner in which the focus group data was analyzed.

### **III.6 Discussion**

Before moving on to the analysis of data acquired through these various approaches, there are some points worth noting about the recruitment and participation of respondents indicative to the methodological choices made in this study. First, regarding focus groups, a number of studies have indicated that there tends to be inconsistencies between the individuals that express interest in participating in focus groups and those that actually show up for the meetings. As previously indicated, this research confirmed this phenomenon when participants that had confirmed attendance to a respective focus group did not actually attend. This dynamic affected the racial and age composition of both focus groups, which may have yielded data more germane to certain racial or age categories than those of the total population affected by Hurricane Sandy. Moreover, even though incentives were provided for participation in each focus group, the incentive provided may not have been enough to stimulate people to attend (Watters and Biernacki, 1989). Second, the researcher's lack of ability to segment the focus groups by race may have had indirect affects on the generation of data indicative to relatively sensitive topics under discussion within each of the focus groups (Folch-Lyon et al., 1981; Morgan, 1996). However, despite these limitations, the focus groups yielded information both important to the finalization of the online survey instrument, and also rich data on individuals' experiences with the FEMA assistance application process.

Regarding the online survey, the online format allowed for respondents to complete the instrument at times convenient for them, provided the researcher control over the order in which questions were answered, and also provided a cost-effective mechanism for including a range of different questions that would have been cost prohibitive in a traditional telephone survey administration setting. However, it must be pointed out that the use of the online instrument fell subject to several of the limitations expressed by previous scholars. First, as indicated by the descriptive statistics of survey respondents, there seems to be potential issues of selection bias related to the internet population on demographic characteristics such as education level and socioeconomic status. Interestingly, the respondents within this sample did not conform to normal expectations of internet response in reference to age. Typically, older cohorts of individuals are predicted to use the internet less, and subsequently have lower response rates in online instruments (Evans and Mathur, 2005); however, as was illustrated in the description of this study's survey sample, the opposite trend was observed. The reliance on social networks for the dissemination of the survey to potential respondents may have yielded respondents that were more similar than different in both individual demographic characteristics and geographic location (Biernacki and Waldorf, 1981; Baltar and Brunet, 2012)

Second, previous research has highlighted the tendency of online instruments to have relatively low response rates (Fricker and Schonlau, 2002; Wilson and Laskey, 2003), which was apparent in this study's recruitment of survey respondents. Additionally, Evans and Mathur (2005) point out that the impersonal nature of the online instrument can influence the overall response rate of an instrument. This could have been

a contributing issue to the response rate of the online instrument used in this study. For example, I received several emails from potential respondents asking about the study, who I was, what my professional background was, and/or what would be the contribution of their responses to the project's overall goals before they would consider completing the survey. Although these individuals were proactive with their information searching, it is assumed that others also felt the online instrument was similarly impersonal, and simply opted out of completing the survey once they received notification of it. However, even though this may have been a contributing factor to the number of surveys ultimately completed, the extent of the influence of this phenomenon is unknown.

Despite these methodological caveats, the current lack of extant data on the FEMA home assistance application process justifies exploring the research questions indicative to this study with the primary data generated by the previously discussed approaches. Therefore, the following chapters analyze these data as an exploratory first step in attempting to answer the research questions indicative to this project.

## **Chapter 4: Determinants of Applying for Disaster Assistance**

### **IV.1 Introduction**

This chapter attempts to answer the question of what influences individuals' decisions to apply for disaster assistance. Along these lines, it was hypothesized in Chapter 1 that individuals that were rendered homeless would have a higher probability of applying for assistance. Additionally, it was also theorized that individuals who did not apply to FEMA's home assistance program would apply to other disaster assistance programs.

To explore these questions, data from the online survey, focus groups and interviews were analyzed. Since the survey instrument administration yielded a low return rate of survey completions, I followed a parsimonious approach to model building. The Fisher's exact test was used to identify potential variables of interest that could then be used in smaller multivariate statistical models. The Fisher's exact test was appropriate when attempting to observe whether the proportion of one variable is different depending on the value of another variable, and when the sample size is too small to justify parametric assumptions (McDonald, 2014). According to McDonald (2014), the Fisher's exact test is more accurate than the chi-square test when the total sample size is less than

1000. The Fisher's test allows a researcher to calculate the probability of getting an observed result under the null hypothesis that the proportions in two groups are the same. After the Fisher's exact test identified statistically significant variables, these variables were then used as independent variables within various statistical models, which will be explained in the following sections. Finally, the analyzed data from the focus groups and interviews were used to triangulate the findings of the statistical analyses to describe potential dynamics that could be influencing the statistical results. As such, the focus group and interview data provide more depth to the statistical findings; however, the focus groups also provide another function. Because of the lack of diversity within the survey sample, the focus groups and key informant interviews also help to provide alternate explanations and potential outcomes of variables that are not necessarily observed in the survey data.

#### **IV.2 Deciding to Apply for FEMA Home Assistance**

Of the total 58 individuals that completed the survey, 37 indicated that they had incurred damages to their primary residence. Because damage to an individual's primary residence is the main qualifying characteristic for eligibility in the FEMA home assistance program, I only analyzed the decision to apply for disaster aid among individuals that sustained damages to their primary residence.<sup>9</sup> In line with past behavioral economic research, the decision to apply for disaster assistance was modeled as a function of individual demographic characteristics. The individual characteristics

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<sup>9</sup> It should be pointed out that individuals that did not incur damages to their primary residence are also eligible to apply for some types of disaster assistance; however, the other programs under which these individuals would qualify for assistance are not under investigation here. Therefore, these individuals, who include individuals that sustained damages to their secondary homes and/or rental properties, were excluded from the analysis of deciding to apply for FEMA home assistance.

under investigation here included race, gender, age, employment status, educational attainment, household income, the number of children under the age of 18 living within the respondent's household, and the type of residence the respondent lived in when Hurricane Sandy occurred. The survey also asked whether the individual had rental or homeowner's insurance on the damaged property. This variable was important for inclusion in the analysis because to qualify for FEMA home assistance, an applicant had to submit insurance information to FEMA. Finally, whether or not a respondent was rendered homeless by Hurricane Sandy was also included in the analysis.

**Table 4.1: Descriptive Statistics of Respondents that Sustained Damages to Primary Residence (n=37)**

<i>Variable</i>	Frequency	% of Sample	<i>Variable</i>	Frequency	% of Sample
<i>Race</i>			<i>Age</i>		
White	28	75.7	35 to 44 Years Old	2	5.4
Nonwhite	9	24.3	45 to 54 Years Old	6	16.2
<i>Educational Attainment</i>			55 to 64 Years Old	14	37.8
Less than a Bachelor's Degree	6	16.2	65 Years or Older	15	40.5
Bachelor's Degree	11	29.7	<i>Gender</i>		
Graduate or Professional Degree	19	51.3	Male	22	59.5
Refused	1	2.7	Female	15	40.5
<i>Number of Children within the Household under 18</i>			<i>Employment Status</i>		
None	31	83.8	Unemployed	19	51.4
1 to 2	5	13.1	Employed	17	45.9
3 to 4	1	2.7	Refused	1	2.7
<i>Household Income</i>			<i>Rendered Homeless</i>		
Less than \$50,000	8	21.6	Yes	20	54.1
\$50,000 to \$99,999	14	37.8	No	10	27
\$100,000 to \$149,999	7	18.9	Refused	7	18.9
\$150,000 or More	6	16.2	<i>Type of Residence</i>		
Refused	2	5.4	Single Family Home	26	70.3
<i>Own or Rent</i>			Other	11	29.7
Own	35	94.6	<i>Home or Rental Insurance</i>		
Lived with Someone Else	2	5.4			

<i>Applied for Disaster Assistance</i>				Yes	34	91.9
				No	1	2.7
Yes	27	73		Refused	2	5.4
No	10	27		<i>Applied to Another Disaster Assistance Program</i>		
<i>Applied to FEMA's Home Assistance Program</i>				Yes	15	40.5
				No	22	59.5
Yes	27	73				
No	10	27				

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Table 4.1 depicts the descriptive statistics of the sample under investigation in this part of the analysis. Since there were no respondents within the sample that indicated that their race was something other than White or African American, race is coded as an individual being either White (75.7 percent) or Nonwhite (24.3 percent). In addition to race, there are a number of other variables worth mentioning. First, no respondents indicated that they had acquired a trade certification or a professional degree, which included either a law or medical degree. Thus in the analyses educational attainment was recoded into three categories – less than a bachelor's degree (0), a bachelor's degree (1), and a graduate degree (2). Second, Table 4.1 reports the indicated household incomes for the sample. Because of the distribution of household income within the sample, household income was recoded into four categories in the analyses – less than \$50,000 (0), \$50,000 to \$99,999 (1), \$100,000 to \$149,999 (3), and more than \$150,000. Third, although data was collected on various categories of unemployment the unemployment variable was recoded as unemployed (0), which included any respondents that indicated they were unemployed, on some manner of leave, or retired, and employed (1), which included respondents that indicated that they were either employed full- or part-time. The type of residence an individual reported to live in was also recoded into two categories – single family home (0) and other (1), which included individuals that indicated that they

lived in a condominium, apartment, mobile home, or some other type of residence. When observing whether respondents owned or rented their residences, 94.6 percent of the sample indicated that they owned their residence; however, there were no respondents that indicated they rented their residence. Alternatively, 5.4 percent of the sample indicated that they lived with someone else. Twenty-seven percent of the sample indicated that they had been rendered homeless by the disaster; however, 18.9 percent of the sample refused to answer this question on the survey. Finally, 73 percent of the sample indicated that they had applied to some form of disaster assistance program, which included any programs offered by any agency in the federal government, by a state, nonprofit, or religious organization. Moreover, all of the individuals that applied for some type of disaster aid also applied to FEMA's home assistance program; therefore, in the context of this research individuals that decided to apply for some type of assistance and those that applied to FEMA's home assistance program are one in the same. Therefore, this study presents the findings of people's decision to apply for aid in the context of applying to FEMA's home assistance program.

Because a focus of this work is whether there are differences between different racial and socioeconomic groups and in their decision to apply to FEMA's home assistance program, the first step to the data analysis observed the potential differences in the decision to apply in relation to all of the previously specified independent variables. Table 4.2 describes the results of these analyses.

**Table 4.2: Fisher's Exact Test on Decision to Apply for FEMA Home Assistance  
(n=37)**

<i>Variable</i>	<i>Applied n</i>	<i>Did Not Apply n</i>	<i>Fisher's Exact Test</i>
<i>Race</i>			
NonWhite	9	0	0.079**
White	18	10	
<i>Employment Status</i>			
Unemployed	13	6	0.717
Employed	13	4	
<i>Educational Status</i>			
Less than a Bachelor's Degree	6	0	0.102
Bachelor's Degree	9	2	
Graduate Degree	11	8	
<i>Household Income</i>			
Less than \$50,000	8	0	0.204
\$50,000 to \$99,999	11	3	
\$100,000 to \$149,999	4	3	
\$150,000 or More	4	2	
<i>Gender</i>			
Male	14	8	0.153
Female	13	2	
<i>Children Under 18 in Household</i>			
None	22	9	1
1 to 2 Children	4	1	
3 to 4 Children	1	0	
<i>Age</i>			
35 to 44 Years Old	2	0	0.498
45 to 54 Years Old	3	3	
55 to 64 Years Old	10	4	
65 Years or Older	12	15	
<i>Type of Residence</i>			
Single Family Home	20	6	0.442
Other	7	4	

<i>Homelessness</i>				
	No	10	10	0.003***
	Yes	10	0	
	Refused	7	0	
<i>Own or Rent</i>				
	Own	25	10	1
	Lived With Someone Else	2	0	
<i>Homeowner or Rental Insurance</i>				
	No	1	0	1
	Yes	24	10	

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\* Significant at the 0.05 level.

\*\* Significant at the 0.10 level.

\*\*\* Significant at both the 0.05 and 0.10 level.

Within the survey, respondents were asked whether or not they had applied for assistance with any level of government or with any organization. The answer to this question was coded dichotomously as either “yes” or “no”. Based on this answer a Fisher’s exact test was performed separately for each independent variable and the respondents’ decision to apply to FEMA’s home assistance program. Out of all of the independent variables included for analysis, only whether a respondent was rendered homeless ( $p=.003$ ) from Hurricane Sandy was significant at the 0.05 level. Although none of the other independent variables were found to be significant based on a two-tailed Fisher’s test, a one-sided Fisher’s test was performed on the race variable. This was performed to test the null hypothesis that the proportion of nonwhite people that applied for assistance was the same as or greater than the proportion of white people that applied for aid. When this one-tailed test was performed, race was found to be significant ( $p=.038$ ).

To more specifically determine the effect that the two independent variables have on the decision to apply to FEMA’s home assistance program, four OLS models were developed. OLS models were developed using a dichotomous variable as the dependent variable. Although logistic regression is better for estimating the probability of a binary outcome, logit is better suited for analysis when a sample is relatively “large” (King and

Ryan, 2002). Alternatively, OLS models are useful in observing the relationship between a dependent variable and a collection of independent variables, and are better suited for use when samples are small (under 100 cases) (Pohlman and Leitner, (2003). According to Pohlman and Leitner (2003), even though logistic regression is superior to OLS when predicting the probability of an independent variable, OLS and logistic regression are comparable when simply observing relationships between independent variables and the dichotomous outcome variable. As such, I use OLS models to observe potential relationships between various independent variables, and an individual's decision to apply for disaster recovery resources.

In all four models the inclusion of a respondent's individually assessed damages to their primary residence in thousands of dollars is used to help observe the effect that the level of damage inflicted on someone's home has on their decision to apply for assistance. Model 1 observes this variable's effect on an individual's decision to apply independently, and the rest of the models respectively hold race, homelessness, and the other independent variables constant.<sup>10</sup> All of the models use the decision to apply as a dependent variable. As such, Table 4.3 highlights the results of the OLS models explaining individuals' decision to apply for assistance.

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<sup>10</sup> Whether or not individuals had homeowners or rental insurance in addition to whether or not an individual owns or rents their home were dropped from the OLS analysis because after missing observations were dropped from the analysis the remaining observations were perfectly correlated to the type of residence an individual had.

**Table 4.3: OLS Regression on the Decision to Apply for FEMA Home Assistance**

<i>Variable</i>	Model 1	Model 2	Model 3	Model 4
<i>Constant</i>	0.601 (0.0889)	0.8874 (0.1532)	0.8247 (0.1795)	1.0844 (0.5959)
<i>Dollar Amount of Damages</i>	0.0017* (0.0001)	0.0018* (0.0006)	0.0013* (0.0006)	0.0013 (0.0009)
<i>Race (Nonwhite is Reference)</i>		-0.3723* (0.1667)	-0.4520* (0.1892)	-0.5376 (0.4254)
<i>Homelessness (Not Homeless is Reference)</i>				
<i>Homeless</i>			0.4662* (0.1414)	0.5137* (0.1797)
<i>Refused</i>			0.1566 (0.2122)	0.2104 (0.3437)
<i>Employment Status (Unemployed is Reference)</i>				-0.0593 (0.1869)
<i>Education Status (Less than Bachelor's is Reference)</i>				
<i>Bachelor's Degree</i>				-0.2703 (0.2858)
<i>Graduate Degree</i>				-0.2104

				(0.2828)
<i>Household Income (Less than \$50,000)</i>				
				0.1019
				(0.2798)
				-0.0571
				(0.3323)
				0.1974
				(0.3670)
<i>Gender (Male is Reference)</i>				
				0.0933
				(0.1940)
<i>Children Under 18 in Household (None is Reference)</i>				
				-0.0822
				(0.3446)
				0.3041
				(0.7252)
<i>Age (35 to 44 is Reference)</i>				
				-0.4258
				(0.7194)
				-0.0873
				(0.6338)
				-0.1119
				(0.6189)
<i>Type of Residence (Single Family Home is Reference)</i>				
				0.1186
				(0.2285)
R-squared	0.166	0.2817	0.4795	0.6558
Number of Observations	34 <sup>a</sup>	34 <sup>a</sup>	34 <sup>a</sup>	32 <sup>ab</sup>

\* Significant at the 0.05 level.

<sup>a</sup> Three observations were dropped from analysis because respondents did not know what amount to place on damages.

<sup>b</sup> Two observations were dropped from analysis because respondents did not report their household income.

The analysis indicates, that there is a positive and statistically significant relationship with the amount of damage an individual's home incurs and whether an individual applies for some type of disaster assistance when holding all other variables constant.

This relationship holds significance across the first three models; however, when the rest of the independent variables are held constant in model four this variable is no longer statistically significant.

Model 2 explores the relationship between an individual applying to FEMA's home assistance program and the race of the individual. As in Model 1, the dollar amount of damages is positive and statistically significant, but race, or a person that self-

identifies as white, has a negative and significant effect on an individual's decision to apply for aid. This relationship holds significance in Model 3 when both the amount of damages and whether someone was rendered homeless by Hurricane Sandy are held constant. However, when the rest of the independent variables are added in Model 4 the race of an individual is no longer statistically significant.

Finally, Models 3 and 4 control for the influence of whether someone was rendered homeless by Hurricane Sandy on their decision to apply for FEMA home assistance. Model 3 predicts that if a person was rendered homeless by Hurricane Sandy, there is a positive relationship with the individual applying for assistance when holding the amount of damages and the individual's race constant. Model 4 further tests the relationship of homelessness while holding all of the other independent variables constant. In Model 4, homelessness is again statistically significant and positively related to an individual's decision to apply for assistance, but even more pronounced than in model three.

Although none of the other independent variables were found to be statistically significant within Model 4, two of the variables are worth mentioning. First, Model 4 shows that there is a potential negative relationship between a person's educational status and whether they apply for FEMA home assistance. Second, people that are employed either full- or part-time potentially have a negative relationship with applying for assistance in comparison to those individuals that indicated that they were unemployed. Although not definitive, these variables may illustrate potential socioeconomic class dynamics that may be at work in individuals' decisions to apply for FEMA home assistance. As a result, these issues should be explored in the future with larger samples.

### IV.3 Deciding to Apply to Another Disaster Assistance Program

As previously pointed out, all the individuals within this sample that were eligible applied to FEMA's home assistance program. However, some of these individuals also decided to apply for aid with other disaster assistance programs offered through other federal agencies, states, nonprofit and religious organizations. Therefore, I now seek to observe whether there are differences among different racial and socioeconomic groups' choices to apply to any of these other programs.

The Fisher's exact test was again performed separately for each of the independent variables used in the previous analyses. Table 4.4 highlights the findings of the Fisher's tests.

**Table 4.4: Fisher's Exact Test on Decision to Apply to Another Disaster Assistance Program (n=37)**

<i>Variable</i>	Applied n	Did Not Apply n	Fisher's Exact Test
<i>Race</i>			
NonWhite	3	6	0.711
White	12	16	
<i>Employment Status</i>			
Unemployed	6	13	0.495
Employed	8	9	
<i>Educational Status</i>			
Less than a Bachelor's Degree	3	3	0.809
Bachelor's Degree	4	7	
Graduate Degree	7	12	
<i>Household Income</i>			
Less than \$50,000	3	5	0.644
\$50,000 to \$99,999	8	6	
\$100,000 to \$149,999	2	5	
\$150,000 or More	2	4	
<i>Gender</i>			

	Male	6	16	0.087
	Female	9	6	
<i>Children Under 18 in Household</i>				
	None	14	17	0.478
	1 to 2 Children	1	4	
	3 to 4 Children	0	1	
<i>Age</i>				
	35 to 44 Years Old	2	0	0.764
	45 to 54 Years Old	2	4	
	55 to 64 Years Old	6	8	
	65 Years or Older	7	8	
<i>Type of Residence</i>				
	Single Family Home	13	13	0.141
	Other	2	9	
<i>Homelessness</i>				
	No	7	13	0.435
	Yes	6	4	
	Refused	2	5	
<i>Own or Rent</i>				
	Own	14	21	0.653
	Lived With Someone Else	1	1	
<i>Homeowner or Rental Insurance</i>				
	No	1	0	0.400
	Yes	13	21	

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Although none of the independent variables were found to be significant based on a two-tailed Fisher's test, a one-sided Fisher's test was performed on the gender variable. This was performed to test the null hypothesis that the proportion of men that applied to another disaster assistance program was the same as or greater than the proportion of women that applied to another disaster assistance program. When this one-tailed test was performed, gender was found to be significant ( $p=.049$ ).

Based on the findings of the Fisher's tests, OLS models were developed to observe the potential relationship that gender in addition to the other independent variables may have with an individual applying to another disaster assistance program. Similar to the models regarding an individual's decision to apply to FEMA's home

assistance program, the amount of damages inflicted on an individual's primary residence in thousands of dollars was used within the models to observe the relationship this has with an individual's decision to apply to another disaster assistance program as well. The results of the models are depicted in Table 4.5.

**Table 4.5: OLS Regression on the Decision to Apply for Other Disaster Programs**

<i>Variable</i>	Model 1	Model 2	Model 3	Model 4
<i>Constant</i>	0.1973 (0.0882)	0.1761 (0.2220)	0.1101 (0.2535)	0.2001 (0.8116)
<i>Dollar Amount of Damages</i>	0.0026* (0.0006)	0.0026* (0.0007)	0.0026* (0.0007)	0.0018 (0.0011)
<i>Gender (Male is Reference)</i>		0.017 (0.1626)	0.0073 (0.1654)	-0.0741 (0.2361)
<i>Race (Nonwhite is Reference)</i>			0.1003 (0.1812)	0.2031 (0.5177)
<i>Homelessness (Not Homeless is Reference)</i>				
<i>Homeless</i>				-0.0555 (0.2187)
<i>Refused</i>				-0.2748 (0.4182)
<i>Employment Status (Unemployed is Reference)</i>				0.1603 (0.2274)
<i>Education Status (Less than Bachelor's is Reference)</i>				
<i>Bachelor's Degree</i>				0.0483 (0.3478)
<i>Graduate Degree</i>				-0.1834

				(0.3441)
<i>Household Income (Less than \$50,000)</i>				
				0.8934
				(0.3405)
				-0.4102
				(0.4045)
				-0.0099
				(0.4466)
<i>Children Under 18 in Household (None is Reference)</i>				
				-0.2931
				(0.4193)
				-0.3999
				(0.8824)
<i>Age (35 to 44 is Reference)</i>				
				0.149
				(0.8754)
				0.3854
				(0.7712)
				0.1865
				(0.7531)
<i>Type of Residence (Single Family Home is Reference)</i>				
				-0.3071
				(0.2781)
<hr/>				
R-squared	0.3402	0.3405	0.3471	0.6038
Number of Observations	34 <sup>a</sup>	34 <sup>a</sup>	34 <sup>a</sup>	32 <sup>ab</sup>
<hr/>				

\* Significant at the 0.05 level.

<sup>a</sup> Three observations were dropped from analysis because respondents did not know what amount to place on damages.

<sup>b</sup> Two observations were dropped from analysis because respondents did not report their household income.

Similar to the models that predicted the relationships between an individual applying to FEMA's home assistance program, the amount of damages that an individual's primary home sustained from Hurricane Sandy was statistically significant and positive in the first three models. However, when the rest of the independent variables are added in model four, this variable loses its statistical significance. Although gender was predicted to be significant in the one-tailed Fisher's test, in models three and four when this variable is included in the analysis, it does not appear to be statistically significant.<sup>11</sup>

<sup>11</sup> It could be argued that an individual's decision to apply to FEMA's home assistance program should be included as a variable in these analyses. However, because most programs other than FEMA require a FEMA identification number, the inclusion of this variable in the described OLS models would subsequently report the influence of a procedural rule as opposed to whether or not this was an issue of independent decision making among potential applicants. As a result, four OLS models were performed similar to the previously described models without the inclusion of an individual's application to FEMA's home assistance program. The results of these models were similar to those that excluded the decision to

#### IV.4 The Bounded Decision to Apply for Assistance

Although the statistical analyses of whether someone applied to FEMA's home assistance program and whether they also applied to another disaster program highlight some potentially important variables, they assume that all of the respondents had equal access to knowledge about FEMA's home assistance program, in addition to other disaster assistance programs with other organizations. Therefore, the analyses do not highlight any of the issues raised by bounded rationality explanations of why people decide to apply or participate in a governmental program. Some of these issues include access to knowledge about alternative options, timing, and personal experience. To shed light on these issues, the focus group discussions are instrumental. Within each of the focus groups, participants were asked, "Why did you apply for aid with FEMA, as opposed or in combination with another type of disaster assistance program?" All of the participants in each of the focus groups had applied to FEMA's home assistance program, and indicated that FEMA was the only organization that they had initially knew to which they could apply for assistance. However, this knowledge was typically based on their memories of past national disasters such as Hurricane Katrina, and media discussions of where people should apply for aid. Only one woman from Brigantine indicated that she applied to FEMA because of the requirements of other disaster aid programs.

I mean at first I didn't want to apply to FEMA because of the nightmare stories I had heard from people, but all the other organizations' applications required a FEMA ID number. So I had to go back and apply with FEMA just to get that number to just put in an application with the other organizations.

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apply to FEMA's home assistance program among the larger sample of 37 respondents. Specifically, the amount of damages in thousands of dollars to an individual's primary home was significant across the first three models, but not in the last when the rest of the independent variables were held constant. Moreover, no other variable was significant in any of the four models.

Even though this was the only individual that indicated that this was her prime motivation for applying to FEMA's home assistance program, it highlighted the importance of applying to FEMA in relation to applying to other disaster assistance programs with other organizations. In other words, FEMA interactions provide a procedural gateway to potential success with securing disaster aid from other assistance organizations.

The majority of focus group participants related that they had heard about FEMA's assistance programs in several ways. One way individuals learned about disaster assistance programs was through organized events that were held in respective community centers. One male participant from Atlantic City reported,

Generally it's the convention centers, whether it's the old convention center or the new convention center. FEMA was in the new convention center. They had at least 30 partners inside the convention center where you would just go in and they would tell you, these are partners of FEMA. Some were not FEMA per se, but because people were looking for different things individuals directed you to different partners. SBA [Small Business Administration] was there. So if you needed to file a claim with SBA someone directed you over there and any other partner or someone.

One male participant from Brigantine explained that he had also learned about small assistance grants from the Red Cross at Brigantine's community center.

And then I was at the community center, and the girl at the community center, I was talking to somebody about what I was going through and she said, "You sound like you need some help. Come on over to my desk." And she was from the Red Cross.

When asked how these individuals learned that these community events were taking place, many related that they had learned about them through their own social networks and neighbors. Rarely did participants report learning about these activities over the radio, on television or through some other type of traditional communication/news media. For the most part, participants of either race and varying socioeconomic status emphasized that

they had never received any information from FEMA in reference to what to do or how to begin the home assistance application process.

In addition to the focus group participants, some county VOAD coordinators also perceived outreach to disaster survivors by FEMA as relatively limited.

FEMA also did little outreach via local media, at least from my perception. Same with the State of New Jersey when they rolled out their recovery programs. They relied on press releases and social media rather than real outreach into the community.

As a result, local VOADs indicated that they attempted to compensate for FEMA's lack of outreach. According to one VOAD county coordinator,

Our VOAD participated with the County in putting together an Information Forum about a month after the storm, and that was well received. We then started doing these frequently (at least once a month) at locations in the impacted areas, and they were very well attended. We had FEMA, SBA, NFIP plus a range of community organizations on site so residents and businesses could sign up for help.

Interestingly, county emergency management coordinators did not have a single perception of FEMA's outreach. For example, one county emergency management coordinator indicated,

Our experience is that FEMA came in with a ton of staff that through coordination of our office were directed to areas of the county that were impacted by the storm. These FEMA staffers went door-to-door knocking and handing out informational flyers on how to apply for assistance. They returned to the same areas several times to ensure they were reaching everyone and no one would fall through the cracks.

Moreover, the same emergency management coordinator indicated that even prior to Hurricane Sandy, they had had several strategies in place to educate the public about disaster assistance services and what to do in the event of a disaster.

We have our Multi-Jurisdictional All-Hazards Mitigation Plan (which has just been updated this year) posted on our county web page for easy public access. In

addition we work with our local municipal OEM Coordinators to get preparedness information posted to their local public access T.V. stations as well as social media (Facebook, Twitter). We also have a Travelers Information Station (T.I.S.) AM Radio Station is used for critical preparedness information when a known event like a hurricane is likely to impact our county or post disaster assistance information.

However, these positive perceptions of FEMA and the county's strategies were not held by all county emergency management coordinators. According to another county emergency manager in New Jersey whose office is located in one of the most heavily damaged areas by Sandy,

Yes, I believe there was some difficulty here [dissemination of disaster resource information]... The biggest issue here was that due to the extensive and duration of power outages, it was difficult to send the word out through electronic means. While the people who were in local shelters received some handouts, those that fled the area had difficulty accessing the information because there was not a central repository to access what was needed. If those impacted registered for assistance [with FEMA] online, they were not provided with the necessary details as to how to proceed. In addition, once a person registers for FEMA assistance, FEMA cannot release the person's information. This hindered our ability to gain access to those people and provide information about local assistance. I also believe that FEMA did a poor job in communicating or advertising the available programs.

The variability of perceptions of emergency management coordinators may not necessarily be the result of subjective personal interpretations of events, but the result of variation in the way FEMA acted in different geographic locations. As a result, disaster survivors in one location may have had better access to information than those residing in other counties and/or more heavily devastated areas. Therefore, in Monmouth County, in which the majority of the northern focus group participants resided, FEMA's outreach may have been relatively limited in comparison to other counties due to relative amount of damage inflicted on the jurisdiction.

Although all of the focus group participants indicated their reliance on social networks for the distribution of information in reference to disaster assistance programs, some of the northern participants did recount how they had heard about FEMA assistance programs over the radio and in the newspaper; however, this information seemed to be problematic.

Last year, it was in the Asbury Park Press that there was a grant to assist you with repairing your home and you wouldn't have to repay the grant if you stayed in your home for a period of time. However, the day that [this information was in the paper], was the day after the deadline for the grant had passed. Cause of this they extended the deadline, but they only extended the deadline from July 30<sup>th</sup> to July 31<sup>st</sup>. Now what is that supposed to do for people that have difficulties finding transportation?

In response to this account, another African American participant commented that,

Yeah, and then a lot of the offices where you were supposed to apply to that grant were shut down, and the ones that were left [open] were like in places that you couldn't even get to.

The accessibility of meeting places was also addressed by a county level VOAD representative. According to her,

In the first couple of weeks FEMA was on the ground in the most severely impacted neighborhoods. They set up in office buildings, but they were not easy to reach for those in the impacted areas as they had all lost their cars in the flooding...I think FEMA thought that if they just went to one place people would flock to them. To some degree that's true, but it would have been much better if they had been located in several locations within the impacted area, not outside of it.

The northern focus group specifically highlighted the ineffectiveness of specific media outlets to provide information of where and when to access disaster assistance resources. These sentiments were also shared by members of the southern focus group. One verbal exchange within the southern focus group between an African American resident of Atlantic City and a white resident of Brigantine documented this dynamic.

[African American participant] By the time you heard that those organizations would be at the [Atlantic City] convention center or at the community center or wherever, on the radio, you had to move heaven and earth to go. They advertised the events publicly at the last minute. It was like they didn't actually want people to show up.

[White participant] Actually, the [Brigantine] community center placed flyers on their doors about a week before they held their events.

[African American participant] Ok, yeah, but you had to go there to actually see the advertisement. The public, the actual public wasn't told about when the stuff was happening. You had to go and find the information out yourself. And by the time you found out it was either after the fact or you had to be there later that day.

The importance of social networks in the acquisition of information on disaster program availability was another method through which people learned about alternative assistance options. Generally, participants provided accounts of how they were able to learn about disaster assistance programs by "word or mouth" through their own family members and/or personal social networks. One white woman from Brigantine explained that she had learned about the availability of relief organizations in her respective community center through one of her friend's Facebook posts. One male and one female African American respondent from Long Branch indicated that,

[Man] ...believe it or not, my daughter lives in Pennsylvania, she calls me up and tells me, because she works for the state, that I should apply to FEMA for help. I don't know how she [found] out, but she knew about what was going on in New Jersey better than I did.

[Woman] Yeah, my son was in Ohio and he gave me more information than anything I was able to get a hold of here.

Another discussion exchange among two other African American participants from the northern focus group continued to illustrate this dynamic in reference to learning information about government disaster assistance.

Mainly because people that obtained damages and stuff like that, people kind of like got together and talked about their different facets and their different

organizations that were helpful and things like that. So it was through word of mouth...you know what I mean. And so I heard from this person, I could get in touch with this person and that's the way it went, you understand me, and it was like, I guess, a neighborly thing... Because definitely FEMA certainly didn't tell anybody, 'Hey we got help for you.'

Yeah like you were saying, our neighbors, all through word of mouth, I found out about water and food rations and whatever... so that's how we found out about all that stuff.

Although the majority of the experiences that were discussed by participants centered on their personal experiences in learning about FEMA's home assistance programs, participants' experiences with learning about other programs available through other organizations were mentioned. One white woman from Brigantine stated,

I used Helping Hands with the Latter Day Saints because they were doing a lot of clean up for free all over the place. So he helped me clean up my property, and spoke to me about a program that I might want to apply for with them.

Another African American woman from Asbury Park said,

One of my sons' teachers told me to go to Catholic Charities... it was totally by word of mouth.

And another African American woman from Long Branch reported that,

I volunteered [at my church] and did clean up and we went around helping other places. And it was through talking to people where we cleaned up that I learned about some nonprofit organizations allowing people to apply for some kind of assistance.

Finally, one African American man explained that he had learned about other disaster assistance programs through his job. This Atlantic City resident explained,

Through my job, I learned about New Jersey's Judiciary Superior Court, they connected with New York for assistance funds, anybody who wanted to donate money to the assistance funds could. I applied there. I got like \$236 based on them doing that... everybody that applied for that fund, they just [equally] split it [among the applicants].

Interestingly, out of all of the participants in each of the focus groups, there was only one white woman from Long Branch that learned about FEMA's home assistance program from a FEMA representative. However, she quickly made it known to the group that it was only due to her personal relationship with the individual prior to Hurricane Sandy that she was able to approach him and ask for information. She admitted that if it had not been for her personal relationship with this individual, she would not have known about the potential programs she could have applied to.

In the few cases where information was made available in centralized locations, such as in a community or convention center, those seeking aid were directed to appropriate agencies that would be most helpful to their specific needs. However, although service providers were concentrated in a specific place, the participants that indicated that they had attended these events said that they had different experiences. Those that attended such events at the Atlantic City Convention Center, for example, related that many of the individuals that were there to represent various federal and state government agencies seemed "unsympathetic", "cold", "overburdened with the number of cases or claims they were dealing with", and in some cases generally gave the impression they "couldn't give a damn" about what those seeking aid were going through. The seemingly unsympathetic and cold individuals that were available to aid resource seeking disaster victims presented an image of government that, although "...it was their job to help people that were affected [by Hurricane Sandy], they really didn't seem to care if it was beyond their job description." According to participants, these types of experiences were emotionally draining in reference to helping to motivate them to find alternate programs to apply to. Interestingly, the individual participants that

provided these negative accounts of their experiences were all African American and they all resided in Atlantic City.

Alternatively, those individuals that had attended similar events at more localized community centers related more positive experiences with representatives that seemed to be more sympathetic to their disaster experiences and somewhat sensitive to their potential emotional needs. In these cases, participants were provided with a positive image of government entities that at least gave the impression that

...[the] government was there to help and the people they sent made us feel that we would eventually be ok. They told me where I could call for help and where to apply for different types of assistance. Even though they didn't do a great job in A.C. they did show me the government seemed to care about what I was going through. And yeah, because I had a good experience I think it motivated me to seek aid in other places...Some people had bad experiences with the FEMA people, and then they didn't wanna talk to anybody else... So yeah if it wasn't for those people in the community center I wouldn't have tried to look for help other places.

Interestingly, although these types of experiences in reference to interacting with government representatives yielded different types and quality of information in reference to the availability of resources, according to the focus group participants the personal experiences that they had with government representatives directly affected their own inclinations to apply and interact with representatives of other government and third-sector organizations. Moreover, it is important to note that these relatively more positive experiences were only reported by residents of Brigantine, who were also all white.

In both focus groups, participants admitted that they had attempted to apply to other relief programs that were available through the state of New Jersey, nonprofit organizations, and also some faith-based organizations; however, all but one of the participants said that this only occurred when they had learned that a program was

available to them. The exception to this trend was observed amongst the southern group participants, in specific reference to the only foreign born participant. This individual explained that although there were many in his specific ethnic community that had learned about various potential government assistance programs through word of mouth, they were not inclined to apply for aid at all.

...our people suffer from too many things, caution barriers. They can't talk to you. They don't know you. When it comes to the hurricane, most of them didn't make claims because [they were] afraid that anything you do might affect your immigration status. So they don't want to get out there and say anything...No, not even apply for aid when they need it... The fear that they carry of the government. And I don't blame them. If you live through all the fear through all your life, no matter which part of the world [they move to] they carry that fear.

The general reliance on social networks by all the participants in the northern and southern focus groups for information about available resources illustrates the importance of social capital in the aftermath of disasters, especially in reference to accessing important information about recovery. Although the reliance on these networks sometimes yielded dated, misinformed, or even questionable information, according to many of the participants, this was the only way to learn about available resources due to a general trend among the participants that related to a lack of learning about recovery programs from official emergency management organizations, in addition to other formal state and federal agencies.

In response to this finding among focus group participants and local VOAD coordinators, all county emergency management coordinators related their continual frustration with educating the public on their vulnerability to natural disasters and what to do in the aftermath of a disaster. According to one county emergency management coordinator,

...we actively attempt to educate people about preparedness. [Our agency] does numerous speaking events around the county each year. In addition, we do several press releases throughout the year and also post to our website. However, for the most part, people don't believe that they will be impacted [by a natural disaster] and that if they are, believe FEMA will be standing up everything the need. Residents of NJ need to incorporate preparedness into their daily lives, like the residents of Florida and Gulf coast states.

As a result, most emergency management coordinators are not surprised that disaster victims heavily rely on social networks for information about disaster resources.

However, they argue that reliance on social networks is more of a byproduct of *rational ignorance* (Downs, 1957; Jankowski, 2007) as opposed to a lack of information available to the public in times of normalcy.

#### **IV.5 Summary**

The initial analyses reported in this chapter investigated the potential influence that demographic characteristics of individuals may have on their respective decision to apply to FEMA's home assistance program. Specifically, based on traditional perspectives within behavior economics in reference to loss aversion, it was hypothesized in Chapter 1 that individuals that were not rendered homeless by Hurricane Sandy would have a lower probability of applying to FEMA's home assistance program. The analyses presented in this chapter support this hypothesis. Additionally, I analyzed the determinants of an individual applying for disaster assistance with an organization other than FEMA. Based on the analyses, individuals that do not apply to FEMA's home assistance program also do not apply to other disaster assistance programs offered through other levels of government nor by third-sector organizations; however, the reason for this is unclear. It is possible, as one focus group member stated, that in order to gain access to other organizations' disaster assistance programs an individual would have had

to apply to FEMA initially to receive a FEMA identification number. Without this number, individuals would be excluded from participation with other programs, which may have also contributed to their decision not to apply to these alternative/substitutable disaster assistance options without first applying to FEMA.

Overall, the motivation behind this investigation was to observe whether or not race and/or socioeconomic status of individuals had an influence on whether someone applied to FEMA's home assistance program or other programs offered through other organizations. The statistical analyses indicated that race does not significantly predict the probability of applying for assistance with FEMA or another organization when all other demographic variables are held constant. However, in all the models a white individual had a negative relationship in comparison to African Americans. Contrary to my expectation these statistical analyses assume that all of the respondents had equal access to the knowledge and means through which to apply to FEMA's home assistance program, in addition to other disaster assistance programs.

To overcome the limitations of this assumption, the focus group and key informant interview analysis provided data in relation to access to knowledge about programs and how issues of timing and experience with government organizations potentially influenced their decision to apply for aid. Individuals have varying levels of knowledge about what disaster assistance programs are available in times of disaster, which tends to be a direct byproduct of the information present within each individual's social network. As a result, when people receive information on or learn about potential disaster assistance alternatives directly influences their decision and/or ability to apply to various programs due to application deadlines. Although it should go without saying, it

was also apparent from the focus groups that the quality of information acquired by an individual influences their decision and/or ability to apply to various programs because the quality of information can subsequently affect issues in reference to what and where programs are available, in addition to when deadlines for application are. Interestingly, the focus group analysis revealed that whites seemed to be able to access better quality information than African Americans, in specific reference to when and where official government facilitated events took place.

The experiences that individuals have with disaster assistance organizations and organization representatives was also reported by focus group participants to directly affect whether or not they continued to actively seek out disaster assistance from different organizations. Again, the focus group analysis illustrated a story in which African American perspectives on their experiences with government and other organization representatives were far less positive than their white counterparts, which was observed in both the northern and southern focus groups. All of these dynamics illustrate that the decision to apply for FEMA's home assistance or other disaster assistance programs is not as straight forward as rational choice models would and are capable of predicting. Moreover, there are potential differences in which different racial groups access quality information about potential disaster assistance resources and the experiences they have with government bureaucracy, which could not be predicted by the statistical models used within the analysis.

Finally, although household income was not found to be a significant factor in determining whether an individual would apply of aid with FEMA or another organization, key informant interviews highlighted an interesting potential relationship

between income and an individual's choice to seek aid. For example, one county VOAD coordinator stated,

In many cases, we found that those who were impacted [by Sandy] were of solid moderate income who had never had to reach out for assistance and were very reluctant to do so. It wasn't until much later, sometimes after the closing of programs, that they faced the fact that they needed help.

Although this dynamic did not present itself as a significant factor within either the focus groups or survey analysis, it raises questions in reference to the influence of social stigmas associated with social benefits within American society. The dynamics of social stigma, although prolific within studies focused on welfare (Moffitt, 1983; Blundell et al., 1988; Blank and Ruggles, 1996; Yaniv, 1997; Riphahn, 2001), were not initially considered to be an influential factor in disaster resource seeking behavior. The reason for this lack of consideration was due to the notion that the need for disaster recovery resources is not conceptually tied to "negative" social behavior, but a byproduct of random circumstance. Therefore, participation in a disaster assistance program was not perceived by the researcher to carry a social stigma that would influence the choice to seek assistance.

Given these analyses of who applies for aid and why, the next question is whether there are biases in the way FEMA's home assistance applications were approved or denied among respondents that applied to the program. The following chapter presents the analyses performed to test the hypotheses presented in Chapter 1 that are tied to the equitable distribution of government resources with a specific eye toward racial and socioeconomic differences.

## **Chapter 5: Examining Potential Bias in the FEMA Assistance Application Process**

### **V.1 Introduction**

In the last chapter I explored the determinants of an individual applying for home repair assistance with FEMA and/or with other disaster recovery programs and organizations. In this chapter, I explore whether there are any biases in who receives FEMA assistance based on an individual's unique demographic characteristics.

Additionally, to explore the potential influence that bureaucratic discretion among home inspectors may have on an individual's success of being approved for aid, I also explore how home inspector's characteristics potentially influenced FEMA's decision to approve or deny an individual's disaster aid application. Similar to the tests used in the previous chapter, a Fisher's exact test was used to analyze any potential relationships between independent variables and an individual's approval or denial of aid by FEMA. A person's approval or denial for aid was coded as either 1 (approved) or 0 (denied). After

the Fisher's exact tests identified any statistically significant variables, these variables were then used as independent variables within various statistical models, which will be explained in the following sections. When appropriate, data from the focus groups and interviews were used to illustrate conformity or challenges to the outcomes of the statistical analyses that were performed.

## V.2 FEMA Aid Decisions and Applicant Characteristics

Fisher's tests were performed to observe whether there were any potential relationships between an individual's demographic characteristics and FEMA's decision to approve their disaster aid application. Tests included all the respondents that had incurred damages to their primary residence (n=37), which is the same subsample of respondents that were used for statistical analysis in Chapter 4 (see Table 4.1). Table 5.1 highlights the results of these analyses.

**Table 5.1: Fisher's Exact Test on FEMA's Decision to Approve Aid (n=37)**

<i>Variable</i>	<b>Approved n</b>	<b>Denied n</b>	<b>Fisher's Exact Test</b>
<i>Race</i>			
NonWhite	3	6	1
White	11	17	
<i>Employment Status</i>			
Unemployed	4	15	0.039***
Employed	10	7	
<i>Educational Status</i>			
Less than a Bachelor's Degree	4	2	0.34
Bachelor's Degree	4	7	
Graduate Degree	6	13	
<i>Household Income</i>			
Less than \$50,000	3	5	0.373
\$50,000 to \$99,999	8	6	
\$100,000 to \$149,999	2	5	
\$150,000 or More	1	5	
<i>Gender</i>			
Male	6	16	0.169
Female	8	7	
<i>Children Under 18 in Household</i>			

	None	12	19	1
	1 to 2 Children	2	3	
	3 to 4 Children	0	1	
<i>Age</i>				
	35 to 44 Years Old	0	2	0.867
	45 to 54 Years Old	2	4	
	55 to 64 Years Old	6	8	
	65 Years or Older	6	9	
<i>Type of Residence</i>				
	Single Family Home	11	15	0.477
	Other	3	8	
<i>Homelessness</i>				
	No	5	15	0.067**
	Yes	7	3	
	Refused	2	5	

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\* Significant at the 0.05 level.

\*\* Significant at the 0.10 level.

\*\*\* Significant at both the 0.05 and 0.10 level.

Of all the independent variables included in the analysis, only an individual's employment status was found to be significant ( $p=.039$ ) at the 0.05 level. Employment status was also found to be significant ( $p=.023$ ) when a one-tailed Fisher's test was performed to test the null hypothesis that the proportion of employed individuals who received FEMA assistance was the same as or greater than the proportion of unemployed people that received FEMA assistance. Although no other independent variables were found to be significant at the 0.05 level, whether or not an individual was rendered homeless by Hurricane Sandy was found to be significant at the 0.10 level ( $p=.067$ ).

Subsequent to these initial analyses, four OLS models were developed. For the same reasons expressed in Chapter 4, the OLS models used in the following analysis were developed to observe the potential relationships that various independent variables have with an individual's approval for aid by FEMA. In all four models the inclusion of respondents' individually assessed damages to their primary residence in thousands of dollars was used to help observe the affect that the level of damage inflicted on

someone's home may have on the possibility of receiving FEMA assistance. The first model observes this variable's relationship with receiving FEMA assistance, and the rest of the models respectively hold employment status, race, and the other independent variables constant.<sup>12</sup> All of the models used receipt of FEMA assistance as the dependent variable. As such, Table 5.2 highlights the results of the OLS models explaining FEMA's approval of individuals' applications.

**Table 5.2: OLS Regression on Receipt of FEMA Aid (n=37)**

<i>Variable</i>	Model 1	Model 2	Model 3	Model 4
<i>Constant</i>	0.1953 (0.0919)	0.1158 (0.1040)	0.9914 (0.1880)	-0.5358 (0.6657)
<i>Dollar Amount of Damages</i>	0.0023*** (0.0007)	0.0020*** (0.0007)	0.0020*** (0.0007)	0.0024*** (0.0010)
<i>Employment Status (Unemployed is Reference)</i>		0.2524 (0.1509)	0.2537 (0.1540)	0.4490*** (0.2087)
<i>Race (Nonwhite is Reference)</i>			0.0206 (0.1923)	-0.754 (0.4752)
<i>Gender (Male is Reference)</i>				-0.0468 (0.2167)
<i>Education Status (Less than Bachelor's is Reference)</i>				
<i>Bachelor's Degree</i>				-0.1833 (0.3193)
<i>Graduate Degree</i>				0.0073 (0.3159)
<i>Household Income (Less than \$50,000)</i>				
<i>\$50,000 to \$99,999</i>				-0.0984 (0.3126)
<i>\$100,000 to \$149,999</i>				-0.2938 (0.3713)
<i>\$150,000 or More</i>				-0.1768 (0.4100)
<i>Children Under 18 in Household (None is Reference)</i>				

<sup>12</sup> Whether or not individuals had homeowners or rental insurance in addition to whether or not an individual owns or rents their home were dropped from the OLS analysis because after missing observations were dropped from the analysis the remaining observations were perfectly correlated to the type of residence an individual had.

				0.3562 (0.3850)
				0.8121 (0.8101)
<i>Age (35 to 44 is Reference)</i>				
				1.149 (0.8036)
				1.444** (0.7080)
				1.297** (0.6913)
<i>Type of Residence (Single Family Home is Reference)</i>				
				0.2531 (0.2553)
<i>Homelessness (Not Homeless is Reference)</i>				
				0.2101 (0.2007)
				-0.7880** (0.3839)
R-squared	0.2655	0.3447	0.3449	0.6661
Number of Observations	34 <sup>a</sup>	33 <sup>a</sup>	33 <sup>ab</sup>	32 <sup>abc</sup>

\* Significant at the 0.05 level.

\*\* Significant at the 0.10 level.

\*\*\* Significant at both the 0.05 and 0.10 level.

<sup>a</sup> Three observations were dropped from analysis because respondents did not know what amount to place on damages.

<sup>b</sup> One observation was dropped from analysis because respondent did not indicate their employment status.

<sup>c</sup> One more observation was dropped from analysis because respondent did not report their household income.

The analyses indicate that there is a positive and statistically significant relationship with the amount of damage an individual's home incurs and the receipt of FEMA assistance.

This relationship holds significance across the all four models – even when all of the other independent variables are held constant.

Model two explores the relationship between an individual's receipt of FEMA assistance and the employment status of the individual. Although there is a potential positive relationship between a person being employed part- or full-time and FEMA's approval of their application, within model two, this relationship is not statistically significant. Statistical significance at the 0.05 level for employment status does occur in model four when all of the other independent variables are held constant. Model four

highlights the relationship between an individual receiving FEMA assistance and being employed either part- or full-time as positive in comparison to those that are unemployed.

### **V.3 FEMA Aid Decisions and Home Inspector Characteristics**

Because of the lack of academic research pertaining to people's experiences with FEMA home inspectors, I asked several questions within each of the focus groups that related to various aspects of participants' experiences. The questions that were used in the focus group discussions and that were also questions in the online survey centered on issues associated with representational bureaucracy, such as whether or not respective home inspectors were perceived to be of the same race and gender as the participants, where respective inspectors originated, and what participants perceived were the implications of inspectors' representativeness were probed. One issue that became apparent within the focus groups was that most of the participants within each of the focus groups had interacted with several home inspectors, and not just one. This resulted in a situation where participants could not provide specific perceptions of bureaucratic representation among home inspectors because their perception varied between the different inspectors that each participant was exposed to. Therefore, in some cases, participants had different opinions for each of the inspectors that they had experiences with. As such the analysis of participants' responses to these themes highlights this phenomenon.

#### **V.3.A Investigating Bureaucratic Representation Among Home Inspectors**

The participants in each focus group were asked three questions regarding whether or not inspectors were representative of the client communities they were serving. The first of these questions concerned gender. Participants were asked whether

the inspector that came to their homes were the same gender as themselves. According to the 2010 U.S. Census, all of the municipalities in which the focus group participants resided had similar gender demographics. In each of their respective cities, there was a composition of women that was between 49.9 percent and 51.2 percent. As previously mentioned, most of the participants had several inspectors come to their homes for various reasons; however, in all but one case, the inspectors that came to the participants' homes were all male. Interestingly, the only case in which an inspector was reported as being female came from a female participant living in Brigantine.

Well, I thought it was strange [that the inspector was a woman], just because I just expected the inspector to be a man for some reason. But, she was away from her children. She was away from her family. She – I mean, I had – thought we connected. We talked about Thanksgiving dinner. She had never had sweet potatoes in an orange before, so I sent her home with the recipe...But I felt bad. Here she's crawling under my house. It was terrible.

Although, none of the other women, or men for that matter, reported a female inspector coming to their home, this does not necessarily indicate that this was necessarily an exceptional case. County VOAD coordinators also indicated that there was a lack of gender diversity amongst inspectors; however, this perception was a byproduct of their general experiences with inspectors and not necessarily in the aftermath of Hurricane Sandy. Specifically, VOAD coordinators could not recall whether or not home inspectors were diverse in reference to gender in the aftermath of Sandy when serving New Jersey residents. But, because there was at least one female inspector reported among the focus groups, it is potentially likely that inspectors are diverse in reference to gender beyond what these participants were able to report.

The other two questions about representational bureaucracy concerned the racial/ethnic background of the inspector relative to a respective participant and whether

or not the inspector was able to effectively speak the primary language of the respective participant. All of the participants in both groups indicated that all of the inspectors that they had personally interacted with spoke their respective primary language well. This question was important in relation to the proportion of individuals that the 2010 Census reports as speaking a language other than English at home in each of the participants' respective municipalities. For the northern focus group, Asbury Park and Long Branch, New Jersey have 30.7 percent and 41.2 percent, respectively, of their populations that speak a language other than English at home. In the southern focus group, for Brigantine and Atlantic City, New Jersey these proportions are respectively 13.9 percent and 41.8 percent. However, as illustrated through the descriptive statistics indicative to both these focus groups, all of the participants reported that English was their primary language. As far as the participants in the focus groups were concerned, FEMA inspectors were representative of their clients in terms of language, but this simply reflects that there was no variation in primary language within the sample.

Alternatively, key information interviews provided a different picture. According to one VOAD county coordinator, although home inspectors were not racially or ethnically diverse, "they seemed able to get translators as needed." Moreover, the ability to utilize translators was also highlighted by county emergency management coordinators. One coordinator stated that within his jurisdiction "we did learn of a communication issue in a local community in which a particular neighborhood spoke Portuguese. As a result, FEMA was asked to bring in interpreters and develop handouts in this language, which they did, and we were able to get residents what they needed." Based on these observations, it can be inferred that inspectors may not be linguistically

representative of their client communities; however, when this poses an complication to service provision inspectors do attempt to find translators to facilitate more effective service provision, which focus group participants would not have been exposed to due to their proficiency with English.

When asked to report whether participants perceived that the inspectors that came to their homes were of the same racial/ethnic background as themselves, all of the participants overwhelming indicated that most of the inspectors were white. This was interesting when taking the 2010 Census data on racial composition of the participants' municipalities into account. Within Asbury Park and Long Branch, New Jersey, the Census reports that the proportion of whites and African Americans are respectively 36.5 percent and 51.3 percent for Asbury Park, and 65.3 percent and 14.2 percent for Long Branch. In Brigantine and Atlantic City, the proportion of whites and American Americans were respectively, 87.3 percent and 2.9 percent for Brigantine and 26.7 percent and 38.3 percent for Atlantic City. Only one participant from Brigantine reported that although several different inspectors had come to his home over the course of eighteen months, only one was not white. In this instance, he reported that the inspector was Hispanic/Latino; however, according to the participant:

I mean, you really couldn't tell he was Hispanic. The only reason I knew was because when he introduced himself his name sounded Hispanic. He didn't have an accent or anything really and he was really as fair [skinned] as I am.

It is also interesting to note that when participants were asked this question, the white participants in the southern focus group seemed very hesitant to provide an oral response. One asked, "Why is that even relevant", while the others shook their head in a confirming way. This was very different from the African Americans' responses in both groups. In

both focus groups, the African American participants were very quick to respond that, “No”, the inspectors were not of the same racial background as themselves. This dynamic was mirrored by key informant interviews with county VOAD coordinators. Although the interviewees did not expand upon their perceptions, they did state that “The FEMA inspectors were not diverse...”

Finally, many of the participants raised an interesting observation about all of their inspectors. Even though many of the participants indicated that they had several inspectors come to their homes, in no case were any of the inspectors from New Jersey. Participants indicated that through conversations with their inspectors, all of them were from various states across the country. Not all of the participants could remember where their respective inspectors came from; however, they were all able to report that they were “from out of the area.” Some places that the participants could remember their respective inspectors coming from included, but were not limited to, Arizona, California, Louisiana, Texas, Mississippi, Missouri, and Oklahoma. As a result, many of the participants indicated that their inspectors had told them that it was the first time that they had had the opportunity to inspect home damages that resulted from a hurricane. Moreover, one participant in Brigantine succinctly described issues associated with out of state inspectors that many participants agreed was the case for them as well:

...they [the inspectors] were from out of the area. So they had no concept of the cost involved to do the [repair and reconstruction] work in this area. I think my guy was from Oklahoma, but he was looking at what the cost was in the Midwest not New Jersey, where maybe a sheet of sheetrock is \$10 less out there. I mean, I don't know, where labor is probably cheaper too, because you're not dealing with any unions or any of that. So they were off – and like he came back with a total cost of \$55,000 to renovate my house, to do everything. That was no appliances or anything else. So I had a local adjustor come and look at my house, and asked him what he thought the same renovations that the other guy said would cost a certain amount would cost according to him. The local adjustor came up with

\$125,000, just to do everything that needed to be done in the house, and that was with no electrical or appliances or anything else.

Not only does this trend among the participants' experiences speak to the issues of representational bureaucracy in respect to representing the locales in which clients reside, it also subsequently affects the participant's perceptions of how competent inspectors were in reference to assessing damages. It must be pointed out, that when attempting to triangulate these findings with county emergency management coordinators, each of the interviewees were either reluctant to discuss issues of diversification of home inspectors or they indicated they simply "don't have much contact with any home inspectors" to provide an objective assessment.

### **V.3.B Perceived Competence of FEMA Home Inspectors**

Within the focus groups participants were asked to rate how knowledgeable the inspectors were that visited their homes. Along these lines, the participants were provided with a four-point scale that ranged from "Very Knowledgeable" to "Not Knowledgeable At All". Based on the way the participants answered the stimulus survey, 75 percent of all the focus group participants in both groups said that the inspectors that assessed their homes were either "Very Knowledgeable" or "Somewhat Knowledgeable". The remaining 25 percent of participants rated their inspectors as being either "Not Very Knowledgeable" or "Not Knowledgeable At All". When potential differences between regions were analyzed, it was observed that in both the northern and southern groups the majority of respondents had assessed their inspectors positively as either "Very Knowledgeable" or "Somewhat Knowledgeable" at about 70 percent and 83 percent respectively for each group. However, these beliefs varied by the race of the respondent: all of the white participants provided positive assessments of their inspectors

by choosing either “Very Knowledgeable” or “Somewhat Knowledgeable”. In contrast, about 66 percent of the African American focus group participants assessed their inspectors positively, and another 25 percent assessed their respective inspectors as either “Not Very Knowledgeable” or “Not Knowledgeable At All”.

One of the reasons that participants said that their respective inspectors were not knowledgeable was tied to where the inspectors came from. As was previously discussed, all of the participants described that none of the inspectors were from New Jersey. Not only did this affect the specific dollar amounts specified by the inspector to pay for repairs, the participants also stated that this had also affected the inspectors’ capacities to fully assess the damages to their property. One African American female participant in the northern focus group who had had several inspectors come to her home stated,

They [FEMA] had adjusters coming from all over. A lot of those adjusters were not familiar with these types of disasters, someone coming from the Arizona desert is not familiar with floods on the beach, somebody coming from Mississippi is not familiar with the cost of living here...FEMA has to either train the people they send out or make sure that the people they send are familiar with the types of disaster unique to the areas that they’re sending them to.

Although many of the participants complained that their inspectors’ state of origin had negatively influenced the cost estimates of repair in addition to potentially missing other important damaged aspects of their home, not all experiences were bad. Another African American woman from the northern focus group indicated that,

The FEMA inspector I had was from Mississippi and he had been down in Louisiana for years. He’d been dealing with stuff in Louisiana because they kept him down there after Katrina and he came up here. So I think he knew what to look for, but I mean, I don’t know, I’m not a contractor, I don’t know what to look for. That’s what they’re there for, they’re supposed to tell me what needs to be repaired cause I don’t know...

This final statement from this woman seemed to be indicative of many of the participants in both groups. Many of the participants, whether they had initially evaluated their inspectors as knowledgeable or not, realized they were not really in any position to know whether or not the inspector actually was knowledgeable about their jobs. Generally, they felt their inspector was knowledgeable based on the confidence with which an inspector answered their questions; however, because of their own lack of knowledge about assessing damages, many respondents indicated that the inspector could have lied to them and they would not have known the difference.

Another issue that developed throughout the focus group discussions was the participants' perceptions of the inspectors' knowledge of FEMA policies. All the participants in both focus groups related that even if the inspectors were knowledgeable about how to assess the damages to their home, on average they admitted that they had no idea what FEMA policies stated about what, how much, or even when the participants might receive assistance. For example one male participant in the southern focus group stated,

I would say they [the inspectors] were knowledgeable about their particular area, but I don't think they were knowledgeable about what FEMA's going to do.

Another female respondent who had also said that the inspectors were knowledgeable about assessing the damages to her home indicated

...no, I don't think they're knowledgeable about the FEMA policy and procedure, but they were knowledgeable about their specific area of expertise. Like I said, the guy, he didn't even have to come into our apartment. He could see the mold, and he just said, hey you got mold here. But then again, he couldn't tell me that... FEMA's going to handle that...

Subsequent to these statements, which were also echoed in the northern focus group, it was the overall sentiment in both groups that FEMA as an organization should had better

trained the inspectors to know more about the assistance application process, and, more specifically, what FEMA would and would not cover in the assistance program.

Although many of the participants did not hold the inspectors personally at fault for this lack of knowledge, they did feel that, as an organization, FEMA was deficient in its training of these individuals because the inspectors' lack of knowledge in this area was disheartening to many participants, who, themselves, were unclear about the FEMA assistance process.

### **V.3.C Perceived Effects of Inspector Representativeness and Competence on FEMA's Approval of Aid**

Finally, to observe the perceived impacts of the representational bureaucracy and competency on an individual's success of being approved for aid, participants were asked two questions about whether or not they believed that they were treated fairly by their home inspectors. First they were asked, "Do you feel you were treated fairly or unfairly by the inspector that you interacted with?" To this question there were two general responses within both focus groups. One reaction to this question was the general sentiment that they just were not sure. For example one white woman from the southern cohort said,

I think at that point [when the inspector actually showed up] I was not prepared for the inspector, and I was just not knowledgeable enough to know what was happening. I think that's the truth. I think at that point I was more worried about nice or not nice, okay, I guess they're – I'm assuming they're doing their job. I'm assuming their doing their job.

In the northern cohort, more than half of the participants said that they did not know whether or not they were treated fairly. One African American woman summarized all of their feelings of ignorance by saying,

No, he [the inspector] was very polite and mannerable, but I don't know, since I didn't know what they were looking for, I don't know whether it was fair or unfair...

According to the participants, their lack of knowledge about the FEMA inspection process and/or the application process did not allow them to make a truthfully accurate assessment of the fairness of their inspectors. However, this was not the case for everyone.

The other general reaction to this fairness question was negative. Perceptions of unfairness were most prominent in the northern focus group, which was also reflected by two African American individuals in the southern focus group. Interestingly, in both focus groups, the individuals that perceived the inspectors to be unfair were African American. In an oral exchange between two male African American participants in the northern group, they indicated that

...I feel like I inconvenienced him [the inspector]. He come in and he just looked through here and I asked him a couple of questions and he didn't want to answer me...He was in and out.

The inspector, I mean, he made me feel the same way, like you know, he didn't have time to even do anything. He was in and out before – he wouldn't answer my questions either.

In the southern focus group these sentiments were also expressed by participants. One African American woman in the southern focus group recounted

I think he was unfair. I don't even think he explained to me. He identified who he was. He did not explain the process, although I had known the process, because I had spoken to – the hearsay...I really honestly could say that I don't think my inspector cared. I think he – it was just a job that came up on his phone and he went to it...

As indicated previously, some participants said that although they had come in contact with some inspectors that they perceived to be unfair, because several different

inspectors came to their home they did not want to make blanket statements about all of them. In these cases, the participants did not necessarily attribute differences in damage assessments to an underlying issue of fairness, but a lack of standard competence across all of the inspectors.

You know what that also could have come from [feelings of unfairness]?  
Different inspectors.

Different inspectors?

That's exactly what I'm saying, one inspector may come, and he may see things this way and then the other guy goes and he sees it another way. So that's the problem, the people that they [FEMA] had as inspectors, you don't know whether or not they were all really trained properly, that's what I'm saying.

This type of sentiment was also discussed in reference to the number of inspectors that would inspect different homes within each of the participants' neighborhoods. Many of the participants in the northern focus group spoke about the fairness of different inspectors in relation to the FEMA assistance they received and the assistance that others in their neighborhood did not receive with similar damages to their home. One African American male participant in the northern focus group said,

I live over by the poultry farm and there's just seven houses on my street. And a different investigator, the one I had dealt with one other house on my street and the other houses were by this other investigator. I got some money for my damages, but my neighbors that got the other guy didn't get nothing. They basically had the same damage as I did, but didn't get no money. So they [my neighbors] called FEMA back and requested that the inspector I had come back out and speak to them because they were treated totally different...[T]he guy I had really explained the process to me. And I think I was lucky in that he explained what was going to happen. He said FEMA's not really going to help you. We'll give you money for a room and that's it. But my neighbor's guy didn't tell them nothing. Not a damn thing, didn't answer questions, didn't say what to expect, nothing.

Although participants viewed these differences among their neighbors as unfair, they were also wary of directly saying that the individual inspectors were intentionally unfair

or whether the perception of unfair practices was a product of a lack of training and knowledge about the process among different inspectors.

Secondly, participants were directly asked whether they had felt that the inspector/inspectors they had had contact with discriminated against them in some way. The members of the northern focus group emphasized issues of perceived racial discrimination within the FEMA assistance application process. Moreover, the notion of discrimination was only prevalent in the minds of African American participants. White focus group participants did not feel that they had been discriminated against in any way, and even thought the researcher's questioning was leading and bias. Notions of discrimination were most prevalent within the discussions of the northern focus group; however, there were two reactions to the question on discrimination. The first was that participants did not feel that their inspectors were discriminatory, but rather they were emphatic that FEMA as an organization was. One female African American participant in the northern focus group said,

I felt the inspector was fair. I think FEMA was unfair, and even racist. I'm not going to blame him [the inspector] for what FEMA didn't do.

Additionally, one male African American participant in the southern focus group said,

My inspector was fair, even if he was a little cold. But, at the end of the process was a guy that calls me up from Austin, Texas for FEMA. I know this because he pissed me off and I didn't appreciate the conversation, because when he looked at my credit report, he saw something on my credit report. So I said, "Sir, stay on the phone. I will call the IRS at that 800 number. I'm at my desk. I'm a probation office, so there's certain numbers I have. I will put you on three-way and let the IRS tell you that that information is wrong." He said he can't do that. He then asked me what my race was, and some other things, which really pissed me off! And I'm like, "Sir, this is really – I think this is unfair. And you might be in Texas and this flood is not affecting you, but I am in New Jersey, and this flood is affecting me. And currently I am homeless. We are kind of like counting on this. And if you're telling me that this is what's going to hold me up, then let me at least correct it [the incorrect credit information]." I said, "I'll tell you what. Give

me 24 hours to correct this and have them...” He didn’t want hear anything. So in order to make a long story short, he hung up on me. Within I’d say about three hours, he disapproved me, and for that reason. It was FEMA, or whoever was working for or with FEMA that treated me like that, not the inspector. Again, I’ll give credit where credit is due, but I’m not the one that really has high regard for FEMA.

The other reaction to the question of discrimination was less direct. Although many of the participants were supportive of the statement that they felt FEMA as an organization was discriminatory, they were unsure where FEMA as an organization’s discrimination started and ended in relation to the inspectors. For example, one African American woman in the northern focus group stated,

... that’s the thing, the inspector goes and he observed, he assesses everything, but he has to bring that information back to FEMA, so he has a big part to do with what FEMA is going to give you. So it goes hand in hand in my eyes. If the inspector is racist then you’re not gonna get anything.

Another African American woman responded to this comment by saying,

...but they can only report, they don’t actually talk to FEMA like you would expect. It’s still up to FEMA not the inspector. But if FEMA had questions about the inspector’s assessment, they should have sent another inspector, which they didn’t do in my case. So I think that it’s FEMA’s fault not the inspector’s.

This discussion prompted the following discussion between three other African American participants:

Not to cut you off, but I think that they [the inspectors] have a lot of say in what they’re really reporting, because he can say, oh, this is not, they’re not going to pay for this, and they’re not going to cover this and they’ll cover that. He is the person that’s going to give FEMA all the information.

What he does is write up a report on what he sees.

I felt like – I don’t think – he doesn’t have to necessarily write it down at all.

Exactly! He can tell you he’ll report everything he sees, and then go to the car and be like, “She won’t get shit.” So yeah, you get the decision from FEMA, but in reality it was the inspector that made the unofficial decision when they met you. I mean I can’t prove that they were racist [the inspector], but they hold the keys to

the kingdom. They tell FEMA what you should get and what you shouldn't get. FEMA just processes the information whether it's biased or not, they [FEMA the organization] doesn't care either way. They just want to get inspections processed so they can say they did their part.

Yeah, the government does that shit – oh excuse me – does that stuff with welfare. You talk to a person who says you qualify for this or that based on what they see or what is reported to them and they make a decision based on whether they think you should personally get it. If they do it for that, why not this?

Despite the lack of consensus among focus groups in reference to notions of discrimination and fairness, there was a notable difference in the way African Americans and Whites responded to these types of questions. Because of the lack of discussion among white participants, it was unclear to what extent that issues of representational bureaucracy may have influenced FEMA's decision on their respective assistance applications. For African American participants this was not entirely the case. Within African American responses there was an expressed concern not only with general notions of bureaucratic discretion among home inspectors, but also for the potential of individual racist sentiments among inspectors to influence how inspectors report what they observe to FEMA. Although participants generally avoided labeling their inspectors as biased, all of the participants did acknowledge that the states from which their respective inspectors originated may have had a significant impact on the way damages were assessed and reported to FEMA, which could have subsequently affected the success of their applications. Specifically, variation in the level of knowledge among inspectors in reference to how to assess damages and what damages they believed FEMA would cover was perceived to vary by their state of origin, which fostered perceptions of incompetence and a lack of training that was viewed to be detrimental to the success of individuals' respective success of being approved for aid.

### V.3.D Testing the Relationship between Inspector Characteristics and FEMA’s

#### Decisions

The focus group discussions highlighted the potential effects of bureaucratic representation and potential problems associated with a federal agency outsourcing services to third-party organizations (i.e. lack of training and incompetence among staff), and the potential effects this may have on service provision. To more empirically test these dynamics the online survey also asked respondents questions about the racial and gender representation of home inspectors. Additionally, the instrument asked respondents whether or not the home inspectors they interacted with were known to originate from the same state as themselves. Because not all of the survey respondents that incurred damages to their primary residents had interactions with home inspectors, those that did not were dropped from this section of the analysis. Therefore, in order to investigate the potential effects of representational bureaucracy and bureaucratic discretion only 27 respondents were capable of being included in the subsequent analyses.

**Table 5.3: Descriptive Statistics of Respondents that Applied for FEMA Assistance (n=27)**

<i>Variable</i>	Frequency	% of Sample	<i>Variable</i>	Frequency	% of Sample
<i>Race</i>			<i>Age</i>		
White	18	66.6	35 to 44 Years Old	2	7.4
Nonwhite	9	33.3	45 to 54 Years Old	3	11.1
<i>Educational Attainment</i>			55 to 64 Years Old	10	37
Less than a Bachelor’s Degree	6	16.2	65 Years or Older	12	44.4
Bachelor’s Degree	9	33.3	<i>Gender</i>		
Graduate or Professional Degree	11	40.7	Male	14	51.8
Refused	1	3.7	Female	13	48.2
<i>Number of Children within the Household under 18</i>			<i>Employment Status</i>		
None	22	81.5	Unemployed	13	48.2
1 to 2	4	14.8	Employed	13	48.2
3 to 4	1	3.7	Refused	1	3.7
<i>Household Income</i>			<i>Rendered Homeless</i>		

Less than \$50,000	8	29.6	Yes	10	37
\$50,000 to \$99,999	11	40.7	No	10	37
\$100,000 to \$149,999	4	14.8	Refused	7	26
\$150,000 or More	4	14.8			
<i>Type of Residence</i>					
<i>Own or Rent</i>			Single Family Home	20	74
			Other	7	26
	Own	25	92.6		
	Lived with Someone Else	2	7.4		
<i>Home or Rental Insurance</i>					
<i>Approved for Aid</i>			Yes	24	88.9
			No	1	3.7
			Refused	2	7.4
	Yes	14	51.9		
	No	13	48.1		
<i>Gender of Inspector Same as Respondent</i>					
<i>Race of Inspector Same as Respondent</i>			Yes	12	44.4
			No	10	37
			Sometimes	0	0
			Don't Remember	2	7.4
			Refused	3	11.1
	Yes	12	44.4		
	No	8	29.6		
	Sometimes	1	3.7		
	Don't Remember	3	11.1		
	Refused	3	11.1		
<i>State of Origin of Inspector Same as Respondent</i>					
	Yes	1	3.7		
	No	19	70.4		
	Sometimes	1	3.7		
	Don't Remember	3	11.1		
	Refused	3	11.1		

Table 5.3 highlights the descriptive statistics of the 27 survey respondents that had interactions with home inspectors. Almost all of the respondents owned the home that were damaged by Hurricane Sandy (92.6 percent) and the majority of these residences were single-family homes (74.0 percent). There was almost equal representation within this subsample of male and female respondents (51.8 and 48.2 percent respectively), equal representation of employed and unemployed respondents and respondents that reported to be rendered homeless by Hurricane Sandy. Racially, 66.6 percent of the subsample reported themselves to be white, whereas 33.3 percent reported to be African American. The majority of these respondents were 55 years of age or older (81.4 percent), had a bachelor's degree or higher (74 percent), and had a household income of less than \$100,000 (70.3 percent). 29.6 and 37.0 percent of this sample

respectively indicated that the home inspectors they interacted with were not perceived to be from the same racial/ethnic background as themselves, or of the same gender.

Additionally, the majority of respondents (70.4 percent) indicated that the inspectors that they had interacted with had not originated from New Jersey. However, only one respondent in the sample indicated that they had encountered an inspector from the same state as themselves (see Tables 5.4, 5.5, and 5.6). As a result of this lack of variation, statistical analyses that would utilize the state of origin of an inspector as a variable could not be performed. Finally, about 52 percent of the respondents had been approved for aid by FEMA, whereas, about 48 percent had had their FEMA applicants denied.

**Table 5.4: Crosstab of Respondent's Race & Inspector's Perceived Race**

Inspector's Perceived Race	Race of Respondent	
	Non-White	White
Not the Same	7	1
Same	0	12
Sometimes the Same	0	1
Don't Remember	2	3
Total	9	15

**Table 5.5: Crosstab of Respondent's Gender & Inspector's Gender**

Inspector's Gender	Gender of Respondent	
	Male	Female
Not the Same	1	9
Same	11	1
Sometimes the Same	0	2
Don't Remember	0	0
Total	12	12

**Table 5.6: Crosstab of Respondent's State & Inspector's State of Origin**

Inspector's State	New Jersey
Not the Same	19
Same	1
Sometimes the Same	1
Don't Remember	3
Total	24

Similar to the other analyses performed throughout this research, Fisher's exact tests were used to explore potential relationships between inspectors' race, gender, and state of origin and FEMA's decision to approve an individual's assistance application. The results of the Fisher's tests yielded no apparent relationships between these variables at either the 0.05 or 0.10 levels. However, because of the perceived importance of these variables among focus group members, in addition to the theoretical implications of these variables as described in Chapter 1, three OLS models were developed to relationship between an inspector's characteristics and FEMA's decision to approve an individual's assistance application. In all three models the inclusion of respondents' individually assessed damages to their primary residence in thousands of dollars was used to help observe the affect that the level of damage inflicted on someone's home may have on FEMA's decision to approve their respective assistance application. This variable that is specific to the respondent and not the inspector was included because of its observed significance in FEMA's decision to approve aid simply based on individual applicants' characteristics. If the assessed damage of an individual applicant's home is truly as significant in FEMA's determination of aid, then this variable should continue to hold significant when held constant along with the characteristics of respective home inspectors. If this is not the case, it the models will help to illustrate how the potential impact of bureaucratic representation and discretion on FEMA's decision to approve an individual's application for assistance.

**Table 5.7: OLS Regression on FEMA's Decision and Inspector Demographics (n=27)**

<i>Variable</i>	Model 1	Model 2	Model 3
<i>Constant</i>	0.3332 (0.1304)	0.3226 (0.2097)	0.4508 (0.3736)

<i>Dollar Amount of Damages</i>	0.0017*** (0.0008)	0.0018*** (0.0009)	0.0016 (0.0010)
<i>Race of Inspector Same as Respondent (No is Reference)</i>			
Yes		0.1167 (0.2374)	0.0631 (0.2860)
Sometimes		-0.3780 (0.5135)	-0.3759 (0.5426)
Don't Remember		-0.2480 (0.3362)	-0.3680 (0.5430)
<i>Gender of Inspector Same as Respondent (No is Reference)</i>			
Yes			-0.1221 (0.3024)
Don't Remember			0.1068 (0.6678)
R-squared	0.1610	0.3040	0.3158
Number of Observations	25 <sup>a</sup>	22 <sup>ab</sup>	22 <sup>ab</sup>

\* Significant at the 0.05 level.

\*\* Significant at the 0.10 level.

\*\*\* Significant at both the 0.05 and 0.10 level.

<sup>a</sup> Two observations were dropped from analysis because respondents did not know what amount to place on damages.

<sup>b</sup> Three observations were dropped from analysis because respondents did not answer survey questions in relation to inspectors.

Table 5.7 highlights the results of the OLS models explaining FEMA's approval of individuals' applications holding the characteristics of inspectors constant. All of the models use FEMA's approval of an individual's application as the dependent variable. The first model observes the relationship between assessed damages and an individual's home on FEMA's decision to approve an individual's application, and the rest of the models respectively hold the race and gender of the inspector(s) constant. As expected, the amount of assessed damages to an individual's home is statistically significant and positively related to FEMA's decision to approve a respective application. Again, the relationship between the amount of damages incurred on an individual's residence and FEMA's decision to approve an application stays positive and significant when the perceived race of the inspector is held constant in model 2. However, the amount of damages loses significance ( $p=0.159$ ) when the gender of the inspector is held constant in addition to the race of the inspector in model 3.

#### **V.4. Summary**

The initial analyses performed in this chapter tested notions of discrimination in the receipt of FEMA assistance have been raised anecdotally within the previous research investigating discriminatory practices in FEMA resource allocation to individuals. Based on the analysis of the online survey instrument, this research finds that receipt of FEMA assistance does not appear to be biased by an individual applicant's race. With the exception of an applicant's employment status, no individual demographic characteristic exhibits statistically significant relationships with the receivership of FEMA assistance at the 0.05 level. Although being employed part- or full-time was positively related to FEMA's decision to approve an individual's disaster assistance application, the reason for this is unclear. What seems to be most apparent is that receivership of FEMA assistance is positively related to the amount of damage an individual's residence incurred from Hurricane Sandy. As such, there is not sufficient evidence to conclude that FEMA's decisions to grant aid to individuals is biased toward or against certain social groups. But this observation should be taken carefully due to the small number of respondents involved in this sample.

Subsequent to analyses performed to observe potential racial biases in FEMA's decision to approve an individual's disaster assistance application, I examined the role of representational bureaucracy and an individual's success of being approved for aid by FEMA. The reasons for these analyses were both to explore potential theoretical explanations for why certain individuals are able to gain resources from government agencies that are prolific within extant literature, but also because of the perceived affect that these bureaucratic dynamics were potentially expressed to have by focus group

participants. As such indicators of how representative home inspectors were in relation to their clients were developed and used within a variety of OLS models. The assessed amount of damage to individual respondents' homes were included in these analyses to help observe the effect that bureaucratic dynamics may have on FEMA's decision to approve assistance and how it may change damages are held constant. Despite the fact that none of the African American respondents indicated having interacted with an inspector that was perceived to be the same race as them and that a little over a third of respondents indicated that their inspectors were not the same gender as themselves, the regressions indicated that the representativeness of home inspectors were not significant factors in FEMA's decision to approve assistance. Finally, within the focus groups, participants perceived that an inspector's state of origin could played a major role in FEMA's decision to approve an individual's application. Because there was only one survey respondent that indicated their inspector(s) was from the same state as themselves, OLS models could not be performed; however, the lack of state representativeness in inspectors among the rest of the sample suggests that home inspectors that disaster survivors interact with are commonly not from their respective states, which may affect individuals' ability to receive aid as previously explained.

Overall, these results raise several questions. First, if FEMA's decision to approve disaster assistance is primarily based on an individual applicant's level of assessed damage and not other personal characteristics, as the statistical analysis points to, why is it that there continues to be such as prolific and continuing discussion about bias in individual FEMA resource allocation among minority applicants? Second, although the empirical analyses presented here indicate that there does not appear to be

racial biases in FEMA's decisions, nor are there observed negative consequences resulting from an nonrepresentational bureaucracy, why is it that focus group participants perceive negative dynamics to be at play in federal disaster resource allocation? And lastly, could an inspector's state of origin have a potential effect on FEMA approving or denying an applicant's application for disaster assistance? In response to these questions, the following chapter discusses the findings of this research and provide some potential explanations for the discrepancies between individuals' perceptions and what was observed in the statistical analysis.

### **Chapter 6: Summary and Discussion**

This dissertation explored the relationship between disaster survivors' individual characteristics and their respective ability to successfully receive disaster home assistance from FEMA. Specifically, I sought to answer the question of whether or not there are any racial biases in the way FEMA allocates aid to disaster victims. I approached answering this question from a public administration point of reference that argues that potential issues of bias may stem from a lack of racial/ethnic representation and bureaucratic discretion in service provision within FEMA's bureaucracy, specifically in reference to home inspectors. Hurricane Sandy was used as the disaster under investigation, and New Jersey residents that sustained damages to their primary residence as a byproduct of this storm were used as a sample population.

Through the use of focus groups, an online survey instrument, and key informant interviews, I explored my question in two steps. First, I observed whether there were any individual determinants of an individual applying for disaster assistance with FEMA and/or other disaster relief organizations/programs. Second, I observed whether there were any relationships between an individual's racial characteristics and them being granted disaster home assistance by FEMA. The following sections highlight the findings of this research and situates them in current discussions within the disaster and public administration literature. Policy recommendations are provided as a guide for enhancing community resilience, and limitations to this research are presented to guide future research.

#### **VI.1 Seeking Disaster Assistance**

For this step of the research I relied on traditional theories of rational choice to develop a theoretical framework for why individuals may or may not apply for disaster assistance. Based on previous sociological research that has observed relationships between household income, education status, and social marginalization and disaster assistance seeking (Rubin and Popkin, 1990; Miller and Simile, 1992; Rovai, 1994; Dash et al., 1997; Fothergill and Peek, 2004), this research explored the potential relationship between education status, household income, race, gender, and a number of other demographic variables and a person's choice to apply to a disaster assistance program. However, because traditional rational choice models assume too much in respect to an individual's ability to efficiently and objectively evaluate all of their potential decisions, theoretical concepts of bounded rationality were used in an attempt to better explain what

may truly be contributing to an individual's decision to apply for disaster home assistance.

As a result of the statistical analyses, I found that individuals who were rendered homeless by Hurricane Sandy was positively related to applying to FEMA's public home assistance program in comparison to those who were not rendered homeless. Those who were rendered homeless by Hurricane Sandy did not tend to come from households of low socioeconomic status as past research on disasters has suggested (Katayama, 1992; Phillips and Ephraim, 1992), but across all socioeconomic categories. Moreover, within the survey sample, all individuals who were rendered homeless by Hurricane Sandy applied for aid with FEMA. From the statistical analyses performed, no other demographic characteristics of disaster victims who incurred damages to their primary home were statistically significant in explaining whether or not they would apply to FEMA for home assistance. I found that those individuals who did not apply to FEMA's public assistance program also did not apply to any of these other types of programs; thereby providing some evidence against arguments of potential service substitution that may influence people not to apply to FEMA's disaster assistance programs. However, the explanation for this finding is unclear. As indicated by some focus group participants, many non-FEMA disaster assistance programs required a FEMA application identification number. Thus, if an individual did not apply to FEMA first, they would be disqualified from being able to apply for aid with other programs. Therefore, the lack of assistance program substitution maybe more of a byproduct of procedural rules as opposed to individual choice.

Due to the lack of observed relationships when using a traditional rational choice perspective to determine what may influence an individual's decision to apply for aid, notions of bounded rationality were explored. In this regard, data from the focus groups and interviews provided evidence in support of bounded rationality explanations that may influence people's decision to participate in a governmental program. Specifically, the timing of information about available resources, the availability of information about disaster assistance resources available to potential applicants, in addition to the experiences individuals had with disaster relief program representatives were all factors that either limited their choice of decision alternatives or that demotivated them from seeking alternative disaster resource programs. Moreover, when individuals did find out about informational events and potential places where they could apply for resources, issues such as transportation, child care and work difficulties restricted them from getting to the designated locations, which has been found to render people access to disaster resources in the past (Morrow and Enarson, 1996; Dash et al., 1997; Fothergill and Peek, 2004). Finally, the major finding of this portion of the dissertation is that disaster victims overwhelmingly relied on their own personal social networks or social capital in order to gain access to information about available disaster recovery resources, despite reported attempts by FEMA to engage and educate the public about their options (see Chapter 2). Interestingly, this occurred across all socioeconomic, education, and racial categories, reaffirming the importance of social networks to find and access information about disaster recovery resources.

## **VI.2 Social Capital and Disaster Information Dissemination**

The concept of social capital refers to the connections between people, such as their social networks and the norms of reciprocity and trustworthiness that develop alongside or as a byproduct of these connections (Putnam, 2000). According to Coleman (1988), social capital is a resource that community members can utilize in order to facilitate and pursue mutually beneficial interests, such as disaster recovery (Rivera and Nickels, 2014). Although there are a variety of types of social capital, in addition to a number of different benefits that have been argued to stem from an individual having a diffuse and diverse social network, in the context of this research access to information on disaster recovery resources is of prime importance. Several researchers have argued that both dense and diffuse social networks can serve as sources of financial, informational, material, and emotional support disaster settings (Riad et al., 1999; Kaniasty and Norris, 2000; Peguero, 2006; Chamlee-Wright and Storr, 2009; Aldrich, 2010 and 2012; Rivera and Nickels, 2014). Social capital has been proposed to increase information diffusion about evacuation orders, response efforts, and vulnerability, which can decrease overall losses in a specific locations when traditional government sources of information are inaccessible, not trusted, or generally lacking. Moreover, these same social networks have the ability to more easily disseminate information about disaster recovery resources and reconstruction efforts, to signal displaced individuals when it is appropriate to return home, and to inform people as to the whereabouts of loved ones and other information that disaster victims and their families find important (Peguero, 2006; Chamlee-Wright and Storr, 2009; Elliot et al., 2010; Hawkins and Maurer, 2010; Hilfinger Messias et al., 2012; Aldrich 2012; Rivera and Nickels, 2012). However,

despite the growing literature on the use of social capital in disaster recovery most if not all studies lack attention to how, when, and why disaster victims in the United States context rely on social networks to access information on governmental resources.

Because prior studies have not emphasized the importance of social capital in the acquisition of information about disaster recovery resources, I did not specifically expect social capital to play such a vital role in people's decisions to apply for disaster assistance. According to Katungi et al. (2008), social capital enhances information diffusion on disaster resources in at least two ways. First, it reduces the cost of information acquisition because it can be acquired passively through social interactions or actively by individuals that previously know one another. Second, social capital has the potential to overcome questions about the reliability of the information, due to the information typically being disseminated among and between people that information receivers trust. Several researchers have argued that these subsequent informational benefits of social capital are particularly evident in historically marginalized communities where a historic lack of governmental concern and marginalization has physically and psychologically isolated populations to the point where they distrust information from formal government authorities (Peguero, 2006; Chamlee-Wright and Storr, 2009; Colley and Collier, 2009; Hawkins and Maurer, 2010; Elliot et al., 2010; Hilfinger Messias et al., 2012; Aldrich 2012; Rivera and Nickels, 2014). Although these researchers do not argue that non-marginalized communities do not utilize social capital in order to find information, they do argue that non-marginalized communities have a greater tendency to rely on traditional governmental informational sources on impending disaster events and disaster recovery resources, which places a lower need for individuals within these

communities to specifically rely on social capital for these particular informational needs. Rather, individuals that are better positioned to access information on disaster response and recovery and understand the information, such as those that are more highly educated, have reliable access to the internet, and/or who know individuals that work in public safety professions, stand a greater chance of knowing about and accessing disaster recovery resources.

However, what is assumed across all these studies is that although some segments of society may have more or less access to disaster recovery information, due to individual or social dynamics, the information is readily available to the public if one were to proactively search for it. In Chapter 2, I presented a description of what FEMA reported as their “successful” outreach strategies during the aftermath of Hurricane Sandy in an effort to educate people about government support programs and disaster recovery resources. Although FEMA viewed the employed strategies as generally successful, this research found that individuals relied on their own personal social networks and person-to-person interactions to not only learn about disaster recovery resources they may qualify for, but also where they may be able to apply for these resources. Even though this finding was observed among African Americans, it was also observed among whites of all socioeconomic backgrounds. The observed reliance on social networks in order to acquire disaster recovery resource information across both racial groups and across all socioeconomic categories, which all the participants stressed was not a byproduct of preference but of need, points to the significance of social capital in disaster victims’ ability to access recovery information across all social groups and not just in historically marginalized groups. Moreover, from a public administrative perspective it questions the

actual effectiveness of outreach strategies utilized to disseminate recovery information by FEMA, and other disaster recovery organizations.

The importance of social networks has been acknowledged by FEMA for many years as a means of disseminating important information throughout the public. In his statement to the Senate Subcommittee on Homeland Security and Governmental Affairs and the Subcommittee on Disaster Recovery and Intergovernmental Affairs, Craig Fugate (2011, p. 2) argued that,

...emergency management recognizes that individuals, families, and communities are our greatest assets and the keys to our [FEMA's] success. In order to fulfill our mission, we must recognize that the public is an important participant in the emergency management community and that we must work together as one team. The notion of treating the public as a resource rather than a liability is at the heart of our emergency management framework.

In line with this perspective, in the aftermath of Hurricane Sandy FEMA reportedly set up neighborhood task forces and disaster recovery centers, arranged 55 town hall meetings that reached 5,000 people, reached out to the nonprofit, private and faith-based organizations, and helped support Voluntary Organizations Active in Disasters (VOADs) to help disseminate information about disaster recovery and provide direct support to survivors (FEMA, 2013). The agency, alongside with the American Red Cross and the U.S. Department of Veterans Affairs, also created a smartphone application to provide information about the impending storm, how to prepare for the storm, and where survivors may could locate shelters to responders and survivors. According to FEMA (2013), this phone application was downloaded by 55,000 users in the aftermath of Sandy. Additionally, FEMA used Facebook, Twitter, and YouTube as a means of disseminating disaster response and recovery information, which have been shown to be extremely helpful in emergency warning response and recovery since 2010 (Veil et al.,

2011; Yates and Paquette, 2011; Bruns et al., 2012; Bruns and Burgess, 2012; Hjorth and Kim, 2011; Dufty, 2015). The intention of all of these strategies was to provide needed information to at least a subset of the disaster-affected public, and through social networks and individual's social capital, pertinent information about disaster recovery resources would be dispersed throughout the survivor population. But, the use of these technological platforms was vulnerable to widespread power and cell phone outages that plagued the disaster area (FEMA, 2013).

As acknowledged by FEMA, despite the efforts made to disseminate information technological limitations restricted the diffusion of this resource both to potential social network hubs and also among social networks. Moreover, although various face-to-face interactions with the public were facilitated, I found evidence that disaster victims were still not able to receive pertinent information in a timely manner through official lines of communication. Although one policy recommendation would be to create better technological protocols in an attempt to overcome these limitations so that the potential benefits of social capital have the ability to more effectively manifest, this recommendation is not entirely convincing. There will always be situations when technologies fail to deliver its intended services to the end-user, both in times of normalcy and disaster. If technology is solely relied upon as a means of building community resiliency, then it will only be beneficial when it operates under preconceived operating parameters and create a more vulnerable public when it does not (Miller and Rivera, 2008). Moreover, when technological prescriptions are implemented just prior to or after a disaster event, many potential users may not be able to use the technology, let alone know of its existence. As a result, emergency management policies should focus

on not only on broadly educating the public in times of normalcy in reference to where and how disaster survivors may gain access to disaster recovery resources, but also further the facilitation and development of disaster cultures/subcultures within communities that are vulnerable to disasters alongside governmental authorities, which have been observed to enhance social capital benefits in the aftermath of disasters both domestically and abroad (Rivera, 2014).

### **VI.3 Potential Biases in the Disaster Aid Application Process**

The second step of this research explored whether there were any racial/ethnic biases in FEMA's granting of disaster home repair assistance at the individual level. This portion of the research used a public administration theoretical framework, specifically borrowing from the literature on bureaucratic representation, street-level bureaucracy and bureaucratic discretion to empirically test notions of racial bias in the allocation of disaster aid. First, I observed the relationship between individual demographic characteristics of disaster aid applicants and their approval by FEMA for home repair assistance. As a byproduct of the statistical analyses, I did not find any statistically significant evidence that FEMA allocated aid with any preference to specific racial groups. Moreover, with the exception of an individual's employment status, no other demographic variables were found to significantly affect an individual receiving aid. In reference to an individual's employment status, these results seem to support the work of Bolin (1993) indicating that those individuals that are employed, either full- or part-time, have a better chance of receiving disaster aid from federal agencies. Alternatively, the only variable that was positively related to an individual's success of securing FEMA assistance was the amount of damage an individual incurred to their primary residence as

a result of Hurricane Sandy. As such, there is not sufficient evidence to conclude that FEMA's decisions to grant aid to individuals is biased toward or against certain social groups. However, due to my research's small sample size, the possibility of a Type II error should not be ruled out. What these analyses do point to is that FEMA seems to allocate aid to those that are most in need, which in this situation are those individuals with higher amounts of damages to their primary residences.

Although employment status may not appear to bias social groups, when one thinks more holistically about unemployment trends these findings become more interesting. Employment status is not causally related to race or ethnicity; however, the notion that those that are employed part- or full-time have a higher probability of being approved for aid is interesting. According to the U.S. Bureau of Labor Statistics (2015a), nationally in 2012 African Americans over the age of sixteen experienced almost double the rate of unemployment in comparison to their White counterparts (15.0 percent and 7.4 percent respectively). Within the same year, New Jersey experienced similar trends to that of the national unemployment rate with 15 percent of African Americans and 8.9 percent of White New Jersey residents experiencing unemployment (U.S. Bureau of Labor Statistics, 2015b). In 2013, the unemployment rate decreased for both of these groups in New Jersey; however, African American residents of New Jersey still experienced almost double the rate of unemployment (13 percent) in comparison to their White counterparts (7.5 percent) (U.S. Bureau of Labor Statistics, 2015c). Although this dissertation does not find direct evidence that an individual's racial category affects the probability of an individual receiving FEMA aid, unemployment trends seem to point to a potentially interesting relationship. It may be that race does not directly affect the

probability of an individual receiving aid from FEMA; however, if an individual's employment status is significant in FEMA's decision, and unemployment rates tend to be higher for one racial group in comparison to another, there may be latent institutional racial dynamics at play within the FEMA assistance decision process that unintentionally bias certain racial groups.

Second, and based in public administration theory, I observed the relationship between the bureaucratic representativeness of FEMA home inspectors and the success of an individual being approved for aid by FEMA. The reasons for these analyses were both to explore potential theoretical explanations for why certain individuals are able to gain resources from government agencies, but also because of the perceived affect that these bureaucratic dynamics were expressed to have on FEMA's decision on applications among focus group participants. The analysis of the focus group meetings yielded a situation in which none of the African American respondents indicated having interacted with an inspector that was perceived to be the same race as them and that a little over a third of respondents indicated that their inspectors were not the same gender as themselves. The regressions performed indicated that the representativeness of home inspectors in reference to race or gender were not significant factors in FEMA's decision to approve assistance. Additionally, focus group discussions pointed to issues associated with government subcontracting that have the potential to result in ineffective and non-standardized service provision. Moreover, many focus group participants mentioned a lack of a consistent level of knowledge about the FEMA application process and a lack of knowledge of how to assess damages associated with a hurricane among FEMA home inspectors.

What was found to be statistically significant within the analyses was the amount of damages incurred to an individual's primary residence, which again were positively associated with an individual's success of receiving aid from FEMA. Although focus group discussions also pointed to potential problems associated with whether or not a home inspector originated from their own state, this research was not capable of empirically observing this relationship due to the lack of variance in this variable. Specifically, of all the survey respondents, only one had interacted with a FEMA home inspector originating from their own state; therefore, statistical analyses would only have provided information about one individual as opposed to the entire sample. Taken together, the analyses performed do wholly confirm nor deny the statements made in the media nor in past research (see Fothergill et al., 1999 and Fothergill and Peek, 2004) emphasizing potential issues of racial bias in FEMA's dissemination of disaster assistance. Nor do they support the findings of Loukaitou-Sideris and Kamel (2004) and Kousky (2013); but, these findings may be a byproduct of the small sample size used in this study. However, if these findings are accurate, the question that emerges is why there continues to be perceptions of racial discrimination with the FEMA aid application process if statistical analyses tell a competing story?

#### **VI.4 Objective and Subjective Perspectives of Discrimination**

According to O'Brien et al. (2006), perceptions of racism in the aftermath of disasters are influenced by the way in which individuals conceptualize racism. Contemporary studies of racism conceptualize racism in one of two ways, either institutionally or personally. Personal racism, or sometimes referred to as cultural racism, involves beliefs about the superiority of one's racial cultural heritage over that of

other races and the expression of this belief manifests in direct personal actions and/or institutional policies. Institutional racism alternatively refers to the intentional or unintentional manipulation or toleration of institutional policies that unfairly restrict the opportunities of particular social groups within society (Jones, 1997; Henkel et al., 2006). More recent work on the consequences of racism highlights the notion that the negative consequences of systematic oppression are not necessarily limited to overt and intentional acts. In fact, some research has found that even when individuals consciously strive to act indiscriminately, they can still perpetuate subtle forms of “modern” bias that operates without intention or awareness (Fazio et al., 1995; Greenwald et al., 1998; Henkel et al., 2006; Kawakami et al., 1999). For example, Whites may unintentionally engage in behaviors that ultimately harm Blacks, but that allow Whites to maintain their self-image as unprejudiced and that provide them with a sense that their behavior is color blind (Henkel et al., 2006). According to Henkel et al. (2006), this type of discrimination does not illicit itself in purposeful harm, but rather in White’s failure to help Blacks in situations in which the failure to help can be attributed to factors other than race (Gaertner and Dovidio, 1977; Gaertner et al., 1996; Saucier et al., 2005).

In addition to these conceptualizations of racial discrimination, Adams et al. (2006) argues that historical memory of discrimination, or the collective beliefs about past racism, also influences whether individuals perceive governmental actions to be discriminatory. According to Adams et al. (2006), individuals that are from oppressed groups have a tendency to perceive racism in society not only because they may apply relatively broad definitions to the concept of racism, but also because they have more knowledge about historically documented experiences of racism (Ai et al., 2011). As a

result of this historical knowledge, perceptions of racism by historically marginalized groups are not necessarily distortions of reality (Fischer, 2005; Hicks, 2005; Tabacoff, 2005), but expressions about beliefs about the *plausibility* of discrimination in the aftermath of disasters that reflect U.S. historical experiences (Adams et al., 2006). As a result, these interpretations of reality or the potentiality of discrimination continues to contribute to racial mistrust between African Americans and Whites in the U.S. context (Dovidio et al., 2002; Feagin and Sikes, 1994). Past research has indicated that African Americans harbor high levels of perceived discrimination toward social institutions (Dovidio et al., 2002), governmental leaders (Earl and Penny, 2001; Shavers-Hornaday et al. 1997), medical practitioners and researchers (Armstrong et al., 1999; Davis and Reid, 1999), various social policies (Phelps et al., 2001), and even perceive conspiracies by the government and Whites to continually harm African Americans (Crocker et al., 1999). Alternatively, Whites may not be as sensitive or even knowledgeable about the extent of racial bias in the United States, consequently resulting in divergent views about the existence or potential for discrimination in the aftermath of disasters (Henkel et al., 2006).

Within the context of this dissertation, some of the previously discussed potential reasons for perceptions of racial discrimination in the FEMA aid application process were observed among focus groups members. Many of the African American participants alluded to or directly stated their concerns of potential bias within the FEMA disaster application process. Moreover, some even stated that although they were not specifically aware of any potential biases that could have been harbored by home inspectors, a majority of the African American participants acknowledged the belief that FEMA as an

organization was discriminatory in the way they decided to allocate disaster aid. Although not necessarily a function of first-hand experiences, individuals that felt this way typically recalled their memories and media stories about potential discrimination with the way FEMA was reported to treat minorities in the aftermath of Hurricane Katrina, which may have influenced their perceptions about the fairness of FEMA's decision to grant them aid, or more specifically the level of aid that was granted. Alternatively, white focus group participants did not acknowledge any perceptions of discrimination. Moreover, when presented with the potentiality of discrimination within the focus group discussions white participants were observantly uncomfortable and even asked why such a question was pertinent to the discussion. With the exception of one white focus group participant who acknowledged the *potential* for discrimination to occur in the FEMA disaster assistance application process, most whites perceived the process to conform to egalitarian principles even if they were not necessarily satisfied with the outcome of FEMA's decisions about their own disaster assistance applications.

Unlike the potential benefits of social capital in the context of disaster recovery, policy prescriptions that attempt to deal with internalized notions of discrimination and mistrust of the government are difficult to successfully develop. Although most social problems stem from long standing social conditions that have contributed to the way in which society works today, perceptions of discrimination are not only a byproduct of objective personal and historical group experiences but also personal subjectivity. Therefore, policy prescriptions that seek to deal with these dynamics have the potential of being mistrusted or opposed by historically oppressed social groups simply due to the level of distrust of government policies that is characteristic of these groups. As a result

there is no straightforward or even short-term policy prescription. To overcome these issues of mistrust, perceptions of discrimination, and/or denial of potential discrimination, strategies that enhance cultural competency and representativeness among the government bureaucracy is one step. However, the diversification of government structures has been occurring over the last quarter of a century, but has apparently had a marginal effect on how historically oppressed groups perceive the government to have their best interests at heart. This is apparent within this research, but even as I write this chapter racial riots and protests are occurring across the country in an effort to help bring to light and emphasize discriminatory practices of governmental authorities, particularly in reference to police departments. Whether due to direct discriminatory abuses or benign neglect, perceptions of racial discrimination and social justice are major issues in American society that require governmental attention and action.

As a result, I adopt Adams et al.'s (2006) suggestion of developing "official constructions of reality" that refers to definitions of oppression that recognize a broad range of mechanisms that not only include hostility-motivated direct discriminatory treatment, but also more subtle forms (Krieger, 2004). These "official constructions of reality" would inform decisions of government institutions in such a way that these institutions come to terms with the legacy of racism within the United States so that they are better equipped to service potential client communities. Moreover, these official accounts of reality could not only be informed by traditional academic and historical accounts that have had the tendency to "whitewash" evidence of discrimination within American society, but also through the voices of the oppressed and marginalized in order to pursue a truly more multicultural American society. Within the disaster context, these

more informed definitions of discrimination and knowledge of how some groups have continually been neglected or penalized has the ability to not only shift attention away from questions of blame for disasters, which results in further perpetuation of objective or subjective feelings of discrimination, but also allows people and groups in position of dominance to focus on the remediation of harm as opposed to the denial of it (Adams et al., 2006).

## **VI.6 Policy Recommendations**

In response to the findings of this study, three changes to policy should be implemented. First, it has been stated throughout this study that FEMA as an organization does not collect racial/ethnic information about their disaster resource applicants. Although the intention of this behavior is to reduce the potential role and perception of racial discrimination within the application process by treating every applicant as if they were from the same race/ethnicity, the lack of racial/ethnic information about applicants makes public and academic evaluations of FEMA resource distribution at the individual level based around issues of race/ethnicity difficult. The lack of racial/ethnic information on clients fosters an organizational environment within FEMA that does not encourage the diversification of the bureaucracy nor organizational change. The reason for this lack of organizational change stems from the organization's tendency to disregard normative claims about discrimination or a lack of diversification when they are made from *outside* of the agency and when positive feedback mechanisms are present that reduce the organization's tendency to change (North, 1990; Denzau and North, 1994; Arthur, 1994; Rivera 2014). Therefore, FEMA as an organization should move to asking disaster resource applicants what their race/ethnicity is as a means for

internally generating data about clients. By doing so, not only will this provide the general public with a better means of evaluating disaster resource allocation between different racial/ethnic groups, but the internally generated data will provide bureaucrats within the FEMA bureaucracy with more “trusted” information with which they may make human resource decisions that could enhance diversification within the FEMA bureaucracy.

Second, in line with past research on the effects of governmental outsourcing of services in emergency management (Roberts, 2010; Rademacher; 2011), this study found evidence pointing to a lack of standardized training among home inspectors. According to various focus group participants within this study, the lack of standardized training among home inspectors resulted in not only a decreased quality of services, but also a nonstandard quality of services. In specific respect to home inspection, the lack of standardized training resulted in variability of damage assessments across different properties within the same neighborhood with similar damages, and even between assessments completed on the same property by different inspectors, which has also been illustrated in past studies (Downton and Pielke 2005; McEntire et al. 2012). Although there are potentially many reasons for this reduction in service quality, I argue that, according to principle-agent theory, the problem stems from a situation where the principal (in this case FEMA) directs the behavior of agents (in this case home inspection companies) within an environment of information asymmetry and goal incongruence (Miller, 1992). Problems become more exacerbated as FEMA has more and more trouble monitoring the quality of home inspection companies’ performance and the execution of corrective measures when operating in a non-competitive market where disciplining poor

performing contractors is difficult or even punitive to the principal (Buchanan, 1971; Peterson, 1981). This situation results in the home inspection companies providing lower quality services to reduce their costs and raise profits. Moreover, home inspection companies reduce the amount of investment in standardized professional development among inspectors as a cost savings mechanism.

In response to this phenomenon, FEMA should develop and administer a citizen/client satisfaction survey to all individual disaster resource applicants that have their properties assessed by FEMA home inspectors that asks respondents questions about the quality of service provision and interactions with inspectors. As a result, disaster survivors that have attempted to secure aid with FEMA and have undergone a home inspection have the ability to report the under-performance of contracted companies. According to Brown and Potoski (2003) and McCubbins and Schwarts (1984), by allowing clients to act as “fire alarms” attention would be brought to transgressions without requiring FEMA to constantly monitor home inspectors or the companies they work for. Moreover, monitoring client complaints has the potential of inexpensively deterring government contractors from violating contract provisions, in addition to providing the contractors themselves with a performance baseline that they can improve on in the future. With this baseline, FEMA as the contracting organization can evaluate how its contractors are improving service provision and client relations across a variety of disaster contexts and geographic regions. If contractors do not improve over time, FEMA can the either look for other potential vendors or augment the contents of their contracts with non-improving vendors to proactively enhance their service provision. Taken conjointly with my first policy recommendation, these

citizen/client satisfaction surveys also have the potential to highlight differences in service provision across different demographic groups within American society; thereby, providing more information about how government agencies and the organizations they use to provide services interact and engage with various racial/ethnic groups within society.

Although, the development of citizen/client satisfaction surveys and questionnaires that seek to measure the number and proportion of minorities seeking disaster assistance would enhance the understanding of needs among these groups, it does not directly result in the manifestation of more racially/ethnically appropriate service provision. For this to occur, I suggest a third policy recommendation, that both FEMA in addition to the organizations they contract for services should actively engage in *reflexive inclusion* with a variety of previous and potential client communities (Miller and Rivera, 2011). According to Miller and Rivera (2011, p. 27), reflexive inclusion “involves the development of a critical appreciation of the public sphere’s history, ethnic-gender composition, and culture in relation to past and present power relationships that motivate unintended negative consequences...” Inclusiveness also refers to “using knowledge in the development of sensitivities for all aspects of modern life, particularly characterized by the ongoing problems that exist surrounding” (p. 27) the response to and recovery from disasters. Moreover, “reflexive inclusion activities involve the citizenry by educating the public, empowering them to give a voice to issues, and places them at the center of the decision making process by establishing a symmetrical understanding of the negative public perception” (p. 27; see also Lhulier and Miller 2006). In this way, not only can FEMA and the contractors they use in service provision develop better practices

that can enhance the effectiveness of services, but they can also become more culturally competent in reference to the varying needs of different communities that they serve.

Reflexive inclusion also has the potential of helping to decrease perceptions of institutional racism that have developed among various marginalized groups within American society. As discussed in the preceding section, dispelling perceptions of institutional racism, whether objectively evaluated or not, is neither a straight forward process nor one that can be achieved by top-down models of social development. Alternatively, I have pointed out that when government agencies have deliberately attempted to make their organizations and services less inequitable, they have the tendency of perpetuating of discriminatory practices, even though they may not be deliberate. A such, dispelling perceptions of institutional racism not only within FEMA, but other governmental structures in general, must occur in an environment that fosters social cohesion and broad understanding of all the stakeholders, their interests, concerns, and historical experiences with a respective agency. In this way reflexive inclusion provides the opportunity for government bureaucracies, elected officials, and public/policy entrepreneurs (Bellone and Goerl, 1992; Carter et al., 2004; Schnellbach, 2007) the opportunity to make organizational changes that are more reflective of their client communities as a byproduct of direct interaction with clients. Moreover, the process of reflexive inclusion has the potential to empower historically marginalized groups that harbor perceptions of institution racism to develop a more objective understandings of the organizations they perceive to be inequitable, and develop a better understanding and appreciation of civic and political participation (Rivera, 2015). In this way, reflexive inclusion provides an education process directed at the “top” and “bottom”

of society, bringing conceptions of reality and programmatic practices to light, in which institutionally discriminatory practices can be addressed holistically.

#### **VI.5 Limitations and Future Research**

Finally, in Chapter 3, I highlighted the various methodological limitations of this exploratory study. In reference to the administration of focus groups, I mentioned that there were inconsistencies between the individuals that expressed interest in participating in focus groups and those that actually participated and this researcher's inability to more comprehensively segment focus groups along racial, ethnic and socioeconomic lines. These limitations affected the racial and age composition of both focus groups, which may have yielded data more germane to certain racial or age categories than those of the total population affected by Hurricane Sandy. Moreover, my lack of ability to segment the focus groups by race may have had indirect effects on the generation of data indicative to relatively sensitive topics under discussion, such as perceptions of discrimination within each of the focus groups. However, despite these limitations, the focus groups yielded information both important to the finalization of the online survey instrument and information that was not directly interpreted from the survey instrument.

The online survey format allowed for respondents to complete the instrument at times convenient for them, provided the researcher control over the order in which questions were answered, and also provided a cost-effective mechanism for including a range of different questions that would have been cost prohibitive in a traditional telephone survey administration setting. However, I pointed out that the use of the online instrument fell subject to several of the limitations expressed by previous scholars. First, there appeared to be issues associated with selection bias related to the internet-user

population on demographic characteristics such as education level and socioeconomic status. Second, the reliance on social networks for the dissemination of the survey to potential respondents may have yielded actual respondents that were more similar than different in reference to both individual demographic characteristics and geographic location. Third, despite the steps taken to advertise and disseminate the online instrument to the public, there was an extremely low response rate to the instrument.

As a result of these methodological limitations, I have been careful to be as parsimonious as possible in reference to the statement of inferences generated from this research. Moreover, I also engaged in the analysis of key informant interviews to aid in the triangulation of data. As a result, the data generated through the various methodological approaches sometimes were contradicting, but also confirming. Interestingly, although the focus group and key informant interview analyses seem to be confirming of one another on various points, the statistical analysis performed appeared to contradict the qualitative findings. Although a number of variables were observed to be statistically significant in an individual's decision to apply for disaster assistance with FEMA and what may influence FEMA's decision to approve aid to an individual, *these finding should be taken as indications of where relationships may exist as opposed to precise empirically validated inferences*. Moreover, the lack of variance on some variables, in addition to the small non-White sample of survey respondents may be diluting the results of the statistical analyses; thereby, providing false representations of the influences or the lack of influences that some variables may have on my two main dependent variables. Therefore, in an effort to improve these research findings, future studies should attempt to access larger samples of disaster survivors for particular disaster

events, and also across a variety of different natural disaster events in the same national context. Not only would this potentially help to overcome the statistical limitations of this study, but by using a sample of respondents that have experiences in different natural disasters the generalizability of findings within the U.S. context would be enhanced.

## Appendices

### Appendix A: Focus Group Screening Protocol

Potential participants were screened as follows:

1. Were you personally affected in any way by Superstorm Sandy?  
IF NO, THANK AND TERMINATE.
2. Did you suffer any damage to any property you own or rent?  
IF NO, THANK AND TERMINATE
3. Did you file any claim at all with FEMA, the Federal Emergency Management Agency, whether or not your claim was approved.

IF NO, THANK AND TERMINATE

4. We are calling people who had damage from Superstorm Sandy and filed a claim with FEMA in order to ask if you would be interested in participating in a paid session where you would discuss your experience with a researcher from Rutgers University. The session would be held at (give appropriate location) on (give appropriate date and time) and will last for about an hour and a half. You would be paid (give payment amount) for your participation. Would you be interested in possibly being part of this session?

IF NO, THANK AND TERMINATE

IF YES - That's great. I need to ask you a few more questions so we can determine your eligibility.

5. First, what is your age?

6. [record gender from voice]

7. And are you white, Black or African American, Hispanic, Asian, or some other or mixed race?

8. And did you rent the home you were in when Sandy hit, or did you own it?

9. And with your FEMA claim, was it approved or was it denied?

10. Do you have an email address? If so, what is it?

11. THANKS, that's all I have for you right now. We will add your name to the list of people interested in the study. We will be in touch in the next two weeks to let you know whether or not we need you for the research session. We very much appreciate your interest. If you have questions about this call, you can contact Jason Rivera at [ENTER NUMBER]. If you have any questions about your

rights as a research participant, you may contact the administrator of the Rutgers Institutional Review Board at [848-932-0150](tel:848-932-0150). Have a good day/evening.

### **Appendix B: Focus Group Discussion Script**

Moderator: Ok, now that everyone has finished the survey, let's discuss some of the questions. For question 2, what went through your mind when you were answering? Anyone can start and we'll go around.

Participants will discuss... (allow for 15-20 minutes of discussion)

Moderator: Moving on to question 6, if you sustained any damage to your home from Hurricane Sandy what went into your decision to either apply for aid or not apply for aid?

Participants will discuss... (allow for 15-20 minutes of discussion)

Moderator: Moving on to question 7, was it easy for you to recall with what level of government or type of organization you applied for aid with?

Participants will discuss... (allow for 15-20 minutes of discussion)

Moderator: Great! Now let's move on to question 14. What went through your mind when you finished reading this question? Again, anyone can start and we'll go around.

Participants will discuss...(allow for 15-20 minutes of discussion)

Moderator: Before I ask you if you had any other reactions to any of the other questions in the survey, let's talk about question 18. What types of things can to your mind after you finished reading this question?

Participants will discuss... (allow for 15-20 minutes of discussion)

***If time allows:***

Moderator: Great! Now that we've discussed some of the questions that I was interested in hearing your perspectives on, were there any other questions in the survey that you had trouble answering or you felt the range of answers was not appropriate? Anyone may begin and we'll go around.

Participants will discuss... (allow discussion to take place over the rest of the allotted time)

***Closing:***

Moderator: I would like to thank all of you for participating. Your opinions have been extremely helpful, and they will be considered carefully in final development of this survey.

If any of you would be interested in participating in a personal follow-up interview at a later date please let me know so that I may get your contact information.

### **Appendix C: Hurricane Sandy Survey**

Dear Sir or Madame,

You are invited to participate in a research study that is being conducted by Jason D. Rivera, who is a doctoral student in the Public Policy and Administration Department at Rutgers University. The purpose of this research is to understand people's experiences with recovery from Hurricane Sandy. You are being asked to fill out a survey, which will take between 15 and 20 minutes to complete. You must be over the age of 18 to

complete this survey. Before participating in this research, you must agree to the following terms: This research is confidential. Confidential means that the research records will include some information about you and this information will be stored in such a manner that some linkage between your identity and the response in the research exists. Some of the information collected about you includes demographic characteristics and the zip code in which you lived when Hurricane Sandy occurred. Please note that we will keep this information confidential by limiting individual's access to the research data and keeping it in a secure location in which only the principal investigator will have access to. The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated. All study data will be kept three years. There are no foreseeable risks to participation in this study. Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable. If you have any questions about the study or study procedures, you may contact myself at Jason D. Rivera, 401 Cooper St., Camden, NJ, 08102, [jdrivera@scarletmail.rutgers.edu](mailto:jdrivera@scarletmail.rutgers.edu), 856-979-4979 or you can contact my advisor Paul A. Jargowsky, Director of the Center for Urban Research and Education, 321 Cooper St., Camden, NJ 08102, [paul.jargowsky@rutgers.edu](mailto:paul.jargowsky@rutgers.edu), 856-225-2729. If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at: Rutgers University, the State University of New Jersey Institutional Review Board for the Protection of Human Subjects Office of

Research and Sponsored Programs 3 Rutgers Plaza New Brunswick, NJ 08901-8559 Tel:  
848-932-0150 Email: humansubjects@orsp.rutgers.edu

Do You Agree to these terms?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Survey

Q2 As a direct result of Hurricane Sandy, did you sustain any damages to your primary residence?

- Yes (1)
- No (2)
- Refuse (3)

If Refuse Is Selected, Then Skip To End of Survey  
If No Is Selected, Then Skip To These next questions are about people...

Q3 What would you say was the total dollar value of your losses from Hurricane Sandy?

- Amount in Dollars: (1) \_\_\_\_\_
- Don't Remember (2)
- Don't Know (3)

Q4 Which best describes your primary residence that you lived in prior to Hurricane Sandy?

- Single family home (1)
- Condominium (2)
- Apartment (3)
- Mobile home (4)
- Other: (5) \_\_\_\_\_

Q5 Did you own, rent or live with someone else at that residence?

- Own (1)
- Rent (2)
- Live with someone else (3)
- Refuse (4)

If Live with someone else Is Selected, Then Skip To As a direct result of Hurricane Sandy...

Q6 Did you have homeowners or rental insurance for this primary residence?

- Yes (1)
- No (2)
- Don't Remember (3)
- Refuse (4)

Q50 As a direct result of Hurricane Sandy were you homeless for any length of time?

- Yes (1)
- No (2)
- Refuse (3)

Q51 As a direct result of Hurricane Sandy did you have to relocate to another town for any length of time?

- Yes (1)
- No (2)
- Refuse (3)

If Yes Is Not Selected, Then Skip To As a direct result of Hurricane Sandy...

Q52 Have you been able to move back to the community you were forced to leave as a result of Hurricane Sandy?

- Yes (1)
- No (2)
- Refuse (3)

Q7 As a direct result of Hurricane Sandy, did you apply for some type of disaster assistance?

- Yes (1)
- No (2)
- Don't Remember (3)

If Yes Is Not Selected, Then Skip To These next questions are about people...

Q8 Who did you apply for assistance from? (Check All That Apply)

- State Government (1)
- The Federal Government (2)
- Tribal Government (3)
- A Religious Organization (4)
- A Nonprofit Organization (5)
- Other Please Specify: (6) \_\_\_\_\_
- f. Don't Know (7)

Q9 At the time you applied for aid did you have reliable access to a desktop or laptop computer with Internet in any of the following places: (Check All That Apply)

- In your home (1)
- At your job (2)
- At a Library (3)
- At a School (4)
- At an Internet Cafe (5)
- At a Friend or Family Member's Home (6)
- Other, Please Specify: (7) \_\_\_\_\_
- Don't Know (8)

Q14 Was one of the disaster assistance programs you applied for through the Federal Emergency Management Agency (FEMA)?

- Yes (4)
- No (5)
- Don't Remember (6)

If Yes Is Not Selected, Then Skip To These next questions are about people...

Now I would like to think about your personal experiences with the disaster aid application process and the inspector that came to your home to evaluate the damages inflicted on your property from Hurricane Sandy.

Q16 Did you apply for FEMA aid over the phone, through the Internet, or did someone else apply for you? (Check All That Apply)

- Phone (1)
- Internet (2)
- In-Person (5)
- Someone Else Applied for Me (such as a lawyer, adjuster, friend) (3)
- Don't Remember (4)

Q17 Were you present at the time(s) that your home was inspected?

- Yes (1)
- No (2)
- Some of the times (4)
- Don't Remember (3)

If No Is Selected, Then Skip To Did FEMA approve or deny your aid app...If Don't Remember Is Selected, Then Skip To Did FEMA approve or deny your aid app...

Q18 Can you remember about how times an inspector came to assess your property?

- 1 time (1)
- 2 to 3 times (2)
- 4 to 5 times (3)
- More than 5 times (4)
- Don't Remember (5)

Q19 Was the inspector or inspectors that came to your home able to communicate with you in the language you are most comfortable in speaking?

- Yes (1)
- Sometimes (5)
- No (2)
- Don't Remember (3)

Q20 Was the inspector or inspectors that came to your home the same gender as you?

- Yes (1)
- Sometimes (2)
- No (3)
- Don't Remember (4)

Q21 Did you perceive that the inspector or inspectors that came to your home were of the same racial or ethnic background as you?

- Yes (1)
- Sometimes (2)
- No (3)
- Don't Remember (4)

Q23 Was the inspector or inspectors that came to your home from the same state that you live in?

- Yes (1)
- Sometimes (4)
- No (2)
- Don't Know (3)

Q22 How courteous was the inspector or inspectors that you interacted with?

- Very Courteous (1)
- Somewhat Courteous (2)
- Not Very Courteous (3)
- Not Courteous (4)
- I felt differently for each inspector (5)
- Don't Remember (6)

Q25 How knowledgeable about the disaster aid application process was the inspector or inspectors that you interacted with?

- Very Knowledgeable (1)
- Somewhat Knowledgeable (2)
- Not Very Knowledgeable (3)
- Not Knowledgeable At All (4)
- I felt differently for each inspector (6)
- Don't Remember (5)

Q26 Overall, were you satisfied with your interactions with the inspector or inspectors that you interacted with?

- Yes (1)
- No (2)
- I felt differently for each inspector (3)
- Don't Remember (4)

Q27 Do you feel you were treated fairly or unfairly by the inspector or inspectors you interacted with?

- Fairly (1)
- Unfairly (2)
- I felt differently for each inspector (3)
- Don't Remember (4)

Q28 Do you feel you the inspector or inspectors you interacted with discriminated against you in any way?

- Yes (1)
- No (2)
- I felt differently for each inspector (3)
- Don't Know (4)

Q29 Did the inspector(s) notify you that they were not a FEMA employee, but were hired to inspect your home for FEMA?

- Yes (1)
- No (2)
- Don't Remember (3)

Q53 Do you feel that FEMA the organization discriminated against you in any way?

- Yes (1)
- No (2)
- Don't Know (3)

Q30 Did FEMA approve or deny your aid application?

- Approve (1)

- Deny (2)
- I'm still waiting for a decision. (3)
- Refuse (4)

If Deny Is Selected, Then Skip To Based on FEMA's decision on your appl...If Refuse Is Selected, Then Skip To Based on FEMA's decision on your appl...

Q31 Based on your need of disaster assistance, do you believe the FEMA aid you have received or are scheduled to receive is adequate?

- Yes (1)
- No (2)
- Don't Know (3)

Q32 Based on FEMA's decision on your application for aid, have you planned or attempted to challenge their decision?

- Yes (1)
- No (2)
- Don't Know (3)

These next questions are about people's political and civic involvement within their communities.

Q35 Since Hurricane Sandy, have you contacted a public official – at any level of government – to express your opinions on any topic?

- Yes (1)
- No (2)
- Don't Remember (3)

Q36 Please tell me whether or not you have attended government public meetings, such as board of education, city planning, town halls, and/or city commission since Hurricane Sandy.

- Yes (1)
- No (2)
- Don't Remember (3)

Q37 Did you vote in the 2012 presidential election?

- Yes (1)
- No (2)
- Don't Remember (3)

Q38 Since Hurricane Sandy have you voted in any other political elections?

- Yes (1)
- No (2)
- Don't Remember (3)

Q39 Since Hurricane Sandy have you regularly attended any religious services?

- Yes (1)
- No (2)
- Don't Remember (3)

Q40 Since Hurricane Sandy have you participated in any volunteer activities within your community?

- Yes (1)
- No (2)
- Don't Remember (3)

Q41 Since Hurricane Sandy have you made any charitable donations to social causes?

- Yes (1)
- No (2)
- Don't Remember (3)

Now for statistical reasons, I need to ask a few questions about you. Please attempt to answer these questions as truthfully as possible.

Q55 Do you tend to have reliable access to a desktop or laptop computer with Internet?

- Yes (1)
- No (2)
- I do not own a desktop or laptop (3)

Q43 Which of the following age categories best describes your age?

- 18 to 25 (1)
- 26 to 34 (2)
- 35 to 44 (3)
- 45 to 54 (4)
- 55 to 64 (5)
- 65+ (6)

Q45 Do you consider yourself to be Hispanic or Latino?

- Yes (1)
- No (2)

Q44 Which of the following best represents your race? (Check all that Apply).

- White (1)
- African American (2)
- Asian/Pacific (3)
- Native American (4)
- Other (5)

Q46 Which of the following best describes your marital status?

- Married (1)
- Single (2)
- Divorced/Separated (3)
- Widowed (4)
- Living with a partner (5)
- Not Sure (6)

Q47 Please indicate how many children under the age of 18 you have living in your household:

- 0 (1)
- 1 to 2 (2)
- 3 to 4 (3)
- 5 or More (4)

Q48 Which of the following best describes your employment status?

- Unemployed (1)
- On medical or disability leave (2)
- Retired (5)
- Employed part-time (3)
- Employed full-time (4)

Q49 What is the highest level of education that you have completed?

- Some high school (1)
- High school diploma (2)
- Technical or Trade Certification (9)
- Some college, no degree (3)
- Associate's degree (4)
- Bachelor's degree (5)
- Master's degree (6)
- Doctoral degree (7)
- Professional degree (law, medicine) (8)

Q50 Which of the following best represents your household income before taxes?

- Less than \$25,000 (1)
- \$25,000-\$34,999 (2)
- \$35,000-\$49,999 (3)
- \$50,000-\$74,999 (4)
- \$75,000-\$99,999 (5)
- \$100,000-\$124,999 (6)
- \$125,000-\$149,000 (7)
- More than \$150,000 (8)

Q51 Which of the following best represents your gender?

- Male (1)
- Female (2)
- Other (Please Specify) (3) \_\_\_\_\_

Q52 In which country were you born?

- The United States (1)
- Italy (2)
- Mexico (3)
- Cuba (4)
- Dominican Republic (5)
- India (6)
- Germany (7)
- China (8)
- The Philippines (9)
- South Korea (10)
- Japan (11)
- Other (Please Specify) (12) \_\_\_\_\_

Q53 Which of the following languages is the primary language that you speak at home?

- English (1)
- Spanish (2)
- Hindi (3)

- German (4)
- Italian (5)
- Korean (6)
- Chinese (7)
- Japanese (8)
- Other (Please Specify) (9) \_\_\_\_\_

Q54 Part of the goal of this study is to map locations according to whether or not they experienced storm damage. Would you be willing to give me the zip code of your primary residence at the time of the storm? This will be used only for mapping purposes.

Thank you for completing this survey. Your participation can not be underestimated. If you know of anyone else that you believe has been affected by Hurricane Sandy, please forward the study flyer along to them so they may fill out the survey as well.

Sincerely,

Jason Rivera

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