

**“Sometimes You Can't Even Sleep at Night:”  
Social Vulnerability to Disasters among Men Experiencing Homelessness in  
Central Florida**

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*There has been relatively little research on how people experiencing homelessness prepare for, experience, and recover from disasters. This oversight means emergency managers have few resources to help them plan for the needs of the homeless during disasters. The present study utilizes the social vulnerability perspective to examine the risks that natural hazards pose to unsheltered men experiencing homelessness in Central Florida and analyse the structural origins of vulnerability among the homeless. The findings presented are the result of field interviews with unsheltered men and group interviews with homeless services providers. I argue that unequal exposure, social stigma, special medical needs, and chronic unemployment aggravate exposure to hazards among individuals experiencing homelessness. I conclude with recommendations for researchers, policy makers, and emergency managers to help individuals experiencing homelessness better manage their risk.*

**Keywords:** Homelessness, Natural Hazards, Social Vulnerability, Florida

### **Introduction**

A person is considered homeless when he/she lacks a fixed, regular, and adequate night-time residence. The National Alliance to End Homelessness (2014) estimates that on any given night in the United States, more than 570,000 people are homeless. Furthermore, the National Law Center on Homelessness and Poverty (NLCHP) (2004) estimates that as many as 3.5 million Americans experience homelessness each year. Nearly 80 percent of the nation's homeless population is concentrated in urban areas; however, suburban, and rural communities have experienced growth in their homeless populations in the years since the foreclosure crisis (Henry and Sermons 2010). Although roughly half a million people are homeless in our communities each night, there has been relatively little research on how individuals and families experiencing

homelessness prepare for, experience, and recover from disasters. This oversight means emergency managers have little knowledge to help them plan for the needs of the homeless during disasters.

The present study seeks to remedy this oversight. Specifically, I utilize the social vulnerability perspective to examine the risks that natural hazards pose to unsheltered men experiencing homelessness in Central Florida and analyse the structural origins of vulnerability among the homeless. Additionally, I argue that unequal exposure, social stigma, special medical needs, and chronic unemployment aggravate exposure to hazards among individuals experiencing homelessness. I begin with a review of the limited research on homelessness and disasters, and a discussion of the social vulnerability perspective's utility for understanding the experiences of individuals experiencing homelessness. Second, to establish a context for my research, I examine the natural hazards present in the region and provide demographic information about the research sites. Third, I present my findings relating how the homeless experience social vulnerability to severe and inclement weather in Central Florida. Finally, I conclude with recommendations for researchers, policy makers, and emergency managers to help individuals experiencing homelessness better manage their risk.

## **Literature Review and Background**

### **Homelessness and Disasters**

Disaster scholars have traditionally studied how housed individuals and families prepare for, experience, and recover from disasters. The reason for this may be pragmatic. After all, the majority of citizens are housed, and the emergency management community needs to know how to assist preparation, response, and recovery for individuals and families. In spite of the focus on housed individuals and families, a handful of scholars have examined, or at least reported the experiences of individuals experiencing homelessness during disasters. For instance, Wisner (1998) discussed the increased vulnerability that Tokyo's urban homeless face to the impacts of earthquakes. Specifically, he argued that on top of their limited access to resources and social isolation, Tokyo's homeless experience increased vulnerability to earthquakes and other natural hazards due to the community's relatively poor health condition (1998). Overall, Wisner asserts that the Japanese government must include the homeless in their disaster planning and response programs. More recently, Ramin and Svoboda (2009) pondered the impacts that climate change will have on the homeless. They argued that the world's homeless experience an increased vulnerability to climate related hazards such as heat waves, air and environmental pollution, storms, and floods.

Much of our empirical understanding of how the homeless prepare for and experience disasters comes from Drabek's (1999) research on "tourists and other transients." In this research, he examined differences in evacuation behaviour between travellers and other types of transients, including homeless people living in Miami-

Dade County (Florida), Honolulu (Hawaii) and Santa Monica (California). Thirty-six percent of the homeless participants interviewed indicated that they learned about evacuation warnings from the news media. In the Miami-Dade sample, 27 percent of participants reported that they did nothing after learning about hurricane warnings (Drabek 1999). Meanwhile, 20 percent reported turning to others on the street to try and find shelter. Another 37 percent reported going to the beach to watch the waves (Drabek 1999). In terms of evacuation locations, 29 percent of Drabek's (1999) sample reported turning to makeshift shelters such as under bridges and 48 percent relied on public shelters. Moreover, studying Hurricane Andrew, Yelvington (1997) noted that the Red Cross initially allowed pre-disaster homeless to take refuge in their relief camp. However, the National Guard later removed the pre-disaster homeless from the camp (Yelvington 1997).

### **The Social Vulnerability Perspective**

The social vulnerability perspective contends that disasters are the result of social inequality in our communities. To paraphrase Morrow (2008), social vulnerability results from unequal exposure (to hazards) coupled with an unequal distribution of resources. The nature of homelessness means that individuals do not have adequate shelter and face increased exposure to natural hazards such as extreme temperatures and other forms of severe and inclement weather. Moreover, homelessness in the United States is the direct result of an unequal distribution of material resources: money and housing. Thus, we may conclude that the risks hazards pose to people experiencing homelessness are largely the result of our current social organization.

As a sub-group of America's poor and low-income citizens, people experiencing homelessness may face challenges similar to those of people living in poverty. As homelessness may be the product of class inequality we may assume that individuals experiencing homelessness also face similar vulnerability to natural hazards. Relating the homeless to other individuals experiencing poverty is also important in light of the relative lack of research on homelessness in the context of disasters.

For instance, we know that people experiencing poverty are more likely to live in hazard prone areas (Bolin 2008) and by definition have fewer financial resources, but also less political influence (Bolin 2008; Bullard 1990). As I will demonstrate later, this is the same for many unsheltered people experiencing homelessness. We also know that income is directly associated with one's ability to gather supplies, make modifications to their home, and flee in advance of hurricanes and other "natural" disasters (Elliot and Pais 2006; Gladwin and Peacock 1997). As I will discuss, this also applies to the unsheltered participants in this study who have little to no money and rely on public transportation or their own two feet for getting around. Finally, and most gravely for the homeless, individuals experiencing poverty are more likely to be injured or killed during a disaster event (Aptekar 1991; Bolin and Bolton 1986; Phillips 1993). Ultimately, the social vulnerability perspective helps us to examine the ways in which

hazard vulnerability among people experiencing homelessness is directly related to social organization which leaves some people exposed with fewer resources.

### **Natural Hazards in Florida**

Florida is vulnerable to hurricane landfall on both its Atlantic and Gulf of Mexico coasts. With hurricanes come many of the risks associated with severe thunderstorms, only on a larger scale and with greater intensity. While recent hurricane seasons have been relatively inactive, the state has a history of experiencing powerful and destructive hurricanes. In 1992, Hurricane Andrew struck southeast Dade County. This category four hurricane killed fifteen people, and left about 250,000 residents homeless (St. Petersburg Times, 2002). During the 2004 hurricane season, Florida experienced landfalls of four hurricanes within a period of six weeks causing an estimated 49 billion dollars in property damage (Malmstadt, Cheitlin, and Elsner 2009). While coastal communities may experience the strongest winds and heaviest coastal flooding due to storm surge, inland counties are not immune to the effects of powerful hurricanes, which may generate high winds and destructive tornadoes.

Although Florida is vulnerable to powerful hurricanes on occasion, Floridians experience thunderstorms on between 75 and 105 days per year, with about one in ten of these storms becoming "severe." Unlike hurricanes, Floridians can expect to experience thunderstorms throughout the year (Division of Emergency Management 2012). Severe thunderstorms increase residents' risks from lightning, gusting winds, tornadoes, and flooding. Florida's unique geography and climate causes the state to experience more lightning strikes annually than any other region in the United States. Lightning presents significant risks to both property and individuals. On average, lightning injures 39 people each year in Florida, and roughly six of these individuals die from their injuries.

In addition to lightning, thunderstorms also have the potential to produce strong winds and tornadoes. Between 1990 and 2011, Florida experienced 1,420 tornadoes, making it the third most active state for tornadoes in the United States (Division of Emergency Management 2012). On February 22 and 23, 1998, Florida experienced its worst tornado outbreak on record. In the early morning hours, severe thunderstorms produced deadly tornados in Orange, Osceola, Seminole, and Volusia counties. In total, the tornadoes injured 250 people and killed 36 (CNN 1998). Lightning and tornadoes may be serious concerns for people experiencing homelessness because, as I will demonstrate, they spend more time outside and therefore experience greater exposure.

Florida may also experience periods of severe drought. During dry years, extreme summer heat and lightning strikes spark devastating wildfires. In 2011 alone, the state experienced over 1,480 wildfires burning over 300,000 acres of land (Division of Emergency Management 2012). In 1998, fires burned about half a million acres, destroyed 342 homes and 34 businesses, and forced the evacuation of thousands of residents in Volusia and Flagler Counties (Word 2006). Such fires may pose significant risks to homeless populations living in wooded areas.

Regardless of where Floridians live, they are at risk to a variety of natural hazards. As I have discussed, lightning, flooding, wildfires, and tornadoes present significant risks to both property and life. The latter is extremely relevant for people experiencing homelessness, who as I will discuss later, experience increased exposure to these hazards. While it is important to understand the climate of the region in which this research took place, we must also understand the social context. The following section presents general statistics on social wellbeing in Central Florida.

**Homelessness in Central Florida**

For the purposes of this study, Central Florida is considered to include Brevard, Orange, Osceola, and Seminole Counties. These were the counties in which I was able to develop relationships with homeless service providers and establish research sites. Service organizations were identified through Internet searches and personal referrals from colleagues in the area.

Table 1 provides statistics on the number of people experiencing homelessness in the region. At the time of this study, nearly half of the 5,945 individuals experiencing homelessness in Central Florida lived in Orange County (Council on Homelessness 2013). This is not surprising considering that Orange County is home to the region's urban core, the city of Orlando. This urbanized county offers more services for people experiencing homelessness and is perceived as offering more job opportunities. Brevard County and Seminole County are largely suburban and are home to 26 percent and 14 percent of the region's homeless population respectively. About 10 percent of the region's homeless were found in rural Osceola County.

**Table 1: Homelessness by Central Florida County**

<b>County</b>	<b>No. Homeless</b>	<b>% of Homeless Population</b>
Brevard	1,567	26.36
Orange	2,937	49.40
Osceola	599	10.08
Seminole	842	14.16
<b>Total:</b>	<i>5,945</i>	<i>100</i>

Source: Florida Council on Homelessness 2013 Report

The context of homelessness in Central Florida is unique. This is in part related to the region's climate, which ranges from relatively warm to extremely hot year round. This means that unsheltered homeless populations are able to live outside nearly year round. This has resulted in many tent-city encampments throughout the region.

Florida's warm climate is also a draw for many Americans from northern regions. Indeed, several of the men in this study relocated to Florida from elsewhere.

While some reported moving south for the weather, others indicated that they heard there were many well-paying jobs in the region and moved to improve their financial circumstances. Unfortunately, these labour migrants soon learned that there were relatively few jobs available. In fact, nearly all of the participants in this study became homeless after losing a job, and as I will discuss later, many participants find themselves working odd jobs to survive. Ultimately, while the region's homeless population appears to be concentrated in the urban core, there are significant subpopulations disbursed throughout the suburban and rural communities.

### **Research Methods**

The present study began as an ethnographic study of how the people experiencing homelessness negotiate weather related hazards in Central Florida. Data were generated primarily through interviewing individuals experiencing homelessness or working in the field of homeless services. Specifically, I conducted two group interviews with homeless services staff from the region. Participants were recruited through local agencies serving the homeless. In total, nine individuals participated in the two group interviews. The group interviews each lasted about 40 minutes. Additionally, one phone interview was conducted with a woman I have named "Carrie." Carrie, who works in homeless services, could not attend a group interview but still wanted to contribute her perspective and experiences. The group interviews were digitally recorded and fully transcribed. I assigned participant numbers to all individuals involved in the group interviews. Therefore, in the following sections I may refer to "Participant X" where appropriate. Although an interview script was prepared in advance, group interviews were semi-structured in nature. As the moderator, I allowed for deviation from the script and allowed participants to raise new questions and discuss issues they perceived to be most pressing.

I also conducted eleven interviews with homeless men living in Central Florida. Recruitment of these participants took place primarily at soup kitchens and drop-in shelters. Data collection sites were established in consultation with local organizations that work with people experiencing homelessness. The typical interview lasted about 30 minutes, however, the shortest interview was only about twelve minutes long and the longest was nearly an hour. Interviews were semi-structured and conversational in nature. All interviews were digitally recorded and have been fully transcribed. In the following, I use pseudonyms to protect participants' identities.

Table 2 provides an overview of the sample of unaccompanied men experiencing homelessness. The majority of the men I interviewed had been homeless for at least two years. Many of the men reported going between phases of being housed and unhoused. At the time of the interview, three men were sheltered. James and Joe were sleeping at a men's emergency shelter in Orange County, and Gary had been living with an "older man" that he reports meeting at a fast food restaurant. Prior to finding shelter,

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Gary reported that he had been “sleeping on the streets” in Brevard County. Additionally, when I met Andrew he explained that he lives on and off with his mother but spends most nights sleeping under a bridge, unless the weather is bad. Due to his on and off arrangements with his mother he can be described as unsheltered. Four of the men were living in tents in wooded areas when I interviewed them. One participant, Chuck, reported that he was living out of his car at the time of the interview.

**Table 2: Sample Characteristics of Participants**

<b>Pseudonym</b>	<b>County</b>	<b>Race</b>	<b>Age</b>	<b>Housing Status</b>	<b>Time Homeless</b>
<i>Andrew</i>	Brevard	White	Twenties	Unsheltered	Intermittently
<i>Carl</i>	Brevard	Black	Middle aged	Unsheltered	10+ years
<i>Chuck</i>	Brevard	White	Middle aged	Unsheltered – Car	About 3 years
<i>Dale</i>	Seminole	White	Middle aged	Unsheltered – Tent	About 2 years
<i>Frank</i>	Brevard	White	Middle aged	Unsheltered – Tent	6 months
<i>Gary</i>	Brevard	White	Middle aged	Temporarily sheltered	A few months
<i>James</i>	Orange	White	Twenties	Sheltered	About 5 years
<i>Joe</i>	Orange	White	Middle aged	Sheltered	About 4 years
<i>Randy</i>	Brevard	White	Middle aged	Unsheltered – Tent	10+ years
<i>Sid</i>	Brevard	White	Middle aged	Unsheltered	10+ years
<i>Tony</i>	Seminole	White	Middle aged	Unsheltered- Tent	About 2 years

I recruited the majority of interview subjects from Brevard County by gaining access to a day shelter in Melbourne that allowed me to recruit participants in their lobby. This provided me with access to roughly twenty men who were waiting to meet with counsellors or take a shower, many of whom were willing to be interviewed while they waited. In contrast, my recruitment in Orange and Seminole County took place during meal times at a monthly soup kitchen (Seminole) and at an emergency shelter for homeless men (Orange). Not surprisingly, most of the patrons in these locations were more interested in getting a hot meal than in speaking to a researcher about how the weather affects their daily lives. Thus, while I established recruitment sites in Orange and Seminole County, it was difficult to enrol participants into this study.

Considering the disparity in county representations, I cannot offer conclusions regarding differences in the experiences of homeless men living in different counties.

I utilized methods consistent with the grounded theory approach to analyse both the group and individual interviews. I began with reading the transcripts line-by-line while conducting open coding to develop a set of initial codes (Charmaz 2007; Saldana 2010; Strauss and Corbin 1990). These initial codes focused on factors that may have presented risks for the unsheltered homeless. After developing a list of initial codes, I utilized axial coding to better understand the relationship between initial codes and develop analytical categories (Saldana 2009; Strauss and Corbin 1990).

In the discussion below, I will examine the limitations of this study's relatively small and homogenous sample. Considering its limited sample size and lack of diversity, along with the specific geographic context, this article might best be viewed as a case study. Thus, I do not assume that the findings are generalizable to the experiences of all people who are currently, or have previously experienced, homelessness or those in other regions. That being said, it may be reasonable to assume that people experiencing homelessness in other parts of the world will tell similar stories. Ultimately, the present study provides new insights as to how economically, structurally and culturally marginalized population experiences severe and inclement weather.

### **Research Findings**

The nature of "homelessness" means that one does not have adequate shelter. Moreover, many individuals experiencing homelessness also lack adequate transportation. Therefore, this population also experiences increased exposure to inclement weather. In the following two sections, I first document the unequal exposure that homeless men experience and then discuss how social stigma may increase their vulnerability to hazards. However, exposure and stigma are only two aspects of social vulnerability among others. In the last two sections, I also examine how unemployment (unequal access to resources) and special medical needs may increase disaster vulnerability among the homeless.

#### **Unequal Exposure**

Considering the various weather related hazards present in Florida, it may be safe to conclude that the homeless are more vulnerable to inclement and severe weather simply because they do not have a home in which to seek shelter. This is especially true for the men in this study who are unsheltered and are not currently utilizing homeless shelter services. Instead, many of the men I interviewed slept in tents in the woods, in their cars, or any "safe" place they can find.

Furthermore, all of the men included in this study report that they rely on buses, bicycles, and walking to travel from place to place. Even Chuck, who at the time I interviewed him was living in his car, admitted that he does not drive his car because

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he cannot afford the gas. Thus, without access to their own vehicle, the homeless men in this study arguably spend more time outdoors, walking, riding bikes, and waiting on buses than the average housed person.

Indeed, homeless service providers identified lack of transportation as a major obstacle for many of their clients. As one case manager in Osceola County explained:

We were running into this problem this week, transportation for the homeless. We try to get bus passes through Lynx bus. Unfortunately Lynx won't donate bus passes. A lot of these residents are like 'it takes me one single day just to get one thing done because I have to walk two hours to this place.'

A two hours walk is inconvenient enough on its own; however, when the context of that walk is examined, it becomes clear how exposure coupled with lack of transportation poses a serious problem for the homeless.

Frank is a middle-aged homeless man living in a tent in a wooded area in Brevard County. While interviewing him, he explained that his primary mode of transportation is the county bus service. However, he noted that bus service is limited on Sundays. Therefore, to catch a bus to the day shelter he has to walk about two and a half hours to reach the nearest stop. I interviewed Frank in mid-March, and he expressed concern that increasing temperatures may limit his ability to get around, stating, "Now that it's startin' to get warmer I might not even do it that often. Comin' in the morning is not that bad but going back in the afternoon would be hot enough, and uh, you start sweatin' like a racehorse." The day shelter where I interviewed Frank offers a hot breakfast to homeless and low-income residents, as well as laundry services and a place to take a shower. Should the weather get too hot and should Frank decides not to make the two and a half hour walk to the nearest bus stop, he would forego a hot meal and a shower for the day. Heat, however, is not the only obstacle which may limit one's ability to travel and access services.

For homeless men who travel by foot or by bicycle, rain is another barrier to contend with. As Tony explains, "And when it's raining out, you can't move around as much, ya'know mean? You might have to not eat that day." Furthermore, rainy nights may make it difficult for some men to find a safe place to sleep and avoid being noticed by the police. According to Carl, "Sometimes you can't even sleep at night. Sometimes you're up all day because you can't find a place to stay and stay dry. I've been up a couple days [before] trying to stay dry."

Exposure may also have adverse effects on one's health. As one homeless service provider in Brevard County notes, "There's a particular homeless man that's always on the corner. He's darker than I am and he's a Caucasian because of the sun." Aside from having a really good tan, this homeless man may also be at risk of developing skin cancer. While increased exposure to the sun may increase one's risk to skin cancer, prolonged exposure to the cold and rain may also have negative effects on one's health. Andrew is a twenty-year old unsheltered homeless man living Brevard County. He might best be described as intermittently homeless, as at times he is allowed to stay at

his mother's house; especially on cold or rainy nights. On nights that he is not able to stay with his mother he typically sleeps under a bridge. I asked him to describe his experiences of sleeping out in the cold or the rain. He described it as: "Terrible, sleeping out in the rain - waking up sick. Sleeping out in the cold - waking up cold." Thus for Andrew, prolonged exposure to the cold or sleeping in the rain has direct effects on his physical and emotional wellbeing. Carl also expressed concerns about the effects of getting wet. During my interview, he explained that getting caught in the rain or sweating excessively can cause pungent and unpleasant odours, which he tries to avoid.

As I have demonstrated, the homeless must negotiate the weather more often than housed individuals. This is directly related to their housing status which causes the homeless to spend most of their time outdoors, besides being influenced by their lack of transportation. Ultimately, the increased exposure experienced by the homeless may be detrimental to their physical health and wellbeing. This is especially true in situations where heat and rain may prevent some homeless men from accessing services, eating, and even sleeping. Unequal exposure related to homelessness and transportation, however, is just one dimension of vulnerability that we must consider. We must also consider how social stigma, health status, and economic standing intersect to increase the homeless' social vulnerability to natural hazards.

### **Social Stigma**

As previously mentioned, the presence of pre-disaster homeless individuals in emergency shelters following a disaster was considered problematic at times (Yelvington 1997). However, social stigma is something that affects the homeless on a day-to-day basis and may prevent them from being able to access temporary shelters. Both the homeless men and homeless services providers whom I interviewed provided examples of how social stigma affects the daily lives of the homeless. Generally, service providers discussed concerns the housed public might have about homeless men.

For example, during my group interview in Osceola County, one participant suggested that the homeless might use libraries as temporary shelter during the day.

*Interviewer:* ... are the libraries here welcoming?

*Participant 1:* No, because it scares their patrons away...I think a lot of public places are not very welcoming at least to the literally homeless population.

*Participant 2:* Yeah, because you know the one that we've been working with who knows when he's bathed the last time. I mean these are rough individuals.

Indeed, life on the streets is not pretty. While most of the men I interviewed appeared to be clean and well groomed, others were not as well-kempt. In another example, a Brevard County service provider also described the dirty and drunk stereotypical image of a homeless man.

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I've been over there recently, they're saying there's a homeless man there. He's drunk. He's got a paper bag with a bottle and he's got a blanket over him and he's sleeping on a bench.

This same participant also described a public park where several homeless men gather, and how this caused some citizens to avoid that park:

Every single night I drive home from work they're at the park. [It] has a big cover and picnic tables and there's huge group that live there along the water. But they're all congregated at those picnic tables. The public just doesn't want to pull in there. People just—even with young mothers, and my daughter is a young mother, and with her group of parents they'll say 'well, don't go to that park with your child because there's a lot of homeless.'

These examples show that the homeless, either due to their presentation of self or the public's perceptions of them, are a stigmatized group. This stigma may lead members of the housed public to avoid places where the homeless gather. However, the stigma of being homeless may also put some homeless at risk of violence.

"Bum fights" refer to events in which groups, often consisting of young men, hunt down, beat up, and rob the homeless. In recent years there have been several high-profile bum-fighting incidents in Central Florida. This includes a 2006 incident during which a group of teenagers beat a homeless man to death in Orange County. Of the homeless men I interviewed, Randy was the only participant who described an incident of violence against the homeless. Interestingly, the victim of the attack was not actually homeless himself but was perceived to be homeless by his attackers. As Randy explained:

A lot of times people think that you're homeless because you've got a backpack and you're on a bicycle but that's not always the case either. Uh, for instance a friend of mine that lives on the beach, and he carries a backpack and carries his laptop in it. And he's a very successful businessman. Well, he had some kids jump on him and started a fight with him at Wal-Mart last year over on the beach. Thank God that they had cameras on because it showed the two kids jumpin' on him... and when he went to court the judge looked at the video and seen the two kids jumped on him. So, they got what they deserved.

The incident described by Randy, as well as the bum-fighting phenomenon more generally, further provides additional evidence that the homeless are a socially stigmatized group.

## Unequal Resources

Nearly all of the men I interviewed were unemployed when I met them. Joe, a sheltered homeless man from Orange County, was the only participant who was employed when I interviewed him. However, he described his employment as “part-part-time” or three half-days per week. While a handful of the men received disability or food stamp benefits, most relied on working odd jobs or day labour to make a few dollars when they could.

Gary is a temporarily sheltered man living in Brevard County, who currently receives disability benefits from the federal government. However, Gary also works odd jobs to make extra money. As he explained:

I work a few odd jobs for cash. Yesterday, I was at a church for lunch and some guy came up and said he needed a few guys to do some work and I said I'm one of 'em. (...) He took me and another guy and when he dropped me off he gave me \$10 an hour and he said 'I want you, just you, from now on.' And he's gonna pick me up at 12:30 today.

Gary's experience seems typical of the types of odd jobs that homeless men might find. Such work, although temporary, provides homeless men with a meagre income that may allow them to purchase food or other goods they might need. However, the weather may affect their ability to find work. As discussed earlier in this paper, rain and heat prevent some homeless men from being able to travel freely. As seen, some participants reported skipping meals or not able to sleep on rainy or excessively hot days. However, this inclement weather may also prevent them from finding odd jobs or looking for full-time work.

Furthermore, Carl, an unsheltered homeless man living on the streets of Brevard County, explained that he makes money by selling drawings. As he explains, the weather can also affect his work, “Take me for example. I paint and I draw. And you have to keep paintings and drawings in their best condition when you have to sell them. You have to keep them dry.” Although Carl admits that he does not sell much of his artwork, inclement weather requires Carl to not only protect himself but also his fragile artwork.

Overall, it may be safe to conclude that the weather has a direct effect on the incomes of many homeless men. Whether they receive benefits, are working “part-part-time” or odd jobs, or selling artwork on the street, it is clear that the men I have interviewed have very meagre incomes. Furthermore, their ability to earn money appears to be unstable at best, and are in some cases (such as Gary) dependent on being in the right place at the right time. Such unstable and low incomes may prevent many homeless men from finding permanent housing. In the aftermath of Florida's housing collapse, low-cost rental property has become scarce. As one service provider in Osceola County explains, this has created a challenge for her in placing clients in permanent housing:

Osceola County was hit very hard with foreclosures so as all those people moved out of their homes into rental properties [and with] supply and demand and ... I have to tell my clients, 'well, you don't make enough money for me to help.' And they're like, 'well, wait a minute, don't you help low income?' Yes, but you have to be self-sustainable.

Ultimately, the infrequent and limited incomes of some homeless men may prevent them from finding permanent housing. Thus, they remain on the streets and must continue to manage their risks to various natural hazards. In addition to having limited financial resources and experiencing social stigma, some men experiencing homelessness also reported having special medical needs which arguably augment their vulnerability to hazards.

### **Special Medical Needs**

Three men interviewed for this study disclosed having chronic illnesses such as diabetes, heart disease, and arthritis, which may contribute to their overall vulnerability. However, as one service provider explains, health status is a major issue for many individuals experiencing homelessness:

Most of the literally homeless that I've dealt with are not well. They have health issues. And some are disabled. Sometimes it's very hard for them. It's a harsh life anyway to live outside, and then you combine that with health issues and that's probably the number one priority.

It is thus not surprising that some of the men I interviewed disclosed having chronic medical conditions. Gary reported having heart disease, arthritis in his spine and ankles, and depending on oxygen therapy. Additionally, Sid and Frank reported having diabetes. For these men, chronic medical conditions present additional challenges. Gary explained that his arthritis was a motivating factor for him to relocate to Central Florida. Previously he had been staying at a homeless shelter in Maine. However, Maine's harsh winters and extreme cold often caused him extreme joint pain. According to Gary, Maine's weather affected his ability to travel:

In Maine I can't walk because the arthritis in my ankles but down here it's no big deal. They hurt at night but I soak my feet at night and it brings the swelling down.

When I interviewed Gary he was renting a room from an older man who invited him into his home on a cold night. However, he disclosed that he was exploring other living arrangements because he was not satisfied with the location. Gary's temporary living situation may allow him to better manage his chronic medical conditions. As he

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explained in the above example, he is able to soak his feet to relieve swelling in his ankles cause by arthritis. Furthermore, Gary described his nightly routine as follows:

I can't sleep with the TV on or any kind of light. I've had insomnia for almost 20 years. [Explains that he's on sleeping pills.] So at night I take 200mg and I smoke a cigarette and [then] turn on my oxygen.

Clearly, being housed, even temporarily, allows Gary the opportunity to treat his chronic illnesses. On the street or in an emergency shelter, he would most likely be unable to soak his feet to relieve swelling and pain related to arthritis. Furthermore, his ability to store, transport, and use oxygen on a regular basis would be limited.

Such is the case for Sid and Frank who are both diabetic and currently unsheltered. While Frank was only diagnosed with diabetes a few months before I spoke with him, Sid has been trying to manage his disease since the 1980's:

I'm a diabetic and I don't have the funds. Since 1980, I haven't had no funds to get no shots or nothing.' [Also] you gotta keep all that stuff refrigerated.

For Sid it is apparent that being homeless has prevented him from properly monitoring and controlling his diabetes. Aside from the financial constraints of managing diabetes, living on the streets also precludes Sid from storing insulin. Therefore, it is not surprising that Sid disclosed that he sometimes has to be taken to the hospital due to complications from his untreated diabetes.

Managing a chronic illness while living on the street arguably creates daily complications for people experiencing homelessness. However, these conditions may be exacerbated by natural hazards and prolonged disasters. Taking into account the limiting effect that inclement or severe weather has on the ability of homeless men to travel provides a better understanding of this connection. For example, in the previous section I established that rain and extreme heat may prevent some homeless men from leaving their camps or temporary shelters. In fact, some of the men I have interviewed claim that in the past they have had to skip meals or stay awake for extended periods of time because rain prevented them from traveling. For homeless men with chronic diseases such as diabetes, skipping meals may turn into a serious medical event. Thus, homeless men living with such conditions may ultimately be more vulnerable to natural hazards than otherwise healthy homeless men.

### **Discussion**

At the beginning of this paper, I outlined the various natural hazards present in Florida. These include severe thunderstorms and hurricanes that are often accompanied by high winds, torrential rains, and deadly lightning. Furthermore, I argued that individuals experiencing homelessness are at a greater risk to natural hazards in comparison with the housed population in the following ways. First, being homeless

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means that many of the men I interviewed spend most of their time outside. Thus, they have greater exposure to the sun and its heat, as well as the cold and rain. While a rainy day might be an inconvenience for a housed person, it may result in individuals experiencing homelessness having to skip meals. Moreover, prolonged weather events such as hurricanes or tropical storms may prevent the homeless from leaving their camps or temporary shelters for several days. Ultimately, it appears that natural hazards can cause individuals experiencing homelessness to lose opportunities to work or sell goods, further limiting their already meager incomes, besides compromising their health.

The present study has illuminated several areas in need of further investigation. First, the relationship between income, weather, and the ability to find permanent housing appears to be complicated. Rain is only one weather related obstacle that the homeless must negotiate, however, it may affect their ability to travel and earn money through working odd jobs or selling artwork. In this sense, inclement weather may keep some men from finding permanent housing because it prevents them from finding work. While it may be a stretch to assume that one could earn enough money while working odd jobs and selling artwork to afford an apartment of one's own, such incomes might provide the homeless with the ability to rent a room from a homeowner or find a hotel for the night. However, if the weather prevents them from earning money, it will also prevent them from finding adequate shelter. Ultimately, this topic may require further investigation.

Sociologists have written about stigma and homelessness for decades (See: Anderson, Snow, and Cress 1994; Phelan, Link, Moore, and Stueve 1997; Wasserman, Clair, and Platt 2012). Although my research indicates that social stigma attached to homelessness may also increase social vulnerability, we do not yet fully understand the ways in which stigma affects how the homeless can manage their risks to natural hazards vulnerability. It does appear that for some of the men I interviewed, public perceptions of homelessness may limit their ability to seek shelter and protect themselves from inclement or severe weather. Again, further investigation is needed before this can be confirmed.

A major limitation of this study lies in its sample which consists entirely of men who were almost exclusively white. Although I had hoped to include women in my research, my recruitment sites primarily served male clients. Ultimately, the unintended exclusion of women from this study is a limitation because I am unable to examine the gendered experiences of homelessness in Central Florida, or how women experiencing homelessness in the region negotiate the weather. Similarly, aside from Carl, the sample is overwhelmingly White. Although I invited several Black men to participate in my research, only one was enrolled. While I cannot say for sure why the others did not wish to participate in the study, my social location as a white male researcher may have been a barrier to recruiting other black men. Therefore, as I cannot examine potentially racial differences in the experiences of my participants, the lack of racial and/or ethnic diversity is a limitation of this study. However, even though the typical participant in this study is an unsheltered, middle aged, White man, the sample includes participants with their own unique experiences of homelessness, particularly concerning inclement

and severe weather in the region. Future studies should strive to include more diverse samples of participants. One potential strategy for doing so would be to assemble a diverse research team in terms of race, gender, and presentation of self. Perhaps a more effective strategy might be to develop a participatory research project which invites and engages people experiencing homelessness in all stages of the research process.

Hazards and disaster research inclusive of homeless people challenges the current paradigm of emergency management because it shifts the focus away from people in "houses." This will broaden researchers' understanding of how individuals, communities, and agencies work together to anticipate and mitigate risks. Furthermore, research examining homeless person's experiences preparing for and surviving disasters can lead to emergency management policies that are more inclusive of the needs of people experiencing homelessness.

Ultimately, through studying the challenges that the homeless face during disasters we may transform the emergency management system to adopt a stronger commitment to social justice and the protection of all citizens. While such a claim may seem out of line with the mission of emergency management to develop a framework or plan to reduce vulnerability, a National Research Council report on resilience explains:

A healthy community with a strong economy, commitment to social justice, and strong environmental standards will be able to bounce back better after a disaster; such communities exhibit a greater degree of resilience. (2011, p. 4)

Such a claim is also consistent with Drabek's (1998, 2014) assertions that emergency managers must be "community change agents." According to Drabek, disasters are essentially social problems, and like all social problems, their causes and solutions are socially constructed. Thus, in order to solve the social problem of disasters, emergency managers will need to expand their role from planning for and managing crises, to combating the social causes of vulnerability. In the cases of homelessness, emergency managers should first strive to create plans which are inclusive of the needs of people experiencing homelessness. From this study, we can conclude that people experiencing homelessness may need additional assistance in the form of transportation, housing, and food during a disaster event. However, the present study also encourages us to focus on the challenges that mundane events, such as afternoon thunderstorms, present to individuals living on the streets or in tents. It may be the case that homelessness itself is the disaster at hand. If this is the case, then emergency managers, as agents of community change, should address the root causes of homelessness and housing insecurity, such as unemployment, income inequality, and lack of affordable housing, in their communities. It may be a tall order, especially during an era of state and local government austerity, however, by addressing these issues now, officials may reduce the number of victims in need of management and support during times of crisis.

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