INDIANA NONPROFITS
Scope and Community Dimensions

Local Government Officials and Major Disasters:
Assessing Preparedness of Nonprofits and Other Institutions

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Abstract

We examine how well-prepared local government officials (LGOs) assess different community institutions to be for major disasters. Our 2020 survey of 613 Indiana LGOs shows that LGOs rank government institutions and hospitals as significantly better prepared for disasters than nonprofits, churches, businesses, and local residents. We also find that LGOs are significantly less likely to view all types of institutions as well prepared for disasters if community conditions are already problematic, controlling for other factors. These findings raise important questions about the ability of the most vulnerable communities to meet the threat of more frequent and severe natural disasters in the future.

Introduction

A key governmental function is to adequately plan for and manage responses to disasters of all kinds, regardless of where or when they occur, or how widespread they are. Without such efforts, people in the affected area may die and survivors, communities and institutions may be devastated for years to come. The major power outage in Texas in February 2021, for example, shows the devastating consequences when preparedness and response is inadequate (Ball 2021). Moreover, major disasters often have spill-over effects on other communities as well, e.g., disrupted supply chains.

Effective emergency management, including overall disaster preparedness along with prevention, mitigation, response, and recovery (*Post-Katrina Emergency Management Reform Act* 2006), is becoming more urgent as disasters have increased in frequency and duration. Thus, active disaster declarations have increased from less than 100 per week between 1953 and 1973, to about 200 per week between 1975 and 1991, and to more than 600 per week since 2001, reaching more than 900 per week for several years during the latter part of 2010-2020 period (Homeland Security 2021, 6).

More troubling, however, is the likelihood that climate change will produce more extreme weather events in the future, with increased risks of violent storms and severe temperature swings (Environmental Protection Agency, n.d.). There are already clear indications that

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disasters are becoming more costly. During the 2010–2020 decade, there were eight years with at least ten weather-related disasters that each cost $1 billion or more, compared to only two years during the prior two decades. In 2020 alone, a record twenty-two such costly disasters occurred (Homeland Security 2021, 68). These trends of more frequent and severe natural disasters suggest that all communities, institutions, and residents need to adequately prepare for and respond to disasters.

Literature Review

Much of what we know about disasters comes from detailed case studies of particular disasters, such as Hurricane Katrina, or reports prepared by FEMA, an agency of the U.S. Department of Homeland Security (DHS). As part of its mission "to help people before, during, and after disasters" (Federal Emergency Management Agency, n.d.), FEMA issues regular reports on the overall state of preparedness in the U.S., as well as detailed reports on specific major disasters, types of disasters, or disaster relief programs.

We are interested in disaster preparedness because climate change models predict increasingly severe weather with corresponding major natural disasters.[2] Of course, COVID-19 provided an unanticipated relevance for our analysis of disaster preparedness, although we are not able to examine the impact directly.

Disaster preparedness is an important element of any community's ability to respond to and recover from a disaster. It involves being ready in case a disaster occurs, e.g., having a plan and a stockpile of necessary equipment, including food and water, and is an important component of the overall emergency management cycle that seeks to limit the impact of disasters.

However, the most immediate impact of disasters is likely to be highly localized, depending on the path taken by a tornado or the proximity of a community to floodplains, earthquake faults, oceans, or large forest areas at risk of major fires. To the extent that disasters have localized impact, local government officials are likely to be unevenly affected by disasters, suggesting they may have divergent perspectives on emergency preparedness. We are particularly interested in whether LGOs view their communities as well-prepared for disasters, how their assessment varies for different types of institutions in their communities, and what factors may account for differences in their assessments.

In general, government institutions appear to be viewed as better prepared for disasters than other types of institutions. Thus, Light and Wheeler-Smith (2008) surveyed opinion leaders in government, business, and nonprofit agencies on perceived preparedness and practices of a particular organization they knew best. When responses are examined by sector, they find that respondents were significantly more likely to view government agencies as ready for a crisis than nonprofits or business organizations, regardless of which sector they represented themselves (24). Similarly, Fowler, Kling, and Larson (2007) surveyed recent business graduates

[2] This also aligns with Indiana University's Prepared for Environmental Change Grand Challenge. For more information, see https://eri.iu.edu/who-we-are/index.html.

about their organization's disaster preparedness and find that those employed by government organizations expressed a higher perception of crisis preparedness than for-profit organizations (96–97).

However, in a more in-depth study, Chikoto, Sadiq, and Fordyce (2013) interviewed and surveyed public, nonprofit, and private organizations in Memphis, Tennessee about adoption of mitigation and preparedness activities. They find that public and nonprofit organizations adopt more mitigation and preparedness activities than private organizations, but also conclude that there is no significant difference between public and nonprofit organizations (401–403).

As these finding suggest, perceptions of disaster preparedness may differ from actual preparedness. Similarly, Ablah, Konda, and Kelley (2009) find that 78 percent of respondents to the Behavioral Risk Factor Surveillance System (BRFSS), a nationally representative survey of about 400,000 U.S. adult residents, rated themselves as either well or somewhat prepared (320). By contrast, only 45 percent could be classified as prepared based on the concrete BRFSS de facto preparedness measures.

Unfortunately, assessing actual preparedness is a costly and complex process, requiring high levels of technical expertise and careful assessment of mock disaster response exercises. Our survey did not allow us to examine actual mitigation and preparedness activities. However, perceptions of preparedness are important since perceptions likely guide the level of resources and efforts devoted to disaster response planning.

Thus, the Federal Emergency Management Agency (FEMA) expressed concerns, based on findings from its Threat and Hazard Identification and Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR), that virtually all communities may fail to plan adequately. The report notes that all participating communities set targets for disaster response planning that are considerably below their own anticipated worst-case scenario for at least three goals out of fifteen, including several goals they report as being close to meeting (Homeland Security 2021, 32).

The FEMA analysis does not examine what may account for community difference in planning activities, but other research has examined how well individuals are prepared for disasters and which factors affect personal disaster preparedness. The findings show that educational attainment (Mishra and Suar 2007; Norris, Smith, and Kaniasty 1999), socioeconomic status (Murphy et al. 2009; Phillips, Metz, and Nieves 2005; Page et al. 2008), and race/ethnicity (Page et al. 2008; Murphy et al. 2009; Hausman, Hanlon, and Seals 2007) are important predictors of personal disaster preparedness. This suggests that the demographic composition of a community may affect how prepared it is for disasters, e.g., communities with high overall levels of education may be more prepared for disasters than communities with less well-educated residents.

Other research suggests that people who have experienced disasters are likely to be better prepared than those who have not (Mishra and Suar 2007; Mulilis, Duval, and Rogers 2003;

Norris, Smith, and Kaniasty 1999; Hausman, Hanlon, and Seals 2007). By extension, LGOs who have encountered major disasters in their communities may also report higher levels of preparedness. Similarly, Dzigbede, Gehl, and Willoughby (2020) find that past weather-related natural disasters appear to inform local governments to manage the COVID-19 pandemic by innovating, repurposing, and applying lessons from past disasters (639). Alternatively, LGOs may report lower levels of preparedness if the disaster revealed inadequate preparedness. Regardless, the ability to address those gaps may be difficult for communities, as well as individuals.

There are also indications that other community characteristics may be important. Thus, Vick et al. (2019) find that urban community hospitals in New York are better prepared for disasters than rural hospitals. Although there is no difference in disaster preparedness funding between urban and rural hospitals, urban hospitals have more developed disaster plans, on-site surge capacity, available materials and resources, disaster education and training, and perceived preparedness for disasters (425–426). By extension, these findings suggest that rural communities may be less prepared for disasters than urban communities.

Data and Methods

Indiana is a relatively small state—an estimated 6.8 million residents in July 2021 (Census Bureau, n.d.)—and not generally thought of as a state with many disasters. However, about a third of Indiana counties have been declared a major disaster under the Stafford Act between 2018 and March 2020, suggesting that a significant proportion of Indiana LGOs will have experienced natural disasters. These include floods, tornadoes, and other forms of severe weather, as well as the occasional earthquake.

In addition to natural hazards, there are risks from technological hazards (e.g., major structural fires, dam failures, and hazardous material incidents), and intentional human-caused hazards (e.g., terrorism). These are also events that communities should prepare for. Finally, the COVID-19 pandemic health emergency is a new type of natural disaster that has affected every community in Indiana (and the U.S.) for two years. Indeed, the emergence of COVID-19 as a major pandemic provided an unanticipated relevance for our analysis. From February 1 to May 20, 2020, Indiana had the 10th most COVID-19 deaths of all U.S. states at 1,199 deaths or .08 deaths per 100,000 population (Menifield and Clark 2021, 1105).

The survey of Indiana LGOs, on which our findings are based, was launched on February 25, 2020, several weeks before the first case in Indiana was confirmed on March 6. By April 3, the entire state had been declared a major disaster because of the pandemic. Data collection continued until August 13, allowing us to compare whether the assessment of disaster preparedness differed for LGOs who completed the survey before the disaster declaration on April 3 or after.

Data

Our data come from a survey of Indiana LGOs conducted in 2020 by the Indiana Advisory Commission on Intergovernmental Relations (IACIR) housed at Indiana University Public Policy Institute. IACIR, established by the Indiana General Assembly in 1995, regularly surveys Indiana LGOs to help understand the issues that are important to local government.

A total of 613 Indiana LGOs responded to the 2020 survey between February 25, 2020 and August 13, 2020, reflecting an effective response rate of approximately 31 percent. Using a stratified random sampling design, all Indiana county commissioners, county council members, and mayors were sent a survey, as were random samples of city and town council members, township trustees, and school board members. The survey addressed a broad range of issues.[3] For this study, we use questions related to disasters, community conditions and services, relationships to nonprofits, and LGO characteristics.

Measurements

For our dependent variables, we use a survey question on how LGOs assess the disaster preparedness of various institutions. We rely on other questions to measure independent variables related to LGO characteristics, community conditions, and the nature of nonprofit interactions with local government. We also include measures of community conditions from available data sources. Appendix tables provide descriptive statistics for all independent variables.

Dependent Variables: LGOs' Assessment of Disaster Preparedness. LGOs were asked to provide an overall assessment of how prepared nine different institutions are to deal with the impact of serious disasters in the county, ranging from "not at all prepared" (score of 1) to "very well prepared" (score of 5). Factor and reliability analysis suggest that the nine institutions can be grouped into two underlying groupings: government and other essential institutions, and all other local entities. We are particularly interested in LGO assessment of *charities and voluntary organizations*, so use that question by itself. *Other local entities* include residents, private businesses, and churches. *Government and other essential institutions*, hereinafter referred to as government institutions, include police departments and sheriff offices; fire departments; government departments, agencies, and offices; hospitals and health care facilities; and schools.

To examine which factors may account for differences in how LGOs view the preparedness of nonprofits and other community institutions, we consider three broad groupings of indicators suggested by the literature reviewed above. These include (1) characteristics of the LGOs, (2) characteristics of the communities they serve, and (3) institutional relationships.

Independent Variables: LGO Characteristics. We have no information on the education or professional background of LGOs, but we do know about their LGO position and tenure, and

[3] More information about the survey, including a copy of the survey, and IACIR is available at https://iacir.ppi.iupui.edu/index.htm.

their involvement with nonprofits. We expect some LGOs (e.g., mayors, county officials) to have more direct experience with managing disasters than other LGOs (e.g., school board members) and therefore differ in how they assess disaster preparedness. We measure *LGO position* as county level LGO, mayor, city council member, township trustee, town council member, and school board members. To measure *LGO tenure*, which may impact disaster experience, we use a survey question about how long LGOs have worked in local government.

Personal involvement with nonprofits may affect how LGOs view nonprofit preparedness. To examine this possibility, we use a survey question that asks respondents if they are *currently active in a nonprofit* in a leadership position, member of an association, or volunteer. If the respondent selected yes to any of the three positions, they were coded as being currently active in a nonprofit. We also include a survey question that asks respondents how *important their nonprofit involvement is to their LGO job* on a scale from 1 (very unimportant) to 5 (very important).

Independent Variables: Community Conditions and Scope of Nonprofits. As discussed earlier, disaster preparedness may vary across different kinds of communities. We consider both available county-level data sources and survey responses to capture this dimension. To capture community vulnerability, we use *educational attainment* (the percent of county population age 25+ without high school diploma or equivalence) and *unemployment* (percent of county labor force unemployed in May 2020). We also use *location* to capture whether the county is a metropolitan-central county, metropolitan-ring county, or non-metropolitan county.

Since LGOs may have more fine-tuned perspectives of their communities, we use two sets of survey questions to get LGOs' community assessment. One is a general question on *community direction*, indicating how LGOs view the general direction their community is headed on a scale from 1 (very pessimistic) to 5 (very optimistic). A second set reflects LGO perceptions of how problematic they view a list of current *community conditions*[4] on a scale from 1 (minor or no problem), 2 (moderate problem), to 3 (major problem).

We also consider the *scope of nonprofits in the community* since that may affect how visible nonprofits are to LGOs. We use the average income of IRS-registered 501(c)(3) charities in the county based on 2019 IRS tax returns registered charities. The distribution is highly skewed, so we use the natural log.

Finally, because perception of disaster preparedness may be related to prior community disaster experience, we control for two such indicators. *Previous disasters* is a dummy variable indicating whether the county had any FEMA disaster declarations (not including declarations related to COVID-19) in the past 3 years. To consider the impact of COVID-19, we use whether the *survey was completed before April 3*, when all 92 Indiana counties were declared a major disaster due to the pandemic under the Stafford Act. For the online version of the survey (56

[4] The survey included 78 separate community conditions across six categories—health and social services, public safety, economics, local services and infrastructure, land use, and community quality of life.

percent of completed surveys), we used the date when the survey was submitted as the completion date. For paper surveys (the remaining 44 percent), the completion date is less precise because COVID-19 caused some mail back-logs and only the date when the paper survey arrived was recorded, not when it was postmarked. Thus, we added a one-week grace period to paper surveys to account for these potential delays.

Independent Variables: Institutional Relations. How LGOs assess the disaster preparedness of different institutions may also depend on how they interact with these institutions. We use a batch of survey question that asks LGOs to assess their *current working relationships* with ten different institutions on a scale from 1 (very negative) to 5 (very positive), removing those that selected "no relationship" or "not applicable." Factor and reliability analysis suggest these assessments form two groupings: government institutions and other local entities. For LGOs' assessment of nonprofit disaster preparedness, we use working relationships with nonprofits by itself. For LGOs' assessment of other local entities disaster preparedness, we use the average score of working relationships with school districts, library districts, and local businesses. For LGOs' assessment of government institutions disaster preparedness, we use the average score of working relationships with federal, state, county, city, town, and township governments.

Finally, we have more specific assessments of how LGOs view relations with nonprofits. We use a batch of survey questions that ask LGOs about the *importance of local nonprofits to their local government* on five dimensions: financial support; service capacity; expertise, knowledge, and technical assistance; reputation and legitimacy; and policy support and influence. Each dimension was ranked on a scale from 1 (not at all important) to 5 (extremely important). Since the items appear to scale well, we use the average importance score in our analysis.

We examine whether and how these explanatory factors appear related to questions about disaster preparedness for various types of institutions. We use multivariate linear regression analysis to identify those factors that jointly best predict LGOs' assessments of disaster preparedness, controlling for all other factors.

Results

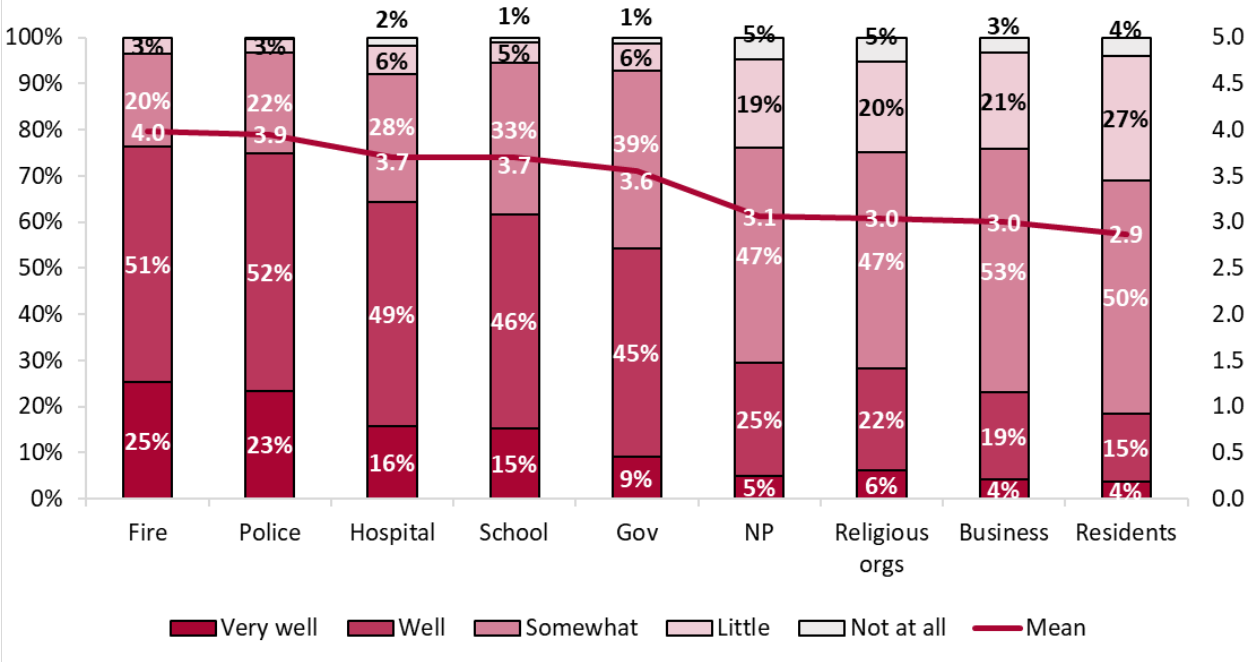
We first describe how LGOs assess the disaster preparedness of the various institutions. We then present the multivariate analysis for each of the dependent variables described above to examine the extent to which our independent predictor variables effectively predict how Indiana LGOs assess various institutions as prepared to deal with a serious disaster.

Extent of Disaster Preparedness

As noted earlier, we asked LGOs how prepared nine different local institutions are to deal with the impact of serious disasters, using a scale from 1 "not at all prepared" to 5 "very well prepared". As Figure 1 shows, three-quarters of LGOs gave assessments of at least well prepared to two key institutions that play a major role in responding to disasters—fire departments (76 percent) and police departments and sheriff offices (75 percent). Almost two-thirds gave similar assessments to two other key institutions: hospitals and health care facilities

(64 percent) and schools (62 percent), and over half did so for general government departments, agencies, and offices (54 percent). However, the percentages of LGOs who thought the remaining institutions were at least well prepared were substantially lower—charities and voluntary organizations (29 percent), churches and religious organizations (28 percent), private businesses (23 percent) and local residents (19 percent).

Figure 1: LGOs' Assessment of Various Institutions' Disaster Preparedness (n=465–498)



The average assessment scores for the nine institutions range from a high of 4.0 for fire departments to a low of 2.9 for residents and are significantly higher for the five government and other essential institutions than the remaining four entities—nonprofits, churches and religious organizations, private businesses, and residents. Our results are consistent with previous findings that government institutions are viewed as better prepared for disasters than other types of institutions (Light and Wheeler-Smith 2018; Fowler, Kling, and Larson 2007). In addition, the average assessment score for fire departments is significantly higher than for all institutions other than police departments, and the average assessment score for residents is significantly lower than for all institutions, except private businesses.

As noted earlier, factor and reliability analyses reveal two underlying groupings—hospital and health institutions together with various government institutions and nonprofits together with churches and religious organizations, private businesses, and residents. We excluded nonprofits from the other local entities grouping in our multivariate analysis to make a clean differentiation between the three dependent variables. Because nonprofits are closely related with other local entities, we expect these two sets of patterns to be quite similar.

Multivariate Analysis: Nonprofit, Other Local Entities, and Government Institutions Disaster Preparedness

We use multivariate regression analysis to examine which factors influence how LGOs assess nonprofits, other local entities, and government institutions for disaster preparedness, controlling for the key predictor variables specified previously. The models of nonprofit, other local entities, and government institutions disaster preparedness are highly significant ($p<.001$) and explain 14 percent of the variance for LGOs' assessment of nonprofit disaster preparedness and 17 and 21 percent respectively of the variance for LGOs' assessment of the disaster preparedness of other local entities and of government institutions, adjusting for the number of explanatory factors (see Tables 1–3).

Nonprofit Disaster Preparedness. In the model of nonprofit disaster preparedness, nine predictors are significant—two from the set of LGO positions and nonprofit involvement, six from the set of community conditions and scope of nonprofits, and one institutional relations (Table 1). City council members and county level LGOs are significantly more likely to assess local nonprofits as prepared to deal with the impact of serious disasters compared to town council members.

Table 1. Estimates from Linear Regression of Nonprofit Disaster Preparedness

Independent Variables	*B*	*S.E.*	*Sig.*	*Beta*
LGO Characteristics				
LGO Position (ref=Town Council Member)				
County Level LGO	.280	.140	.045*	.140
Mayor	.077	.172	.655	.027
City Council Member	.504	.256	.050*	.106
Township Trustee	.094	.147	.524	.043
School Board Member	-.069	.149	.645	-.030
Tenure in Current Local Government	.008	.005	.155	.071
Currently Active at a Nonprofit	.151	.109	.165	.069
Importance of Nonprofit Involvement to Job	.010	.054	.859	.009
Community Conditions & Scope of Nonprofits				
Educational Attainment—No High School Diploma or Equivalence	-3.511	1.260	.006**	-.150
May 2020 Unemployment	3.690	1.432	.010**	.129
County Type (ref=Non-metropolitan Counties)				
Metropolitan-Central County	-.090	.140	.520	-.037
Metropolitan-Ring County	-.246	.107	.023*	-.130
Direction the Community is Heading	.115	.050	.023*	.123
Problematic Community Conditions	-.495	.130	<.001***	-.193
Average Income of IRS-registered 501(c)(3) Charities	-.075	.038	.046*	-.109
FEMA Disaster Declaration in the Past 3 Years, not Including COVID-19	.112	.095	.237	.060

Independent Variables	*B*	*S.E.*	*Sig.*	*Beta*
Pandemic Experience, Survey Completed Before April 3, 2020	-.132	.090	.142	-.074
Institutional Relations				
Working Relationships with Nonprofits	.038	.064	.549	.031
Average Importance of Local Charities and Nonprofits to Local Government	.144	.050	.004**	.156
Constant	3.575	.728	<.001***	

Notes: Coefficients significant at the p<.05 level marked with *, those significant at the p<.01 marked with **, and those significant at the p<.001 marked with ***. The model is significant at p<.001. The Adjusted R-squared =.133 (the proportion of variation in the dependent variable—nonprofit disaster preparedness—explained by the independent variables). N=375.

Community conditions and scope of nonprofits are also important. LGOs are significantly less likely to say that local nonprofits are prepared to deal with the impact of serious disasters if they believe current community conditions are problematic. Alternatively, LGOs are significantly more likely to assess local nonprofits as well prepared to deal with the impact of serious disasters if their community is heading in a positive direction.

LGOs are significantly less likely to assess local nonprofits as prepared to deal with the impact of serious disasters if their community has large nonprofits, as indicated by high average income of IRS-registered 501(c)(3) charities, or high monthly unemployment in May 2020. LGOs are significantly less likely to assess local nonprofits as prepared to deal with the impact of serious disasters if the community has a high percentage of the population that does not have a high school diploma or equivalence. We also found that LGOs are significantly less likely to assess local nonprofits as prepared to deal with the impact of serious disasters if the community is located in a metropolitan-ring county, compared to non-metropolitan counties.

Finally, institutional interactions are important. LGOs are significantly more likely to assess local nonprofits as prepared to deal with the impact of serious disasters if they rated nonprofits as important to local government.

Other Local Entities Disaster Preparedness. As we expected, the model of other local entities disaster preparedness is very similar to the model of nonprofit disaster preparedness (Table 2). All the predictors that are significant for nonprofit disaster preparedness are significant and have the same direction for the disaster preparedness of other local entities, except for one predictor. LGOs are significantly less likely to assess local nonprofits as prepared to deal with the impact of serious disasters if the community has a high percentage of the population that does not have a high school diploma or equivalence. However, this relationship is not significant for the disaster preparedness of other local entities.

A second difference between the two models is that one predictor is significant for other local entities disaster preparedness but not nonprofit disaster preparedness. LGOs are significantly more likely to view other local entities as prepared to deal with the impact of serious disasters

if their community had previous disasters, as indicated by whether the county had any FEMA disaster declarations in the past 3 years (excluding declarations related to COVID-19).

Table 2. Estimates from Linear Regression of Other Local Institutions Disaster Preparedness

Independent Variable	*B*	*S.E.*	*Sig.*	*Beta*
LGO Characteristics				
LGO Position (ref=Town Council Member)				
County Level LGO	.242	.110	.028*	.148
Mayor	-.002	.134	.986	-.001
City Council Member	.394	.199	.049*	.103
Township Trustee	.024	.115	.835	.014
School Board Member	.018	.117	.879	.009
Tenure in Current Local Government	.003	.004	.426	.038
Currently Active at a Nonprofit	.111	.086	.196	.062
Importance of Nonprofit Involvement to Job	.029	.043	.508	.034
Community Conditions & Scope of Nonprofits				
Educational Attainment—No High School Diploma or Equivalence	-1.882	.989	.058	-.098
May 2020 Unemployment	3.148	1.124	.005**	.134
County Type (ref=Non-metropolitan Counties)				
Metropolitan-Central County	-.055	.109	.613	-.028
Metropolitan-Ring County	-.185	.084	.028*	-.120
Direction the Community is Heading	.096	.040	.018*	.122
Problematic Community Conditions	-.453	.102	<.001***	-.215
Average Income of IRS-registered 501(c)(3) Charities	-.101	.029	<.001***	-.179
FEMA Disaster Declaration in the Past 3 Years, not Including COVID-19	.159	.073	.031*	.104
Pandemic Experience, Survey Completed Before April 3, 2020	-.031	.070	.656	-.021
Institutional Relations				
Working Relationships with Other Local Institutions	.080	.052	.127	.076
Average Importance of Local Charities and Nonprofits to Local Government	.100	.039	.010**	.132
Constant	3.654	.568	<.001***	

Notes: Coefficients significant at the p<.05 level marked with *, those significant at the p<.01 marked with **, and those significant at the p<.001 marked with ***. The Adjusted R-squared =.167 (the proportion of variation in the dependent variable—other local institutions disaster preparedness—explained by the independent variables). N=395.

Government Institutions Disaster Preparedness. The model of government institutions disaster preparedness differs somewhat from the models for nonprofit and other local entities disaster

preparedness (Table 3). However, two predictors, both community conditions, are significant and have the same direction across all three disaster preparedness models.

Table 3. Estimates from Linear Regression of Government Institutions Disaster Preparedness

Independent Variables	*B*	*S.E.*	*Sig.*	*Beta*
LGO Characteristics				
LGO Position (ref=Town Council Member)				
County Level LGO	.051	.088	.566	.034
Mayor	.035	.113	.758	.016
City Council Member	.248	.151	.102	.075
Township Trustee	-.236	.090	.009**	-.153
School Board Member	.003	.096	.972	.002
Tenure in Current Local Government	.004	.003	.269	.047
Community Conditions & Scope of Nonprofits				
Educational Attainment—No High School Diploma or Equivalence	-1.073	.799	.180	-.060
May 2020 Unemployment	.987	.882	.264	.047
County Type (ref=Non-metropolitan Counties)				
Metropolitan-Central County	.076	.080	.339	.043
Metropolitan-Ring County	-.055	.066	.407	-.039
Direction the Community is Heading	.083	.031	.008**	.121
Problematic Community Conditions	-.264	.082	.001***	-.138
FEMA Disaster Declaration in the Past 3 Years, not Including COVID-19	-.015	.058	.789	-.011
Pandemic Experience, Survey Completed Before April 3, 2020	-.028	.055	.612	-.021
Institutional Relations				
Working Relationships with Government Institutions	.309	.043	<.001***	.325
Constant	2.675	.292	<.001***	

Notes: Coefficients significant at the p<.05 level marked with *, those significant at the p<.01 marked with **, and those significant at the p<.001 marked with ***. The Adjusted R-squared =.212 (the proportion of variation in the dependent variable—government institutions disaster preparedness—explained by the independent variables). N=478.

Regardless of which type of institution is being assessed, LGOs are significantly less likely to say that the particular type of institution is prepared to deal with the impact of serious disasters if they believe current community conditions are problematic. Alternatively, regardless of which type of institution is being assessed, LGOs are significantly more likely to assess these types of institutions as well prepared to deal with the impact of serious disasters if they believe their community is heading in a positive direction.

Additionally, two predictors are significant only for government institutions disaster preparedness. Township trustees are significantly more likely to assess government institutions

as prepared to deal with the impact of serious disasters compared to town council members. Also, LGOs are significantly more likely to assess government institutions as prepared to deal with the impact of serious disasters if they have positive working relationships with government institutions.

Discussion

Our findings point to the importance of community conditions and the direction the community is headed in the communities LGOs represent. Regardless of which type of institution is being assessed, LGOs are significantly less likely to say that the particular type of institution is prepared to deal with the impact of serious disasters if they believe current community conditions are problematic. Possibly, when LGOs view community conditions as problematic, they may assume all institutions are overwhelmed by addressing the problems and do not have the resources to devote to disaster preparedness. Alternatively, they may view the problematic community conditions as indicating that other institutions are not operating at the optimal level, including not being adequately prepared for natural disasters.

A similar argument may explain why, regardless of which type of institution is being assessed, LGOs are significantly more likely to assess these types of institutions as well prepared to deal with the impact of serious disasters if they believe their community is heading in a positive direction.

Our findings also point to the importance of other characteristics of the communities LGOs represent. LGOs are significantly less likely to assess local nonprofits and other local entities as prepared to deal with the impact of serious disasters if the community is a metropolitan-ring county, compared to non-metropolitan counties, or has large nonprofits, as indicated by high average income of IRS-registered 501(c)(3) charities.

This may signal that LGOs in smaller communities have more familiarity with nonprofits than LGOs in larger communities and thus, assess their disaster preparedness as higher. Larger nonprofits tend to be concentrated in large metropolitan communities and may reflect the same underlying dynamics as the previous finding, e.g., that LGOs representing metropolitan ring counties are less likely to view local nonprofits and other local entities as being well prepared for disasters than those representing non-metropolitan communities.

In addition, LGOs are significantly less likely to assess local nonprofits and other local entities as prepared to deal with the impact of serious disasters if their community had high monthly unemployment in May 2020. LGOs are also significantly less likely to assess local nonprofits as prepared to deal with the impact of serious disasters if the community has a high percentage of the population that does not have a high school diploma.

In addition, LGOs are significantly more likely to assess other local entities as prepared to deal with the impact of serious disasters if their community had previous disasters, as indicated by whether the county had any FEMA disaster declarations in the past 3 years, not including declarations related to COVID-19.

Our findings also point to the importance of characteristics of the LGOs. City council members and county level LGOs are significantly more likely to view local nonprofits and other local entities are prepared to deal with the impact of serious disasters compared to town council members. Additionally, township trustees are significantly more likely to assess government institutions as prepared to deal with the impact of serious disasters compared to town council members.

Finally, institutional relationships also appear to be important. LGOs are significantly more likely to assess local nonprofits and other local entities as prepared to deal with the impact of serious disasters if they rated nonprofits as important to local government. Similarly, LGOs are significantly more likely to assess government institutions as prepared to deal with the impact of serious disasters if they have positive working relationships with government

Conclusion

Our finding that that LGOs are significantly less likely to view all types of institutions as well-prepared for disasters if community conditions are problematic is particularly noteworthy. These types of communities are likely to have fewer resources to improve their preparedness, and they are likely to be more seriously impacted when disasters strike. These findings raise important questions about the ability of the most vulnerable communities to meet the threat of more frequent and severe natural disasters in the future.

We note that the current COVID-19 pandemic has tested the ability of Indiana communities to respond to this new type of emergency and revealed weaknesses in disaster preparedness. The timing of our survey doesn't allow us to allow us to determine whether the pandemic served as a wakeup call for LGOs. However, Mizrahi, Vigoda-Gadot, and Cohen (2021) find that Israeli citizens' evaluations of government's crisis management declined sharply from the first peak of the COVID-19 pandemic in March 2020 to the second peak of the pandemic in October 2020 (1124–1125).

The COVID-19 pandemic has certainly resulted in more problematic community conditions for the communities hit the hardest. We plan to monitor these developments. Additionally, we note that the survey only measured LGOs' perception of how prepared institutions are for disasters, not actual disaster preparedness. Future research should explore whether these results are consistent with actual disaster preparedness. Future research should also explore whether more extensive cross-sector collaborations developed as communities sought to respond to the unprecedented crisis they faced, and if so, whether those collaborations allow communities and their LGOs to more effectively prepare for and respond to new disasters.

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Appendix

Appendix Table 1. Descriptive Statistics—Categorical Variables

Variable	***N***	***Percentage***
LGO Position	613	
County Level LGO	210	34.3%
Mayor	53	8.6%
City Council Member	22	3.6%
Township Trustee	141	23.0%
School Board Member	105	17.1%
Town Council Member	82	13.4%
Currently Active in a Nonprofit	382	77.5%
County Type	613	
Metropolitan-Central County	106	17.3%
Metropolitan-Ring County	194	31.6%
Non-metropolitan County	313	51.1%
FEMA Disaster Declaration in the Past 3 Years, not Including COVID-19	224	36.5%
Pandemic Experience, Survey Completed Before April 3, 2020	321	52.4%

Appendix Table 2. Descriptive Statistics—Continuous Variables

Variable	*Range*	*N*	*Mean*	*Median*	*Standard Deviation*
Tenure in Current Local Government	0–49	609	10.36	8.00	8.91
Importance of Nonprofit Involvement to Job	1–5	511	4.21	4.00	.94
Educational Attainment—No High School Diploma or Equivalence	.03–.38	613	.12	.11	.04
May 2020 Unemployment	.054–.222	613	.12	.12	.03
Direction the Community is Heading	1–5	607	4.14	4.00	.96
Problematic Community Conditions	1–3	593	1.68	1.67	.35
LN Average Income of IRS-registered 501(c)(3) Charities	11.79–18.79	613	14.46	14.22	1.37
Working Relationships with Nonprofits	1–5	502	4.31	4.00	.75
Average Working Relationships with Other Local Entities	1–5	511	4.21	4.33	.74
Average Working Relationships with Government Institutions	1–5	524	4.03	4.00	.70
Average Importance of Local Charities and Nonprofits to Local Government	1–5	470	3.39	3.40	1.04

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