

# Variations in public and private employees' perceptions of organizational preparedness for natural disasters

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## Abstract

Studies have demonstrated that public and private organizations differ in many respects (e.g., funding mechanisms and risk-taking capabilities). Based on this scholarship, we expect to see differences in their disaster preparedness levels. Hence, we propose the following research question: Are there variations in public and private employees' perceptions of organizational preparedness for natural disasters? We answer this question by employing the theories of publicness and social identity. We define publicness through the core approach arguing that public and private organizations are uniquely different based on their legal status or ownership and social identity as an individual's feeling of oneness or belongingness to a particular group or organization. Using data gathered in 2014 from a nationally representative sample of 1,634 public and private employees in the United States, we posit that employees of private organizations will report higher preparedness levels in comparison to employees of public organizations. Our proposition is based on scholarship that found a negative relationship between publicness and organizational identification and a positive relationship between organizational identification and organizational performance. Contrary to our proposition, but in line with the disaster literature, the results showed that in general, employees of public organizations reported a higher preparedness level than employees of private organizations.

Keywords: Disaster preparedness, public and private organizations, environmental hazards, publicness, social identity theory

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## 1. Introduction

Natural disasters have and continue to pose significant threats to the physical and economic wellbeing of public and private organizations on a national and international scale. Hurricane Andrew in August of 1992, for example, destroyed nearly 82,000 businesses resulting in the loss of 86,000 jobs throughout the State of Florida (Hartwig, 2002). Then, the 1993 Midwest Floods disrupted the City of Des Moines' water supply leaving 80 percent of businesses without water and causing over 40 percent of businesses to close for some length of time (Tierney, 1995). Further, Hurricane Katrina devastated numerous governmental facilities, which resulted in over \$3 billion in damages (Townsend, 2006). At the international level, the 2011 Great East Japan earthquake and tsunami impacted over 85,000 businesses and over 300,000 employees (Dun & Bradstreet, 2011). These events and others are vivid reminders of the devastation natural disasters impose upon public and private organizations year after year.

To alleviate the impact of natural disasters, public and private organizations are encouraged to adopt preparedness measures such as acquiring a first aid kit, providing disaster information to employees, and offering disaster preparedness and response training programs (Sadiq & Graham, 2015). However, the extent to which public and private organizations compare in adopting such preparedness measures remains understudied in contemporary disaster research (with the exception of Chikoto, Sadiq, and Fordyce (2013) and Fowler, Kling, and Larson, (2007)), despite studies demonstrating public and private organizations are different. Indeed, scholars have found differences between the two organizational types with respect to their risk-taking capabilities (Drennan, McConnell, & Stark, 2015), funding (Andrews, Boyne, & Walker, 2011), and political influence (Boyne, 2002; Rainey, 2009).

The current study attempts to fill this gap in the disaster literature by proposing the following research question: Are there variations in public and private employees' perceptions of

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3 organizational preparedness for natural disasters? From a practical perspective, understanding  
4 the differences between public and private organizations' preparedness levels can help  
5 policymakers better allocate scarce community resources. For instance, in the immediate  
6 aftermath of disasters, if policymakers already know the preparedness levels in public and  
7 private organizations, they will be in a position to more efficiently allocate response resources  
8 (Sadiq, 2009). In addition, an inquiry to this question is important as governmental entities are  
9 increasingly relying upon private organizations to deliver public services (e.g., electricity, water  
10 and gas, transportation, etc.) (Malatesta & Carboni, 2015). For example, citizens expect public  
11 services—whether delivered by a public or private entity—to continue to be offered despite the  
12 occurrence of a natural disaster. Understanding the differences between public and private  
13 organizations may encourage public managers to be proactive in implementing programs  
14 designed to enhance preparedness levels for the lesser-prepared organizations, which will in turn,  
15 enhance the social and economic well-being of the affected community. We explore these  
16 differences by employing the theories of publicness and social identity whereby we define  
17 publicness through the core approach arguing public and private organizations are uniquely  
18 different based on their legal status or ownership (Rainey, Backoff, & Levine, 1976) and social  
19 identity as an individual's feeling of oneness or belongingness to a particular group or  
20 organization (Ashforth & Mael, 1989). The goal of this study is not to test these two theories, but  
21 to use them as the theoretical foundation for understanding variations in public and private  
22 employees' perceptions of organizational preparedness for natural disasters.

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51 Using data gathered in 2014 from a nationally representative sample of 1,634 public and  
52 private employees in the United States, we posit that employees of private organizations will  
53 report higher preparedness levels in comparison to employees of public organizations. Our  
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3 proposition is based on previous scholarship that found a negative relationship between  
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5 publicness and organizational identification (Willem & Buelens, 2007) and a positive  
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7 relationship between organizational identification and organizational performance (Carmeli,  
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9 Gilat, & Waldman, 2007). Contrary to our proposition, the results showed that in general,  
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11 employees of public organizations reported a higher preparedness level than employees of  
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13 private organizations.  
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17 The current study contributes to the disaster management literature both in theory and in  
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19 practice. Theoretically, we combined two theories from two different disciplines to explain  
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21 variations in public and private employees' perceptions of organizational preparedness for  
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23 natural disasters. No study (to our knowledge) has provided a theoretical foundation for  
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25 explaining such variations in the purview of environmental hazards. Practically, a better  
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27 understanding of the differences between the two organizational types may have implications for  
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29 the privatization of public services (Malatesta & Carboni, 2015) and organizational performance  
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31 (Andrews, Boyne, & Walker, 2011).  
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37 In the following section, we review the extant literature on the relationship between  
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39 organizations and disaster preparedness and discuss the determinants of disaster preparedness at  
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41 the organizational level. Next, we discuss the theories of publicness and social identity. Then, we  
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43 explain the method of data collection, variable measurement, and present the results. Finally, we  
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45 discuss the findings and limitations, and outline a research agenda for environmental hazards  
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47 scholars on organizational disaster preparedness.  
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## 50 **2. Literature Review**

### 51 ***2.1 Organizations and disaster preparedness***

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3 Although public and private organizations are equally threatened by natural hazards,  
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5 there are distinct differences between the two domains that affect their risk management  
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7 practices (Drennan, McConnell, & Stark, 2015). Indeed, scholars have found differences with  
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9 respect to their risk-taking capabilities (Drennan, McConnell, & Stark, 2015), funding (Andrews,  
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11 Boyne, & Walker, 2011), and political influence (Boyne, 2002; Rainey, 2009). First, in regard to  
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13 risk-taking capabilities, public organizations typically engage in less risk-taking than their  
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15 private counterparts because there are no profit incentives (Drennan, McConnell, & Stark, 2015).  
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17 Bozeman and Kingsley (1998) further argue that public organizations are more risk-averse due to  
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19 greater subjection to political authority. Second, with regard to funding, public organizations are  
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21 generally funded through government grants while private organizations are commonly funded  
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23 through consumer payments (Andrews, Boyne, & Walker, 2011). Therefore, public  
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25 organizations are not typically threatened by bankruptcy or closure and private organizations are  
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27 not significantly impacted by governmental reform (Drennan, McConnell, & Stark, 2015).  
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29 Finally, with respect to political influence, public organizations are largely controlled by political  
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31 forces and private organizations, in comparison, are controlled by market forces (Boyne, 2002).  
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33 Thus, public organizations can be viewed more as service deliverers whereas private  
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35 organizations can be viewed as profit seekers. Thus, because private organizations are profit  
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37 seekers, subjected to bankruptcy and closure, and are greater risk-takers, we posit that private  
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39 organizations will be less prepared for natural disasters than public organizations.  
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48 Unfortunately, only a handful of scholars have studied the differences in disaster  
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50 preparedness among public, private, and nonprofit organizations. Chikoto, Sadiq, and Fordyce  
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52 (2013), for example, examined if non-profit organizations engage in more mitigation and  
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54 preparedness measures than public and private organizations in Memphis, Tennessee. One result  
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3 relevant to the current study is that public organizations adopted more mitigation and  
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5 preparedness measures than private organizations. However, because the authors' study was  
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7 based in Memphis, Tennessee with a relatively small sample size (N= 227), the authors contend  
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9 that "any attempt to apply the findings of this study should proceed with caution" and call for  
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11 additional studies using national level data (Chikoto, Sadiq, & Fordyce, 2013, p. 404). In  
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13 addition, using an alumni database from a state university in the southwestern United States as  
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15 their population, Fowler, Kling, and Larson (2007) examined the perceived organizational  
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17 preparedness for responding and recovering from a major disaster among public, private, and  
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19 non-profit organizations. The results showed that employees of governmental organizations  
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21 perceived their organization to be more prepared for a disaster than non-profit organizations, and  
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23 employees of private organizations expressed the lowest perceptions of disaster preparedness.  
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25 Fowler, Kling, and Larson (2007) also recognize that their study cannot be generalizable to the  
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27 broader United States and recommend that future studies use national level data.  
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34 The current study seeks to overcome these limitations by expanding the geographical area  
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36 and accounting for additional variables. Specifically, we answer Chikoto, Sadiq, and Fordyce  
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38 (2013) and Fowler, Kling, and Larson (2007) call for future studies to use national level data to  
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40 examine organizational disaster preparedness as it is suspected that results will be skewed when  
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42 surveying a small geographical location. Therefore, our findings are much more generalizable. In  
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44 addition, we adhere to Chikoto, Sadiq, and Fordyce's (2013) recommendation to control for  
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46 additional variables—tenure, risk perception, disaster experience, single location, building  
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48 ownership, and organization age. In sum, by addressing these limitations, the current study  
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50 serves as a robust preliminary analysis for understanding variations in public and private  
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52 employees' perceptions of organizational preparedness for natural disasters.  
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## 2.2 *Determinants of organizational preparedness*

Disaster management literature at the organizational level has heightened in recent years, due in part to Dynes and Drabek's (1994) initial call for additional theoretical and empirical studies. Myriad scholars (e.g., Chikoto, Sadiq, & Fordyce, 2013; Dahlhamer & D'Souza, 1995; Fowler, Kling, & Larson, 2007; Han & Nigg, 2011; Larson & Fowler, 2009; Sadiq, 2010; Sadiq & Weible, 2010; Webb, Tierney, & Dahlhamer, 2000) answered this call and began to provide a basis for assessing disaster preparedness at the organization level. In the following paragraphs, we review the extant literature regarding the determinants of disaster preparedness at the organizational level.

### 2.2.1 *Risk perception*

Risk perception refers to the way individuals, households, and organizations discern the probability that a hazard will indeed occur (Phillips, Neal, & Webb, 2011). Thus, risk perception is a subjective measure and does not necessarily reflect factual information regarding the severity of a risk (Nemeth, 2013). This study focuses on how employees perceive the risk of natural hazards occurring at their organization as well as the extent to which their organization is prepared to handle the consequences of a potential disaster. Researchers (e.g., Sadiq, 2010; Sadiq & Weible, 2010) studied disaster mitigation and preparedness efforts among a sample of organizations in Memphis, Tennessee. The findings revealed a significant positive relationship between concern over disaster impacts and the adoption of mitigation and preparedness measures (Sadiq 2010; Sadiq & Weible, 2010). Similarly, Han and Nigg (2011) assessed preparedness efforts among businesses in a Santa Cruz, California. The results of this study also revealed a positive relationship between risk perception and the adoption of preparedness measures.

### 2.2.2 *Organization size*

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Disaster research at the organizational level has consistently shown a strong positive relationship between organization size and disaster preparedness (Chikoto, Sadiq, & Fordyce, 2013; Dahlhamer & D'Souza, 1995; Han & Nigg, 2011; Sadiq, 2010, 2011; Sadiq & Weible, 2010; Webb, Tierney, & Dahlhamer, 2000). In fact, the size of an organization is one of the most dependable antecedents of disaster preparedness (Dahlhamer & D'Souza, 1997).

### 2.2.3 Previous disaster experience

When organizations experience a disaster they are more likely to take steps to be prepared for future disasters (Dahlhamer & D'Souza, 1995; Han & Nigg, 2011). For example, Dahlhamer and D'Souza (1995) found a significant and positive relationship between previous disaster experience and current preparedness levels in a sample of businesses in Memphis/Shelby County, Tennessee and Des Moines/Polk County, Iowa. Similarly, Han and Nigg (2011) demonstrated that businesses that had already suffered lifeline loss from previous disasters were more prepared for future disasters compared to businesses that did not previously suffer lifeline loss.

### 2.2.4 Organization age

The age of an organization is an important factor influencing an organization's level of disaster preparedness (Drabek, 1991; Han & Nigg, 2011). However, the findings regarding the relationship between age and disaster preparedness are inconsistent. For example, Han and Nigg's (2011) study showed that younger organizations are more prepared for disasters while Drabek (1991) found that older organizations are more prepared for disasters.

### 2.2.5 Ownership type

Ownership type refers to whether an organization is a single firm or part of a franchise. Empirical studies by Drabek (1995) and Sadiq (2010) revealed that franchises are more prepared



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3 for disasters than single firms. One reason for this result is that franchises might be required to  
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5 implement preparedness measures by their corporate headquarters (Dahlhamer & D'Souza,  
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7 1995).  
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#### 10 *2.2.6 Organization sector*

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12 This study uses the term 'organization sector' to refer to specific types of organizations  
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14 such as education, health, and wholesale/retail trade. Although previous findings are  
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16 inconsistent, researchers have shown organization sector to be an important antecedent of  
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18 disaster preparedness. For example, Chikoto, Sadiq, and Fordyce (2013) and Sadiq (2010) found  
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20 significant relationships among mitigation and preparedness measures in the education, health,  
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22 and wholesale/retail trade sectors. However, other studies have found organizations in the  
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24 finance/insurance sector (Han & Nigg, 2011), lodging (Drabek, 1991, 1995), and  
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26 finance/insurance/real estate (Dahlhamer & D'Souza, 1995) to be prepared for disasters.  
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#### 31 *2.2.7 Tenure*

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33 Tenure refers to the length of time an employee has worked for a particular organization.  
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35 Currently, there are no studies that have used tenure as a determinant of disaster preparedness.  
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37 However, this study uses tenure as a relevant control variable because of its influence on job  
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39 satisfaction (Rainey, 2009). The authors believe job satisfaction might influence an employee's  
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41 perception of organizational effectiveness in preparing for disasters, thus making it an important  
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43 determinant to include.  
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#### 48 *2.3 Theory of publicness*

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50 The distinction between public and private organizations has and continues to dominate  
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52 public administration discourse (Andrews, Boyne, & Walker, 2011), which is evident in the  
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54 numerous scholarship produced on this topic (e.g., Bae, 2014; Bozeman, 1987; Bozeman &  
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3 Bretschneider, 1994; Malatesta & Carboni, 2015; Rainey, Backoff, & Levine, 1976; Rainey &  
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5 Bozeman, 2000; Willem & Buelens, 2007). However, despite Stark's (2011) argument that the  
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7 publicness literature in part is both "clear and multiple," researchers continue to express a  
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9 theoretical interest in answering the question, "What is the difference between public and private  
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11 organizations?" (Andrews, Boyne, & Walker, 2011; Malatesta & Carboni, 2015; Meier &  
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13 O'Toole, 2011). An inquiry to this question is important as the differences are likely to impact  
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15 organizational behavior and performance outcomes (Bozeman & Bretschneider, 1994), which in  
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17 turn, may have implications for the privatization of public services (Malatesta & Carboni, 2015).  
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19 This has led scholars to debate whether public and private organizations differ by definition (the  
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21 core approach) or by degree (the dimensional approach) (Bozeman, 1987; Bozeman &  
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23 Bretschneider, 1994).  
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30 For the purposes of this study, the authors follow the core approach to publicness by  
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32 classifying public and private organizations based on their legal status or ownership. Using this  
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34 approach, two key public-private distinctions are made. First, public organizations are primarily  
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36 funded by taxation whereas private organizations are typically funded through fees paid by  
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38 customers (Andrews, Boyne, & Walker, 2011). It is, however, important to recognize that public  
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40 organizations can and do receive funding from private institutions and vice-versa. Yet, in many  
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42 cases, a majority of a public organizations' funding is received in sum from governmental  
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44 entities while a majority of private organizations' funding is received discretely in exchange for a  
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46 good or service (Andrews, Boyne, & Walker, 2011). Secondly, public organizations are largely  
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48 controlled by political forces and private organizations, in comparison, are controlled by market  
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50 forces (Boyne, 2002). This, therefore, implies that public organizations are constrained more by  
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52 political demands while private organizations are constrained more by consumer demands  
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3 (Boyne, 2002). Scholars (e.g., Bozeman & Bretschneider, 1994; Williamson, 2014) conform to  
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5 the perspective that ownership is fundamentally the simplest, yet most powerful basis to classify  
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7 an organization as public or private. As a result, our conceptual approach focuses on comparing  
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9 public and private employees' perceptions with regard to organizational preparedness for natural  
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11 disasters by asking respondents whether or not they work for public or private organizations. In  
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13 other words, this study asks respondents to self-identify as an employee of a public or private  
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15 organization.  
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#### 18 19 20 **2.4 Social identity theory** 21

22 Social identity theory is a social psychological construct that explains group processes  
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24 and how individuals tend to classify themselves and others into social categories (Ashforth &  
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26 Mael, 1989; Hogg, Terry, & White, 1995). Social identification can be defined as an individual's  
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28 feeling of oneness or belongingness to a particular group or organization (Ashforth & Mael,  
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30 1989). According to Hogg, Terry, and White (1995), there are two sociocognitive processes that  
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32 provide support for explaining social identity theory. The first is categorization. Categorization  
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34 refers to the distinctiveness of a group where individual unique perceptions are lacking and  
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36 group mindset is overpowering. The second is self-enhancement. Self-enhancement is when  
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38 individuals or groups portray themselves positively in ways that favor the individuals or groups.  
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43 In an organizational context, social identity theory has been used to understand  
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45 knowledge sharing (Willem & Buelens, 2007) and job performance (Carmeli, Gilat, & Waldman,  
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47 2007). Accordingly, Willem and Buelens' (2007, p. 582) study focused on identifying the  
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49 characteristics that increase or limit interdepartmental knowledge sharing, which can be defined  
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51 as "the process of exchanging and processing knowledge in a way that knowledge can be  
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53 integrated and used in another unit." Using three types of public sector organizations:  
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3 government agencies (e.g., county emergency management agency), public sector institutions  
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5 (e.g., schools), and state enterprises (e.g., postal services) as their sample, the authors found that  
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7 a higher level of identification among employees results in more knowledge sharing. Moreover,  
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9 Willem and Buelens (2007) findings revealed that organizations with higher degrees of  
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11 publicness are not ideal for high amounts of knowledge sharing. This may in fact suggest  
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13 government institutions face greater knowledge-sharing difficulties from a lack of employee  
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15 identity to their organization. Then, Carmeli, Gilat, and Waldman's (2007) study showed that the  
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17 more an employee identifies with his/her organization, the more likely there will be positive  
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19 consequences for the organization such as increased cooperative episodes, which will lead to  
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21 greater work outcomes.  
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27 In short, there is a negative relationship between publicness and organizational  
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29 identification (Willem & Buelens, 2007), and a positive relationship between organizational  
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31 identification and organizational performance (Carmeli, Gilat, & Waldman, 2007). In this study,  
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33 we operationalize organizational performance as organizational preparedness, and posit that on  
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35 the one hand, public organizations will have a lower level of organizational identity, which will  
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37 in turn lead to a lower perceived level of organizational preparedness for natural disasters. On the  
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39 other hand, private organizations will have a higher level of organizational identity, which will  
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41 result in a higher perceived level of organizational preparedness for natural disasters. The  
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43 theoretical logic undergirding this study is depicted in Figure 1. Based on the foregoing  
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45 discussion, this paper offers the following three hypotheses:  
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50 H<sub>1a</sub> Employees of public organizations will be less likely to say their organization  
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52 *obtained a first aid kit or extra medical supplies* than employees of private organizations.  
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4 H<sub>2a</sub> Employees of public organizations will be less likely to say their organization  
5 *provided disaster preparedness and response training programs for employees* than  
6 employees of private organizations.  
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10 H<sub>3a</sub> Employees of public organizations will be less likely to say their organization  
11 *provided employees with written information on where to meet after disasters* than  
12 employees of private organizations.  
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20 In addition, we test the following three rival hypotheses based on the disaster management  
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24 H<sub>1b</sub> Employees of public organizations will be more likely to say their organization  
25 *obtained a first aid kit or extra medical supplies* than employees of private organizations.  
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29 H<sub>2b</sub> Employees of public organizations will be more likely to say their organization  
30 *provided disaster preparedness and response training programs for employees* than  
31 employees of private organizations.  
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36 H<sub>3b</sub> Employees of public organizations will be more likely to say their organization  
37 *provided employees with written information on where to meet after disasters* than  
38 employees of private organizations.  
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43 [Figure 1 near here]  
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### 46 47 **3. Data and methods**

#### 48 49 **3.1 Data collection**

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52 One of the authors is a member of the research team that developed the survey instrument  
53 used to gather information used in this article. After developing the survey, the responsibility to  
54 administer it was given to GfK. GfK, which has approval from the National Institute of Health to  
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3 conduct survey research, is one of the largest survey research organizations in the world.<sup>1</sup> The  
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5 survey instrument was used to collect the following information, among others, from  
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8 respondents: their perceptions of their employers' level of preparedness for eight natural hazards;  
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10 employee demographics; and characteristics of employees' organization. A pre-test of the survey  
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12 instrument was conducted with a test group consisting of 17 staff and alumni of a university in  
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14 Midwestern United States from December 12, 2013 to December 20, 2013. The minor issues that  
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16 were revealed during the pre-test were corrected.  
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20 The revised survey was submitted to GfK and then sent in May 2014 to 10,559 United  
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22 States adults, 18 years of age or older in GfK's KnowledgePanel®. The KnowledgePanel® is a  
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24 representative random sample of the United States population and members are recruited using  
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26 both random digit dial (RDD) and address-based sampling methods that includes households  
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28 with and without Internet access. If a household selected does not have a computer or Internet  
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30 access, GfK will provide the household with both at no charge. In comparison to RDD and non-  
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32 probability Internet surveys, probability-based Internet panels yield more accurate results (Chang  
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34 & Krosnick, 2009). In addition, the American Association for Public Opinion Research  
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36 (AAPOR)'s report on online panels noted that in cases where it is possible to compare survey  
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38 results to external benchmarks like the Census, studies using nonprobability sampling methods  
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40 are generally less accurate than studies using probability sampling methods (Baker et al., 2010).  
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42 Yeager and colleagues (2010) argue that there is no significant difference between non-  
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44 probability and probability samples with regard to accuracy, but conclude that probability  
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46 samples provide a more accurate measurement of the distribution of variables within a  
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48 population.  
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58 <sup>1</sup> More information about GfK is available at <http://www.gfk.com/us/About-us/Pages/default.aspx>  
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3 Out of the sample of 10,559 invited to participate, 5,079 responded. These 5,079  
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5 respondents were then screened based on two eligibility requirements. First, the respondent had  
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7 to be working as a paid employee for an employer other than themselves. Second, the respondent  
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9 could not be telecommuting for the majority of their work time. The first and second criteria  
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11 eliminated 2,702 and 351 respondents, respectively. An additional 18 respondents were  
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13 eliminated due to short survey completion times (less than five minutes). Identifying speeders  
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15 who may have not accurately completed the survey is a common technique in survey research  
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17 (Olson & Parkhurst, 2013). Seventeen out of the 18 eliminated were for either failing to answer  
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19 items or for answering several sequential items with the same response. Lastly, one respondent  
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21 was also eliminated after indicating they were a full-time telecommuter thus making them  
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23 ineligible for the survey. After these exclusions, 2,008 respondents passed the eligibility  
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25 requirement and fully completed the survey. The response rate for this survey is 48 percent based  
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27 on the guidelines established by the American Association for Public Opinion Research  
28  
29 (AAPOR) ([www.aapor.org/Standard\\_Definitions2.htm#U9fLRvldU1c](http://www.aapor.org/Standard_Definitions2.htm#U9fLRvldU1c)).<sup>2</sup> GfK, weighted the  
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31 data to account for unequal probabilities of selection and to make sure the data collected are as  
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33 close as possible to Current Population Survey (CPS) estimates for the U.S. population vis-à-vis  
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35 demographic characteristics such as age, gender, marital status, race/ethnicity, household size,  
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37 household income, etc. Because this study is only assessing public and private employees'  
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39 perceptions of organizational preparedness, an additional 374 respondents were eliminated from  
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41 the sample because they identified as working for a non-profit organization. Hence, the final  
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43 sample (1,634) consists of 388 public employees and 1,246 private employees.  
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53 <sup>2</sup> AAPOR's Response Rate 3, or RR3, was used, and calculated by dividing the 2008 interviews by the sum of 2026  
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55 known eligible cases plus 2192 estimated eligible cases among the 5480 who did not respond to the survey  
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57 invitations (assuming an estimated eligibility rate of 40 percent, based on the eligibility rate of the 5079 responders).  
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Although, the current research design was built upon two smaller studies that also surveyed employees (e.g., Fowler, Kling, & Larson, 2007; Larson & Fowler, 2009), the data gathered from this survey is quite unique in two respects. First, this survey is the largest survey to date assessing preparedness measures among public and private organizations. Second, this study is one of only a few surveys to gather information anonymous from a national sample of employees about their organization's level of preparedness. Extant disaster management literature assessing organizational preparedness has primarily surveyed leaders of organizations not employees (Han & Nigg, 2011; Sadiq & Weible, 2010).

### 3.2 *Dependent variable*

This study focuses on the following three preparedness measures: 1) Obtained a first aid kit or extra medical supplies; 2) Provided disaster preparedness and response training programs (e.g., CPR, first aid) for employees; 3) Provided employees with written information on where to meet after disasters. These three preparedness measures serve as the dependent variables and were measured by the following question on the survey instrument: "Has your employer done the following at **the facility to which you report on a day-to-day basis?**" Respondents could either answer "Yes", "No", or "Don't know". All three dependent variables are treated as dummies—1 for those that answered "Yes" and 0 for those that answered "No." Due to the dichotomous nature of these variables, a logit regression was estimated for each.<sup>3</sup> We also added all three variables together to create an index of total preparedness (scale reliability,  $\alpha = 0.65$ ) and used a Tobit regression for this analysis. Tobit is the appropriate regression technique for analyzing censored samples because it gives precise estimates of the relationship between the dependent and independent variables (Gujarati, 2011). All three dependent variables have been

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<sup>3</sup> Those that selected "Don't know" were excluded from the logit analyses.



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3 demonstrated by previous research as good indicators of preparedness (e.g., Dahlhamer &  
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5 D'Souza, 1995; Han & Nigg, 2011; Tierney, 1996).  
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### 8 9 *3.3 Independent variables*

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11 The independent variable, organizational type—either public or private organization—  
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13 was measured by the question: “Which of the following best describes your employer?”  
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15 Respondents could select one of the following: government, private-for-profit company, and  
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17 non-profit organization including tax exempt and charitable organizations. To answer the  
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19 research question, this study uses information from those that selected the first two options. A  
20  
21 dummy variable was created—1 for those that selected government (public) and 0 for those that  
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23 selected private-for-profit company (private).  
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### 28 29 *3.4 Control variables*

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31 To understand the differences between employees of public and private organizations vis-  
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33 à-vis their employees' perceptions of organizational preparedness, we control for the following  
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35 variables. The theoretical reasoning behind their inclusion has been discussed earlier.  
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#### 38 39 *3.4.1 Risk perception*

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41 The following question on the survey was used to measure risk perception: “On a scale of  
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43 1 (not likely at all) to 5 (very likely), please indicate the extent to which you perceive  
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45 **drought/extreme heat** as a risk at the facility where you report to work.” This same question  
46  
47 was used to measure risk perception for earthquakes, flooding, hurricanes, tornadoes, severe  
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49 winter weather, thunderstorms and lightning, and wildfire. The ratings for each of the eight  
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51 hazards were added together to create a risk perception index (scale reliability,  $\alpha = .61$ ).  
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#### 54 55 *3.4.2 Organization size*

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3 The size of the organization was measured by the question: “About how many people  
4 work at the location to which you report on a day-to-day basis? Count employees in all areas,  
5 departments, and buildings at this location.” Respondents could select any of the following:  
6 small (1-99 employees), medium (100-499 employees), and large (500 or more employees).  
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### 10 11 12 *3.4.3 Past disaster experience*

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15 This variable was measured by the question: “To the best of your knowledge, has your  
16 employer experienced any of the following disaster(s) at the facility where you report to work?”  
17  
18 The same question was asked for all eight natural hazards. A dummy was created for each of the  
19 eight hazards (Yes = 1; No = 0) and added together (scale reliability,  $\alpha = .60$ ).  
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### 24 25 *3.4.4 Organization age*

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27 The age of the organization was measured by asking the following question: “How many  
28 years ago was the company, organization, or government agency that you work for established?”  
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30 The respondents could select from the following categories: less than 1 year; 1-2 years; 3-5  
31 years; 6-10 years; 11-15 years; 16-20 years; 21-30 years; 31-40 years; and more than 40 years.  
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### 36 37 *3.4.5 Ownership of business property*

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39 The following question was used to measure this variable: “Does your employer  
40 rent/lease or own the building to which you report on a day-to-day basis?” Respondent could  
41 either select rent/lease or own. This variable was coded own = 1 and rent/lease = 0.  
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### 46 47 *3.4.6 Organization sector*

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49 Four sectors were included in the analyses—education, health, finance/insurance/real  
50 estate, and wholesale/retail trade. GfK provided the information on these sectors. The authors  
51 coded each sector as 1 if the respondent’s organization belongs to a particular sector and 0 if  
52 otherwise.  
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### 3.4.7 Tenure

This was measured by the question: “How long have you been with your current employer?” Respondents could choose from seven response items—less than 1 year, 1-2 years, 3-4 years, 5-6 years, 7-8 years, 9-10 years, and more than 10 years.

## 4. Results

Table 1 depicts the results of a weighted sample assessing basic information regarding demographic variables such as their description, mean, standard deviation, and minimum and maximum values. The sample consists of 57 percent men and the average age is about 41 years. Twenty-two percent of the sample has earned a bachelor’s degree and 70 percent of the sample are white. In addition, 51 percent of the sample are married, and 15 percent have an annual household income of \$100,000 to \$124,999. Furthermore, the average household size is about 3 people, 80 percent of the sample are household heads, and 86 percent of respondents live in a Metro area. Finally, 35 percent are from the south and 86 percent have access to the Internet.

[Table 1 near here]

Table 2 presents the sample statistics for the dependent and independent variables based on a weighted sample. With regard to the three preparedness measures, 90 percent of the sample reported that their organization obtained a first aid kit or extra medical supplies, 66 percent of them reported that their organizations provided disaster preparedness and response training programs (e.g., CPR, first aid) for their employees, and 60 percent said that their organization provided employees with written information on where to meet after disasters. The sample consists of 24 percent public organization and 76 percent private organizations. With regard to organizational characteristics, an average organization in the sample has experienced about 2

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disasters, 34 percent of organizations in the sample have single locations, and 60 percent own their buildings. Furthermore, 13 percent are in the educational sector, 14 percent belong to the health sector, 7 percent belong to the finance/insurance/real estate sector, and 11 percent are in the wholesale/retail sector.

**[Table 2 near here]**

In Table 3, the percentage breakdown of public and private employees' perceptions of the measures adopted by their organization is presented. With regard to obtaining a first aid kit or extra medical supplies, 93 percent of public employees and 89 percent of private employees reported that their organization adopted this measure. Additionally, 82 percent of public employees reported that their organization provided disaster preparedness and response training programs (e.g., CPR, first aid) for their employees compared with 61 percent of private employees reporting their organization did the same. Finally, 73 percent of public employees reported that their organization provided employees with written information on where to meet after disasters compared with 55 percent of private employees. In sum, public employees reported that their organization adopted more of each of the three measures than employees of private organizations.

**[Table 3 near here]**

Table 4 shows the results of the three logit models and the tobit model. All three tobit models' goodness of fit ( $R^2$ ) are significant ( $p < 0.001$ ). The numbers indicate changes in predicted probability of the dependent variable as the independent variables change from their minimum to their maximum holding other independent variables at their means. In Model 1, there is no significant difference between public and private employees' perceptions when it

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3 comes to obtaining a first aid kit or extra medical supplies. However, in Models 2 and 3, there  
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5 are significant differences between the two groups. Specifically, employees' perceptions of the  
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7 probability of their organization providing disaster preparedness and response training programs  
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9 (e.g., CPR, first aid) for employees is 14 percent higher for public organizations than for private  
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11 organizations, holding other variables at their means. Similarly, public and private employees'  
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13 perceptions of the probability of their organization providing employees with written information  
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15 on where to meet after disasters is about 11 percent higher for public organizations than for  
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17 private organizations, holding all other variables at their means.  
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23 **[Table 4 near here]**  
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26 Table 4 also presents the result of the tobit analysis, where all three dependent variables  
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28 were combined. Based on employees' perceptions, the tobit result indicates that public  
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30 organizations are significantly more likely to adopt all three preparedness measures than private  
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32 organizations ( $p < 0.01$ ). This result corroborates those of Models 2 and 3.  
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## 36 **5. Discussion**

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39 According to our conceptual model, public organizations—with a higher degree of  
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41 publicness than private organizations—are expected to have a relatively lower organizational  
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43 identity than private organizations (Willem & Buelens, 2007). And based on the prediction of  
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45 social identity theory, we expect that public organizations' lower identity relative to that of  
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47 private organizations will result in their employees exhibiting lower perceptions of  
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49 organizational disaster preparedness than employees of private organizations (Carmeli, Gilat, &  
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51 Waldman, 2007). In general, the results do not provide empirical evidence in support of this  
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53 proposition. Specifically, the descriptive statistics indicate that public employees reported that  
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3 their organization adopted more of each of the three measures than employees of private  
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5 organizations. In addition, employees of public organizations reported that their organization  
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7 adopted more preparedness measures than employees of private organizations according to the  
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9 results of the logit regressions. Finally, when all three measures were combined, the tobit  
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11 regression result shows, based on employees' perceptions, that public organizations are more  
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13 likely than private organizations to adopt the three preparedness measures. These results are in  
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15 line with those of Chikoto, Sadiq, and Fordyce (2013) who found that public organizations were  
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17 more likely to adopt preparedness measures than private organizations in Memphis, Tennessee.  
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19 In addition, the findings support those of Fowler, Kling, and Larson (2007) who found higher  
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21 preparedness levels among government organizations in comparison to private corporations. In  
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23 sum, the results of this article support Hypotheses 2b and 3b, but not Hypotheses 1a, 1b, 2a, or  
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25 3a.  
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32 We offer two possible explanations for this result. First, the results may be due to  
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34 differences in risk management practices of public and private organizations (Drennan,  
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36 McConnell, & Stark, 2015). The profit-seeking nature of private organizations may engender an  
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38 inclination towards more risk-taking endeavors in comparison to the service delivery tendencies  
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40 of most public organizations. As a result, private organizations may be less likely to adopt risk-  
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42 reducing measures against natural disasters. Second, and from a social identity theory standpoint,  
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44 a reason for this finding could be that public organizations face greater public scrutiny (Drennan,  
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46 McConnell, & Stark, 2015), and therefore, may be more inclined to paint their organization in a  
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48 positive light. This coincides with Hogg, Terry, and White's (1995) concept of self-  
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50 enhancement, which argues that individuals or groups attempt to portray themselves positively in  
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52 ways that favor the individuals or groups.  
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3 The insignificant result for *Obtained a first aid kit or extra medical supplies* is worth  
4 expounding on. From Table 3, it is apparent that a majority of both public and private  
5 organizations adopted this measure (93 percent and 89 percent, respectively). This may be due to  
6 the fact that this measure requires relatively little cost—in comparison to the other two measures.  
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8 Indeed, empirical evidence suggests that individuals tend to invest in less complicated and  
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10 inexpensive measures (Webb, Tierney, & Dahlhamer, 2000).  
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## 17 **6. Conclusion**

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19 The purpose of this study is to use the publicness and social identity theories to  
20 understand variations in employees' perceptions of their organization's preparedness for natural  
21 disasters. We tested the proposition—based on these theories—that employees of public  
22 organizations will be more likely to have a lower level of perceived organizational disaster  
23 preparedness than employees of private organizations. The results do not confirm this  
24 proposition. Rather, we found that in general, employees of public organizations reported a  
25 higher preparedness level for natural disasters than employees of private organizations.  
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36 Based on the results, our study offers two recommendations that may be helpful to state  
37 and local governments when preparing their organizations for natural disasters. First, our results  
38 suggest that state and local governments should consider allocating their limited preparedness  
39 resources according to the relative preparedness levels between public and private organizations  
40 located within their jurisdiction. The import of this recommendation is that state and local  
41 governments must recognize that preparedness levels within their public and private  
42 organizations are not the same. Second, our results suggest that state and local governments  
43 should consider implementing preparedness programs to encourage their organizations,  
44 especially private organizations, to increase their levels of preparedness for future natural  
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disasters. For example, state and local governments might provide tax breaks to organizations that provide preparedness and response training programs to their employees. In doing so, state and local governments may be able to help their organizations in particular and their communities in general, to build capacity needed to prepare for future natural disasters.

The following limitations provide opportunities for environmental hazards scholars to build on this study. First, the cross sectional nature of the data does not allow us to establish a causal relationship between preparedness and the two organizational types. Similarly, these data do not permit the examination of variations across time (Andrews, Boyne, & Walker, 2011). Hence, we urge scholars to replicate our study using longitudinal data in order to have a better understanding of the variations in perceptions of disaster preparedness between public and private organizations over time. Second, according to the extant literature on disaster preparedness, there are other controls not included in this study—financial condition of organizations (Han & Nigg, 2011) and organizational obstacles (Sadiq, 2010; Sadiq & Weible, 2010). We urge environmental hazards researchers to include these controls in future inquiries. Third, this study uses employees' perceptions of organizational preparedness for natural disasters, which are subjective in nature and may not reflect actual levels of organizational preparedness. Thus, we suggest that future studies consider using objective measures of organizational disaster preparedness. Fourth, we urge future environmental scholars to employ Bozeman's (1987) dimensional approach to publicness whereby organizations are more or less public based on their ownership, funding, and social control as well as the extent to which these dimensions influence organizational disaster preparedness. Finally, we encourage future studies to explore variations in organizational disaster preparedness among specific sectors (e.g., education and health) that are owned and operated by public and private organizations alike.



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Despite these limitations, this study contributes to the disaster management literature both in theory and in practice. Theoretically, scholars have and continue to wrestle with understanding how public organizations differ from private organizations (Andrews, Boyne, & Walker, 2011; Malatesta & Carboni, 2015; Meier & O’Toole, 2011). Although few scholars (e.g., Chikoto, Sadiq, & Fordyce, 2013; Fowler, Kling, & Lawson, 2007) have studied the degree to which public, private, and non-profit organizations are prepared for natural disasters, no study (to our knowledge) has used a nationally representative sample nor provided a theoretical foundation for explaining such variations. By surveying 1,634 public and private employees and combining literature on publicness and social identity, the current study offers an insightful theorization for understanding variations in public and private employees’ perceptions of organizational preparedness. Practically, the differences between the two domains may have implications for the privatization of public services (Malatesta & Carboni, 2015) and organizational performance (Andrews, Boyne, & Walker, 2011). For example, citizens expect public services—whether delivered by a public organization or a private organization—to continue to be offered despite the occurrence of a natural disaster. Understanding the differences between public and private organizations may encourage public managers to be proactive in implementing programs designed to enhance preparedness levels for the lesser-prepared organizations. The next step for scholars is to explain the reason why public organizations exhibited a higher level of organizational preparedness for natural disasters than private organizations.

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**Table 1.** Sample Demographic Statistics Based on a Weighted Sample (N=1634).

Variable Description	Mean	SD	Min	Max
Gender: Male	0.57	0.50	0	1
Age	41.46	13.80	18	86
Education: Bachelor's degree	0.22	0.42	0	1
Race/Ethnicity: White, Non-Hispanic	0.70	0.46	0	1
Marital Status: Married	0.51	0.50	0	1
Household Income: \$100,000 to \$124,999	0.15	0.36	0	1
Household Size	2.73	1.38	1	10
Household Head: Yes	0.80	0.40	0	1
MSA Status: Metro	0.86	0.35	0	1
Region: South	0.35	0.48	0	1
HH Internet Access: Yes	0.86	0.34	0	1

**Table 2.** Descriptive Statistics for Dependent and Independent Variables (Weighted Sample).

Variable Description	Obs.	Mean	SD	Min	Max
Obtained a first aid kit or extra medical supplies	1422	0.90	0.31	0	1
Provided disaster preparedness and response training programs	1611	0.66	0.47	0	1
Provided employees with written information on where to meet after disasters	1613	0.60	0.49	0	1
Public	1634	0.24	0.42	0	1
Private	1634	0.76	0.42	0	1
Tenure	1632	4.20	2.28	1	7
Organization Size	1594	1.69	0.80	1	3
Risk Perception	1153	20.94	5.34	8	40
Disaster Experience	1267	2.18	1.61	0	8
Single Location	1634	0.34	0.47	0	1
Own Building	1634	0.60	0.49	0	1
Organization Age	1615	7.44	2.00	1	9
Education Sector	1634	0.13	0.33	0	1
Health Sector	1634	0.14	0.35	0	1
Finance/Insurance/Real Estate Sector	1634	0.07	0.25	0	1
Wholesale/Retail Trade Sector	1634	0.11	0.31	0	1



**Table 3.** Adoption of Organizational Preparedness (Performance) Measures by Public and Private Organizations (Weighted Sample).

Preparedness Measure	Public		N	Private		N
	Yes (%)	No (%)		Yes (%)	No (%)	
Obtained a first aid kit or extra medical supplies	93	7	334	89	11	1088
Provided disaster preparedness and response training programs	82	18	385	61	39	1226
Provided employees with written information on where to meet after disasters	73	27	387	55	45	1226

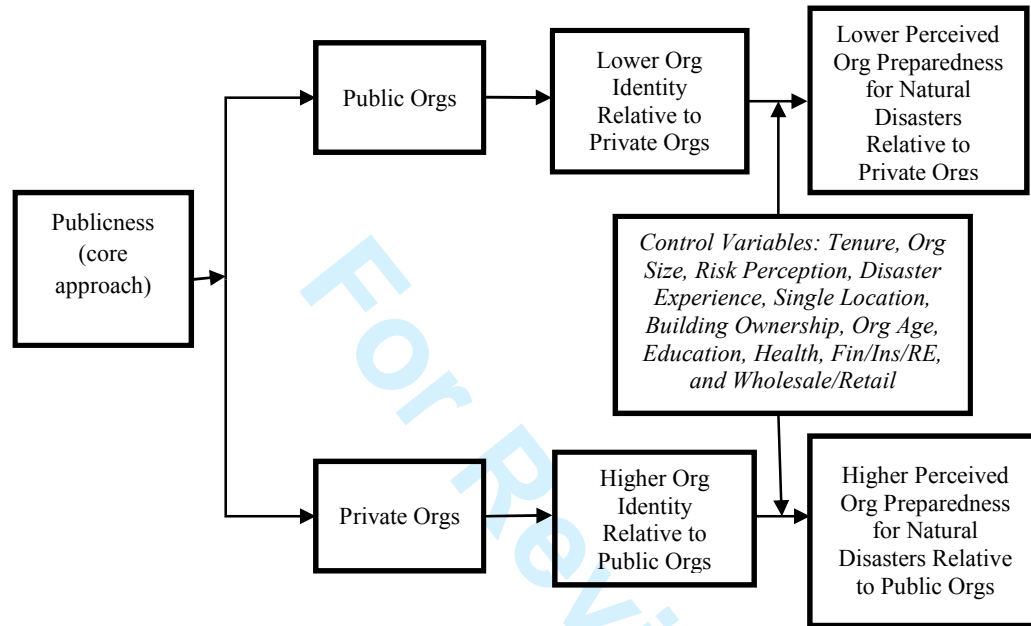
For Review Only

**Tables 4.** Results of the Three Logit Models and the Tobit Model (Weighted Sample).

	Model 1/ DV1	Model 2/ DV2	Model 3/ DV3	Tobit Coef.	Model SE
Public	0.03	0.14***	0.11*	0.466**	0.198
Tenure	-0.03	-0.16**	-0.11	-0.079**	0.040
Org Size	0.07**	0.35***	0.37***	0.914***	0.122
Risk Perception	-0.17**	0.07	-0.04	-0.002	0.018
Disaster Exp.	0.02	-0.11	0.07	0.016	0.058
Single Location	-0.00	-0.03	-0.10*	-0.291	0.180
Own Building	0.00	0.05	0.07	0.252	0.168
Org Age	0.20**	0.45***	0.25*	0.182***	0.056
Education	-0.01	0.01	0.03	-0.008	0.225
Health	0.00	0.05	0.04	0.062	0.254
Fin/Ins/RE	0.02**	0.10	0.08	0.448	0.308
Wholesale/Retail trade	0.04	-0.01	0.11	0.169	0.264
Constant				-0.075	0.562
N	813	892	894	807	
Wald $\chi^2$	37.17	90.85	95.39	F(12, 795) = 10.99	
Prob $\chi^2$	0.000	0.000	0.000	Prob>F = 0.000	
Pseudo R <sup>2</sup>	0.074	0.143	0.133	0.088	
<i>Note: ***p &lt; .001 **p &lt; .01 *p &lt; .05</i>					

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**Figure 1.** Conceptual Model of Publicness, Social Identity Theory, and Organizational Preparedness for Natural Disasters.



## Response Document

Dear Reviewers,

We are once again grateful for your constructive comments, which have helped us improve the quality of our manuscript. Taking time to review the manuscript is much appreciated.

### Reviewer 1

Comments to the Author: This is a much improved version that responds to my earlier review in a number of positive ways. Three things strike me as important to address as part of a minor revision:

1.1 The public/private distinction is still tortured in the way it is discussed: "For the purposes of this study, the authors follow the core approach to publicness by classifying public and private organizations by their legal status or ownership. Thus, we conceptualize public organizations as organizations owned by the government and private organizations as organizations owned by private individuals and institutional shareholders (Andrews, Boyne, & Walker, 2011)." What does it mean to be government owned? Why not just say we compared perceptions employees of governmental and private-sector organizations? This language is used later in the manuscript. Regardless of the conceptualization, the language can and should be simplified throughout.

Response: *Thank you for raising this point of clarification. We agree that simpler language should be used and have made this change in the revised manuscript.*

"For the purposes of this study, the authors follow the core approach to publicness by classifying public and private organizations based on their legal status or ownership. Using this approach, two key public-private distinctions are made. First, public organizations are primarily funded by taxation whereas private organizations are typically funded through fees paid by customers (Andrews, Boyne, & Walker, 2011). It is, however, important to recognize that public organizations can and do receive funding from private institutions and vice-versa. Yet, in many cases, a majority of a public organizations' funding is received in sum from governmental entities while a majority of private organizations' funding is received discretely in exchange for a good or service (Andrews, Boyne, & Walker, 2011). Secondly, public organizations are largely controlled by political forces and private organizations, in comparison, are controlled by market forces (Boyne, 2002). This, therefore, implies that public organizations are constrained more by political demands while private organizations are constrained more by consumer demands (Boyne, 2002). Scholars (e.g., Bozeman & Bretschneider, 1994; Williamson, 2014) conform to the perspective that ownership is fundamentally the simplest, yet most powerful basis to classify an organization as public or private. As a result, our conceptual approach focuses on comparing public and private employees' perceptions with regard to organizational preparedness for natural disasters by asking respondents whether or not they work for public or private organizations. In other words, this study asks respondents to self-identify as an employee of a public or private organization." (p. 10-11)

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1.2 Relatedly, there are many lapses in the discussion of findings as reporting organizational differences (public vs private) rather than differences in perceptions of employees of different kinds of organizations. This is partly an issue of semantics, but also one of being clear about the unit of analysis -- the employee and not the organization.

Response: *Thank you for bringing our attention to this important point, and we agree that the findings in the former manuscript were not always clear in articulating the unit of analysis. As such, the findings in the revised manuscript more accurately describes that the unit of analysis is indeed the employee and not the organization.*

“In Table 3, the percentage breakdown of public and private employees’ perceptions of the measures adopted by their organization is presented. With regard to obtaining a first aid kit or extra medical supplies, 93 percent of public employees and 89 percent of private employees reported that their organization adopted this measure. Additionally, 82 percent of public employees reported that their organization provided disaster preparedness and response training programs (e.g., CPR, first aid) for their employees compared with 61 percent of private employees reporting their organization did the same. Finally, 73 percent of public employees reported that their organization provided employees with written information on where to meet after disasters compared with 55 percent of private employees. In sum, public employees reported that their organization adopted more of each of the three measures than employees of private organizations.” (p. 20)

“Table 4 shows the results of the three logit models and the tobit model. All three tobit models’ goodness of fit ( $R^2$ ) are significant ( $p < 0.001$ ). The numbers indicate changes in predicted probability of the dependent variable as the independent variables change from their minimum to their maximum holding other independent variables at their means. In Model 1, there is no significant difference between public and private employees’ perceptions when it comes to obtaining a first aid kit or extra medical supplies. However, in Models 2 and 3, there are significant differences between the two groups. Specifically, employees’ perceptions of the probability of their organization providing disaster preparedness and response training programs (e.g., CPR, first aid) for employees is 14 percent higher for public organizations than for private organizations, holding other variables at their means. Similarly, public and private employees’ perceptions of the probability of their organization providing employees with written information on where to meet after disasters is about 11 percent higher for public organizations than for private organizations, holding all other variables at their means.” (p. 20-21)

“Table 4 also presents the result of the tobit analysis, where all three dependent variables were combined. Based on employees’ perceptions, the tobit result indicates that public organizations are significantly more likely to adopt all three preparedness measures than private organizations ( $p < 0.01$ ). This result corroborates those of Models 2 and 3.” (p. 21)

1.3 Finally, on pg 21 in talking about risk-taking among public and private organizations a statement is made about "risk-loving private organizations". WOW ... that really is a stretch. Some perhaps are greater risk takers, many are risk-adverse.

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Response: *Thank you for this comment. We agree that this phrase was a stretch and have removed it from this sentence.*

“As a result, private organizations may be less likely to adopt risk-reducing measures against natural disasters.” (p. 22)

1.4 The manuscript is strong in theory development, marshalling relevant data, and teasing through findings. The lack of supported theory in itself should not be a reason for failing to publish the article. I appreciate the thorough response to reviews.

Response: *Thank you for your thoughtful suggestions and comments.*

## Reviewer 2

2.1 Comments to the Author: Thank you very much for your effort and for your detailed responses to the first review. My substantive comments remain largely the same, that the public vs. private framework is unjustified, and that you should remove all of those generalities and focus on the meat of the paper, which I take to be something like what you have currently on page 11: "In short, there is a negative relationship between publicness and organizational identification (Willem & Buelens, 2007), and a positive relationship between organizational identification and organizational performance (Carmeli, Gilat, & Waldman, 2007)." Best to you in your writing.

Response: *Thank you for this comment. We have provided two practical justifications for studying the public-private distinctions in the context of disaster preparedness.*

*We do not agree that removing the general statements will improve our paper. These generalities help to place our work in the context of the extant literature and make it relevant to current discourses within the public management literature. Nonetheless, we have trimmed down and sharpened our arguments on these generalities.*

“The current study attempts to fill this gap in the disaster literature by proposing the following research question: Are there variations in public and private employees’ perceptions of organizational preparedness for natural disasters? From a practical perspective, understanding the differences between public and private organizations’ preparedness levels can help policymakers better allocate scarce community resources. For instance, in the immediate aftermath of disasters, if policymakers already know the preparedness levels in public and private organizations, they will be in a position to more efficiently allocate response resources (Sadiq, 2009). In addition, an inquiry to this question is important as governmental entities are increasingly relying upon private organizations to deliver public services (e.g., electricity, water and gas, transportation, etc.) (Malatesta & Carboni, 2015). For example, citizens expect public services—whether delivered by a public or private entity—to continue to be offered despite the occurrence of a natural disaster. Understanding the differences between public and private organizations may encourage public managers to be proactive in implementing programs designed to enhance preparedness

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3 levels for the lesser-prepared organizations, which will in turn, enhance the social and  
4 economic well-being of the affected community.” (p. 2-3)  
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7 2.2 In regards to “(with the exception of Chikoto, Sadiq, and Fordyce (2013) and Fowler, Kling,  
8 and Larson, 2007)” what were the results of these exceptions?  
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10 Response: *Thank you for your question. The results of these two studies are discussed in the*  
11 *revised manuscript. In short, these two studies found that public organizations are more*  
12 *prepared for natural disasters than private organizations.*  
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15 “Unfortunately, only a handful of scholars have studied the differences in disaster  
16 preparedness among public, private, and nonprofit organizations. Chikoto, Sadiq, and  
17 Fordyce (2013), for example, examined if non-profit organizations engage in more mitigation  
18 and preparedness measures than public and private organizations in Memphis, Tennessee.  
19 One result relevant to the current study is that public organizations adopted more mitigation  
20 and preparedness measures than private organizations. However, because the authors’ study  
21 was based in Memphis, Tennessee with a relatively small sample size (N= 227), the authors  
22 contend that “any attempt to apply the findings of this study should proceed with caution”  
23 and call for additional studies using national level data (Chikoto, Sadiq, & Fordyce, 2013, p.  
24 404). In addition, using an alumni database from a state university in the southwestern United  
25 States as their population, Fowler, Kling, and Larson (2007) examined the perceived  
26 organizational preparedness for responding and recovering from a major disaster among  
27 public, private, and non-profit organizations. The results showed that employees of  
28 governmental organizations perceived their organization to be more prepared for a disaster  
29 than non-profit organizations, and employees of private organizations expressed the lowest  
30 perceptions of disaster preparedness. Fowler, Kling, and Larson (2007) also recognize that  
31 their study cannot be generalizable to the broader United States and recommend that future  
32 studies use national level data.” (p. 5-6)  
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38 2.3 In regards to the statement, “Indeed scholars have found differences between the two  
39 organizational types with respect to their risk-taking capabilities (Drennan, McConnell, &  
40 Stark, 2015), funding (Andrews, Boyne, & Walker, 2011), and political influence (Boyne,  
41 2002; Rainey, 2009)” what were the nature of these differences (not just the topics)?  
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44 Response: *Thank you for this question. The revised manuscript includes a discussion of the*  
45 *nature of these differences.*  
46

47 “Although public and private organizations are equally threatened by natural hazards, there  
48 are distinct differences between the two domains that affect their risk management practices  
49 (Drennan, McConnell, & Stark, 2015). Indeed, scholars have found differences with respect  
50 to their risk-taking capabilities (Drennan, McConnell, & Stark, 2015), funding (Andrews,  
51 Boyne, & Walker, 2011), and political influence (Boyne, 2002; Rainey, 2009). In regard to  
52 the first, public organizations typically engage in less risk-taking than their private  
53 counterparts because there are no profit incentives (Drennan, McConnell, & Stark, 2015).  
54 Bozeman and Kingsley (1998) further argue that public organizations are more risk-averse  
55 due to greater subjection to political authority. Second, with regard to funding, public  
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3 organizations are generally funded through government grants while private organizations  
4 are commonly funded through consumer payments (Andrews, Boyne, & Walker, 2011).  
5 Therefore, public organizations are not typically threatened by bankruptcy or closure and  
6 private organizations are not significantly impacted by governmental reform (Drennan,  
7 McConnell, & Stark, 2015). Finally, with respect to political influence, public organizations  
8 are largely controlled by political forces and private organizations, in comparison, are  
9 controlled by market forces (Boyne, 2002). Thus, public organizations can be viewed more  
10 as service deliverers whereas private organizations can be viewed as profit seekers. Thus,  
11 because private organizations are profit seekers, subjected to bankruptcy and closure, and are  
12 greater risk-takers, we posit that private organizations will be less prepared for natural  
13 disasters than public organizations.” (p. 5)  
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18 2.4 Delete the first paragraph on page 4.

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20 Response: *We appreciate this suggestion. However, we do not think it is necessary to delete*  
21 *this paragraph. This is because we believe it provides structure and organization to our*  
22 *paper.*  
23

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25 2.5 Referring to the statement, “Unfortunately, only a handful of scholars have studied the  
26 differences in disaster preparedness among public, private, and nonprofit organizations”  
27 Again, as I said in my first review of this paper, creating straw men does not pose a  
28 theoretical question or framework. There are hundreds or thousands of studies about  
29 institutions and preparedness from which reasonable hypotheses and frameworks can be  
30 developed. Just because few people have published an article on "what are the differences  
31 between public, private and non-profit organizations for hazards preparedness in general?"  
32 does not mean that much of the answers and framework isn't already out there. The paper is  
33 still framed in this broad, unconvincing, non-mechanistic way, at least up to this point.  
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37 Response: *Please see our response to 2.1 above.*  
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39 2.6 In regards to the statement, “One result relevant to the current study is that public  
40 organizations adopted more mitigation and preparedness measures than private  
41 organizations.” I still am not convinced that public vs. private is an interesting question. I  
42 want more justification up front. Again, why is the question being asked? It shouldn't be  
43 asked just because few have asked it. Rather, it should be asked because it's compelling  
44 scientifically or because it matters for saving people's lives and livelihoods.  
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48 Response: *Please see our response to 2.1 above.*  
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50 2.7 In regards to the statement, “Specifically, we answer Chikoto, Sadiq, and Fordyce (2013) and  
51 Fowler, Kling, and Larson (2007) call for future studies to use national level data to examine  
52 organizational disaster preparedness, and as a result, our findings are much more  
53 generalizable.” Why did they call for future studies? What were their compelling arguments  
54 for doing so? The prior paragraph does not provide such an answer.  
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Response: *Thank you for this question. Chikoto, Sadiq, and Fordyce (2013) as well as Fowler, Kling, and Larson (2007) both call for future studies to use national level data because they suspect that results will be skewed when surveying a small geographical location. Specifically, Chikoto, Sadiq, and Fordyce (2013) only surveyed organizations in Memphis/Shelby County, Tennessee and Fowler, Kling, and Larson (2007) only surveyed alumnus from a state university in the southwestern United States. The revised manuscript further articulates this reason.*

“Specifically, we answer Chikoto, Sadiq, and Fordyce (2013) and Fowler, Kling, and Larson (2007) call for future studies to use national level data to examine organizational disaster preparedness as it is suspected that results will be skewed when surveying a small geographical location.” (p. 6)

- 2.8 The statement, “Finally, our work borrows the theory of publicness from public administration discourse and social identity theory from social psychology literature and applies them to disaster research.” comes out of nowhere. probably should leave this out of the current section, and just deal with it later in the framework building section 2.3.

Response: *Thank you for this suggestion. We have deleted this statement from the current section.*

“The current study seeks to overcome these limitations by expanding the geographical area and accounting for additional variables. Specifically, we answer Chikoto, Sadiq, and Fordyce (2013) and Fowler, Kling, and Larson (2007) call for future studies to use national level data to examine organizational disaster preparedness as it is suspected that results will be skewed when surveying a small geographical location. Therefore, our findings are much more generalizable. In addition, we adhere to Chikoto, Sadiq, and Fordyce’s (2013) recommendation to control for additional variables—tenure, risk perception, disaster experience, single location, building ownership, and organization age. In sum, by addressing these limitations, the current study serves as a robust preliminary analysis for understanding variations in public and private employees’ perceptions of organizational preparedness for natural disasters.” (p. 6)

- 2.9 The paragraph, “Disaster management literature is replete with studies assessing disaster preparedness at the individual, household, and community levels while studies at the organizational level have paled in comparison. Due to this imbalance, Dynes and Drabek (1994) initiated a call for more disaster preparedness research at the organizational level. Fortunately, scholars (e.g., Chikoto, Sadiq, & Fordyce, 2013; Dahlhamer & D’Souza, 1995; Fowler, Kling, & Larson, 2007; Han & Nigg, 2011; Larson & Fowler, 2009; Sadiq, 2010; Sadiq & Weible, 2010; Webb, Tierney, & Dahlhamer, 2000) answered this call and began to provide a basis for assessing disaster preparedness at the organization level. In the following paragraphs, we review the extant literature regarding the determinants of disaster preparedness at the organizational level.” is patently untrue. Political science, public administration, sociology, economics/development, and other fields have hundreds of articles on institutions and disasters.

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Response: *Thank you for this comment. We agree that different fields of study have also explored the intersection of organizations and disasters. As a result, the revised manuscript includes a more accurate picture of the extant literature on organizational disaster preparedness.*

“Disaster management literature at the organizational level has heightened in recent years, due in part to Dynes and Drabek’s (1994) initial call for additional theoretical and empirical studies. Myriad scholars (e.g., Chikoto, Sadiq, & Fordyce, 2013; Dahlhamer & D’Souza, 1995; Fowler, Kling, & Larson, 2007; Han & Nigg, 2011; Larson & Fowler, 2009; Sadiq, 2010; Sadiq & Weible, 2010; Webb, Tierney, & Dahlhamer, 2000) answered this call and began to provide a basis for assessing disaster preparedness at the organization level. In the following paragraphs, we review the extant literature regarding the determinants of disaster preparedness at the organizational level.” (p. 7)

- 2.10 You have 7 major variables in section 2.2. are you answering all of these questions, i.e., using all of these as variables? If not, you can collapse all these into one paragraph and reduce the amount of text dedicated to stuff you're not covering in your analysis. I say this, because you author's response to the first round of critiques says that you're not dealing with sector type in this paper.

Response: *Thank you for your question. Yes, the seven major variables that are discussed in 2.2 are used in the current manuscript as controls. In regards to your question about organizational sector, we are using the variable as a control. Our reasoning for controlling for this variable is empirical—based on several studies that have found sector to be a significant determinant of organizational preparedness (Dahlhamer & D’Souza, 1995; Drabek, 1991, 1995; Han & Nigg, 2011).*

- 2.11 In regards to the statement, “The distinction between public and private organizations has and continues to dominate public administration discourse (Andrews, Boyne, & Walker, 2011).” Why?

Response: *We appreciate your question. In general, scholars have expressed a theoretical interest in answering the question, “What is the difference between public and private organizations?” because the differences are likely to impact organizational behavior and performance outcomes (Bozeman & Bretschneider, 1994), which in turn, may have implications for the privatization of public services (Malatesta & Carboni, 2015).*

“The distinction between public and private organizations has and continues to dominate public administration discourse (Andrews, Boyne, & Walker, 2011), which is evident in the numerous scholarship produced on this topic (e.g., Bae, 2014; Bozeman, 1987; Bozeman & Bretschneider, 1994; Malatesta & Carboni, 2015; Rainey, Backoff, & Levine, 1976; Rainey & Bozeman, 2000; Willem & Buelens, 2007). However, despite Stark’s (2011) argument that the publicness literature in part is both “clear and multiple,” researchers continue to express a theoretical interest in answering the question, “What is the difference between public and private organizations?” (Andrews, Boyne, & Walker, 2011; Malatesta & Carboni, 2015;

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3 Meier & O'Toole, 2011). An inquiry to this question is important as the differences are likely  
4 to impact organizational behavior and performance outcomes (Bozeman & Bretschneider,  
5 1994), which in turn, may have implications for the privatization of public services  
6 (Malatesta & Carboni, 2015)." (p. 9-10)  
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10 2.12 The statements, "First, public organizations are primarily funded by taxation and private  
11 organizations are funded through fees paid by customers (Andrews, Boyne, & Walker, 2011).  
12 Secondly, public organizations are largely controlled by political forces and private  
13 organizations, in comparison, are controlled by market forces (Boyne, 2002). Scholars (e.g.,  
14 Bozeman & Bretschneider, 1994; Williamson, 2014) conform to the perspective that  
15 ownership is fundamentally the simplest, yet most powerful basis to classify an organization  
16 as public or private. As a result, our conceptual approach focuses on asking respondents  
17 whether or not they work for public or private organizations. In other words, this study asks  
18 respondents to self-identify as an employee of a public or private organization." ignores my  
19 comment from the first review that public institutions often rely heavily on private funds, and  
20 that private institutions often overwhelmingly receive public funds.  
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24 *Response: Thank you for this comment, and we apologize for not fully addressing this in the*  
25 *former manuscript. We agree that public organizations do receive private funds and vice-*  
26 *versa, which is noted in the revised manuscript. We do, however, conform to Andrews Boyne,*  
27 *and Walker's (2011) argument that in general, a majority of a public organizations' funding*  
28 *is received in sum from a governmental entity while a majority of a private organizations'*  
29 *funding is received discretely in exchange for a good or service.*  
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32 "First, public organizations are primarily funded by taxation whereas private organizations  
33 are typically funded through fees paid by customers (Andrews, Boyne, & Walker, 2011). It  
34 is, however, important to recognize that public organizations can and do receive funding  
35 from private institutions and vice-versa. Yet, in many cases, a majority of a public  
36 organizations' funding is received in sum from governmental entities while a majority of  
37 private organizations' funding is received discretely in exchange for a good or service  
38 (Andrews, Boyne, & Walker, 2011). Secondly, public organizations are largely controlled by  
39 political forces and private organizations, in comparison, are controlled by market forces  
40 (Boyne, 2002). This, therefore, implies that public organizations are constrained more by  
41 political demands while private organizations are constrained more by consumer demands  
42 (Boyne, 2002)." (p. 10-11)  
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