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Citizen Trust and Governments' Response to Disasters

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CITIZEN TRUST AND GOVERNMENTS' REPSONSE TO DISASTERS

by

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B.S. University of Central Florida, 2022

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for the degree of Bachelor of Public Administration
in the School of Public Administration
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Abstract

The purpose of this descriptive study is to determine if there is a difference in citizen trust in Orange County government regarding the handling of disaster. Various dimensions like competence, benevolence, and integrity can determine a citizen's trust within its government. Disasters, such as man-made and natural, are described as a disruption to society through widespread damage to people and material. Counties experience man-made and natural disasters. Depending on its response to the incidents, counties can determine if the citizens view the county as a trustworthy and responsible government body. This study explored if there were differences in citizen trust in government response to different disasters and if citizens of different demographics had differing levels of trust. This study found that 1) there is no statistical difference between the average citizen trust scores between the two disasters 2) there is no statistical difference between the average citizen trust scores for the two groups, and 3) there is no statistical difference between the overall average citizen trust score between older and younger generations.

Acknowledgements

I would like to express my deepest appreciation to my thesis chair, Dr. Daniel Seigler, and my thesis committee member, Dr. Gregg Buckingham, for making this endeavor possible and providing continuous support, encouragement, and knowledge. I would like to extend my sincere thanks to my friends, family, and mentors who always believed in me when I had difficulties believing in myself. Thank you all for your support.

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Introduction

Within the last decade, Orange County, Florida has experienced its share of man-made and natural disasters with tragic events including the 2016 Pulse Nightclub Shooting and 2017 Hurricane Irma. Though varying in disaster types, both events resulted in deaths within the community and millions of dollars in damage, specifically with Hurricane Irma. Following these incidents, Orange County government took on various measures to move towards recovery including assistance and programs for survivors and their families.

Citizen trust in government entities is dependent on several factors such as responsiveness, integrity, and inclusivity (OECD, 2018). Scales have also been used to have citizens evaluate their trust in governments based on perceived competence, perceived benevolence, and perceived integrity (Grimmelikhuijsen et al., 2017). These characteristics are determinants of citizens' willingness to be dependent on government as well as governments' perceived trustworthiness.

This study will aid in determining if a difference in citizen trust in government following man-made and natural devastating events exists. This adds to the literature as it bridges the gap between citizen trust in government and disaster handled by government entities. By conducting this research, more information will be found regarding what causes varying citizen trust in government.

The purpose of this descriptive research is to describe if there is a difference in citizen trust in Orange County regarding the handling of disasters. The independent variables are disasters that has occurred in Orange County which is defined as one that resulted in

several deaths and community suffering. The dependent variable is citizen trust in government which is defined as consisting of three dimensions which are perceived competence, perceived benevolence, and perceived integrity. The research questions are as follows:

Research Question 1: Is there a difference in citizen trust in Orange County government between man-made and natural disasters?

Research Question 2: Is there a difference between racial groups' trust in government following disaster?

Research Question 3: Is there a difference between generations' trust in the government following disaster?

Review of Literature

To address the research questions within the study, the following research literature review will provide context necessary to understand how local government handling of different disasters might affect citizen trust. Defining citizen trust, natural and man-made disasters, understanding the relationship between race, ethnicity, age, and disasters, and knowing the significance of the Pulse Nightclub Shooting and Hurricane Irma in Orange County, Florida helps to determine holes in knowledge within current literature that can be discovered through the study and answering the research questions.

Defining Citizen Trust

Citizen trust in government organizations holds various dimensions in determining the organizations trustworthiness. These dimensions are perceived competence, perceived benevolence, and perceived integrity (Grimmelikhuijsen et al., 2017). Perceived competence is citizen perception of government organizations to be capable, effective, skillful, and professional. Perceived competence is exhibited in governments effectiveness to fulfill their duties to meet the needs of the public through passing and implementation of policies. Perceived benevolence is defined as citizen perception of government organizations to care about the welfare of the public and motivation to act in the public interest. An example of perceived competence is the government functioning in the public interest and never for personal interest. Perceived integrity is characterized as citizen perception of government organizations to be truthful and fulfill its promises. Similarly to the previously discussed dimensions, perceived integrity is shown when government organizations and its elected public servants uphold their word and commit to the duties that come with their role.

Developed by the Organization for Economic Co-operation and Development, factors that have been identified to increase citizens' trust in government include reliability, responsiveness, openness, better regulation, integrity and fairness, and inclusive policy making (Trust in Government, 2018). Government's reliability is dependent on its ability to minimize uncertainty within economics, social and political environments. Openness within government organizations is illustrated within policies that are centered on citizen engagement and access to information. Proper regulation is crucial to create justice for all individuals to deliver public services. For government organizations to be regarded as being just and trustworthy, it is important for them to have integrity and operate fairly. Comprehension of how policies are designed to strengthen institutions creates inclusivity in the policy making process which also increases trust between government organizations and its citizens. A lack of said factors will result in decreased citizen trust in government.

Natural and Man-Made Disasters

Disaster can be defined as a critical disruption to society through widespread damage to people, material and the environment which can lead to a society's difficulty coping and recovery from it using its own resources (Asian Disaster Reduction Center, 2003). The research center further explains that there are three classifications of disasters: natural, man-made, and hybrid. For the purpose of this thesis, the focus will be on natural and man-made disasters as well including its definitions, examples, and criteria. The Center for Research on the Epidemiology of Disasters (CRED, 2003) created a criteria list in which the disaster must meet at least one of the disaster standards which include ten or more people reported killed, one hundred

or more people reported affected, a call for international assistance from other nations, and the declaration of a state of emergency.

Also referred to as “acts of God”, natural disasters are explained as tragic events that are caused by natural causes that man has no control over. Disasters such as earthquakes, hurricanes, and tornadoes may lead to the displacement of populations, damage infrastructure, and negative impacts on the economy. Turner and Pedgeon (1997) explain natural disasters as having categories which are natural phenomena beneath the Earth’s surface, natural phenomena of complex physical origin on the Earth’s surface, meteorological and hydrological phenomena, and biological phenomena (Mohamed Shaluf, 2007). When examining the effects of natural disasters on aspects beyond the obvious environment, the ‘cascade effect’ of natural disasters describes the dynamics of the disaster creating a sequence of events in human subsystems that results in disruption of social, economic, and physical areas.

Man-made or human-made disasters are defined by the International Federation of Red Cross and Red Crescent Societies (2003) as non- natural disastrous events that can occur suddenly or long-term. Like natural disasters, man-made disasters also produce unfortunate outcomes for the economy and infrastructure of a community or country but are commonly done with a political aim or imposed by other individual states and corporations for their best interest (Mohamed Shaluf, 2007). Likewise, this can still cause damage to earth’s natural features and humans due to human action or lack thereof. Categories of man-made disasters are socio-technical disasters (accidents) and warfare. Socio-technical disasters include production failures, structure collapse, transportation-disaster, and technological-disaster, whereas warfare involves international and national (Mohamed Shaluf, 2007).

Relationship Between Race, Ethnicity, Age, and Disasters

Race, Ethnicity, and Disasters

Unfortunately, there are racial and ethnic disparities across all aspects of life including disasters. For this study, races and ethnicity are defined as including “White; Black or African American; Hispanic or Latino; Native American or Alaska Native; Asian; and Native Hawaiian or Other Pacific Islander.” (U.S. Equal Employment Opportunity Commission, 2012). Regarding response to disasters, emergency agencies often do not have enough bilingual personnel for minority communities (Black or African American; Hispanic or Latino; Native American or Alaska Native; Asian; and Native Hawaiian or Other Pacific Islander) to relay information which creates issues in distributing food, water and medical supplies (Phillips and Ephraim, 1992). Additional difficulties that put these groups in a disadvantage are being in older housing and lower income. Fatality for disasters is largely disproportionately high for ethnic groups due to factors such as older housing that was made from outdated material that is more susceptible to damage (Bolton et al., 1993; Cooper and Laughy, 1994). Minorities groups who will often have lower incomes will have difficulties paying for prevention and preparation of disasters as well as the recovery of the damage.

Generational Perspectives on Disasters

According to Pew Research, Generation Z are individuals born between 1997 and 2012, Millennials are individuals born between 1981 and 1996, Generation X are individuals born between 1965 and 1980, Boomers are individuals born between 1946 and 1964, and the Silent Generation are those individuals born between 1928 and 1945 (Pew Research, 2019). When comparing younger generations like Generation Z and Millennials to older generations like

Generation X, Boomers, and the Silent Generation, younger generations would prefer to see a larger role in government with believing governments should do more to solve problems whereas older generations believe individuals are better off left alone by government (Pew Research, 2019). With this information, it can be assumed that because younger generations want a more involved government that they will have more trust in the government compared to older generations to support, serve, and meet their needs.

Orange County Disasters: Pulse Nightclub Shooting and Hurricane Irma

The following events have been chosen to be used for the discussion of natural and man-made disasters within Orange County, Florida as they are arguably some of the most harmful disasters to have occurred within the past decade. The harm of these events is evidenced by multiple deaths and property damage. The upcoming sections will go into depth the impacts of these events on the community as well as the county's efforts in recovery and a return to normalcy. The events will also later be used within the survey as cases to determine if disastrous events affect citizen trust in Orange County Government.

Pulse Nightclub Shooting

On June 12th, 2016, an Afghani-American man shot 102 individuals at the LGBTQ nightclub, Pulse, in Orlando Florida. The Pulse Shooting stands as the deadliest incident of violence against LGBTQ and Latino people in all United States history with 49 lives being taken (Dastiger, 2017). During that time, the shooting was considered the deadliest terrorist attack in

the United States since September 11th, 2001, and the deadliest mass shooting but later would be surpassed by concert shooting in Las Vegas, Nevada in October of 2017 (Montero, 2019).

Though oftentimes categorized as an act of terrorism, the incident was also if not more of a hate crime as the target was a LBGTQ nightclub, that being not a typical public space and being a safe space for minority groups (Latinos and LBGTQ).

Following the incident, specific procedures Orange County Government took included holding press conferences to provide updates to the public regarding the investigation as well as the Orange County Medical Examiner's Office working on the autopsies and reuniting victims with their loved ones (Orange County Newsroom, 2017). Additional actions that the county took were an inter-faith press conference to show support from religious leaders to the victims' families as well as the establishment of June 17th as Orlando United Day in honor of those lost.

Partnerships were also made afterwards to assist in recovery following the tragic event including the county's partnership with City of Orlando and the Historical Society of Central Florida to provide a repository of digital and physical memories of the nightclub. In collaboration with the City of Orlando again, Orange County and the city opened the Orlando United Assistance Center, a space to assist those within the communities affected by the event.

Hurricane Irma

In September of 2017, Hurricane Irma traveled through the Caribbean and up the State of Florida causing millions in damage and taking the lives of 132 people, 82 of which were from Florida. The hurricane currently stands as the strongest seen in the Atlantic Ocean within the last 10 years (Wynter-Minott, 2017).

In Orange County, Florida specifically, the damage from the storm was upwards of \$51.67 million in damage with approximately \$8,286 in damage for the over 3,000 properties in the county (Shanklin, 2017). Compared to other neighboring counties, Orange County had the most claims for damaged property of over 24,000 claims, surpassing Seminole, Osceola, and Lake counties (Shanklin, 2017).

Prior to the hurricane's arrival to the Central Florida area, Orange County Government along with then Orange County Mayor Teresa Jacobs prepared for its arrival with continuous updates. Examples include but are not limited to the county's encouragement of residents to monitor and evaluate information from the National Hurricane Center, evacuations notice with host shelter information, and information regarding sandbag distribution and additional forms or preparedness (Orange County Newsroom, 2017).

Following Hurricane Irma going through Central Florida, Orange County's focus shifted to recovery with steps including debris removal, and information on local pantries for food and water. Assistance programs included the Disaster Assistance Improvement Program (DAIP), the Florida Small Business Bridge Loan Program, the Disaster Unemployment Assistance service provided by DAIP, individual assistance provided by FEMA and many more (Orange County Government Florida, 2017).

Hypotheses

Based on the review of related research literature and the above cases, the following hypotheses are posited.

Hypothesis 1: It is hypothesized that Orange County citizens will more likely have trust in the government for its response to man-made or human disasters than to natural disasters due to the nature of the disaster being more unpredictable and more difficult to prepare for.

Hypothesis 2: It is hypothesized that Orange County citizens of minority groups, Black or African American; Hispanic or Latino; Native American or Alaska Native; Asian; and Native Hawaiian or Other Pacific Islander, will less likely have trust in government response to man-made and natural disasters compared to the white majority group because of disparities in support and assistance between differing racial and ethnic groups.

Hypothesis 3: It is hypothesized that Orange County citizens from younger generations like Generation Z and Millennials will more likely have greater trust in the government for its response disasters than older generations like Generation X, Boomers, and Silent due to younger generations favoring a larger and more involved government.

Methodology

Research Design

The purpose of this descriptive research is to gather information to describe if there is a difference in citizen trust in Orange County government regarding its handling of disasters. The study is descriptive as there will be no variables manipulated with the focus group receiving the same survey for both events. The survey consists of factual, press released information on the county's response regarding a natural and man-made event. The research compares citizen trust based on Orange County government response to a man-made disaster and a human made disaster to determine if it will reveal a difference in citizen trust

The independent variable of the study is the disaster the county has faced, which will be the Pulse Nightclub Shooting and Hurricane Irma, each representing a man-made and natural disaster respectively. The dependent variable is citizen trust score which will be an average score of responses to questions regarding Orange County governments' perceived competence, perceived benevolence, and perceived integrity in responding to the disaster. The research questions function to determine if there are differences in citizen trust in Orange County government response to disasters as well as variations for differing racial, ethnic, and age groups. It is hypothesized citizens will have more trust in government response to man-made disasters. Specifically, it is also hypothesized that minority groups will have less trust in government response than the white majority group to both incidents, and there will be more trust for citizens of younger generations than older ones.

Population and Subjects

The population studied consisted of the citizens of Orange County, Florida with citizens being defined as residents within the six districts of the county. The sampling method used is quota sampling with the quota being the proportion of the population within each of the districts and each district having the same quote number. Policy aides for District 1 Commissioner Nicole H. Wilson, District 2 Commissioner Christine Moore, District 3 Commissioner Mayra Uribe, District 4 Commissioner Maribel Gomez Corero, District 5 Commissioner Emily Bonilla, and District 6 Commissioner Victoria P. Siplin were sent a link to the Qualtrics survey in which they will share via newsletters, their websites, and or social media posts. Citizens who are subscribed to or follow their designated commissioner's newsletter and social media received the survey to complete. Through past internships with Commissioner Nicole H. Wilson, the researcher was able to build a relationship with her and the Policy Aide to partner in the distribution of the survey.

To aid in having all district responses fairly represented, the lowest response number of responses was going to be used as the number of responses for each district, if the number of responses received from each district varies significantly. In deciding which survey responses will be used from a district that had many responses, all responses for each district was going to be added to a Microsoft Excel Spreadsheet which will generate a random sample of which responses will be used.

Measurement

As previously stated, the independent variable of the survey is each disaster, that being Pulse Nightclub Shooting and Hurricane Irma, that have occurred in Orange County. The

dependent variable is a citizen trust in government score which is an average of participants' score on three dimensions of trust: perceived competence, benevolence, and integrity.

The variables were measured by the survey which consisted of nine statements with three statements addressing each of three dimensions of trust being perceived competence, benevolence, and integrity. These statements from the survey were inspired and adapted to fit the current study by the survey used in the work of Stephan Grimmelikhuijsen et al. (2017) in their article entitled, "Validating a scale for citizen trust in government organizations". The Likert Scale consisted of the nine statements and assisted in determining the respondents' beliefs and judgments to each statement. The scale provided options for the participants to respond to the statements with either strongly agree, agree, neutral, disagree, or strongly disagree. A response of strongly agree equaled a score of four, a response of agree equaled a score of three and so forth for each statement (neutral equaled a score of two, disagree equaled a score of one, etc.). Each of the statements scored as high as four or as low as zero. All the scores from the statements were added to make the citizen trust score. The score was derived similarly for both types of events. The level of measurement for the survey was interval level, because the score is a numerical value, and two independent groups are being compared to find a difference.

The statements utilized in the survey were assembled based on information gathered from the literature review regarding characteristics of citizen trust. The survey was submitted to a panel of experts from the University of Central Florida within the School of Public Administration, specifically professionals in public administration for review to ensure face validity. Following the review, the survey was revised once more, translated to Spanish, and sent to the University of Central Florida Institutional Review Board (IRB) for approval before being

sent to prospective respondents. After being certified through the Citi Program for Human Subjects Research, the following procedures were followed.

Procedures

1. Creation of the survey consisting of demographic questions and a Likert Scale.
2. Develop written vignettes for man-made and natural disasters events.
3. Submit the survey to a panel of experts in the field, revise as needed.
4. Provide the survey to the Institutional Review Board (IRB) for assessment and approval.
5. Make necessary revisions to the survey based on IRB's response.
6. Distribute Qualtrics link for survey to Orange County, Florida residents.
7. Allow for two weeks to receive responses from survey participants.
8. Distribute additional surveys if an inadequate number of responses are received.
9. Analyze data received through Qualtrics to assess for correlations between variables.
10. Write a discussion and conclusion for the results of the research.
11. Publish and distribute findings from the research.

Data Analysis

After receiving responses from the survey participants, the data was added to a Microsoft Spreadsheet to be encoded and analyzed. For the Likert Scale, strongly agree, agree, neutral, disagree, or strongly disagree was coded from left to right as 4, 3, 2, 1, and 0 with strongly agree being coded as 4, agree being coded as 3, and so on.

Descriptive statistics used to represent the data are mean and standard deviation. For mean, an average score was taken of man-made and natural disasters for all citizens that

participated in the survey. Another average score was taken for different racial and ethnic groups for both score for overall response of both disasters. Lastly, an average score was taken for each of different generations for overall response of both disasters. All averages were displayed in a frequency distribution.

For research question 1, an Independent T-Test was run to determine if there is any statistically significant difference in citizen trust between the county's response to man-made and natural disasters. For research question 2 another Independent T- Test was run to determine if there is a statistically significant difference in scores between the white majority group and the minority group. Lastly, for research question 3, an Independent T- Test was run to compare the trust of older and younger generations.

Additionally, standard deviations were used to describe the data as the standard deviation ranges illustrate how dispersed and spread out the data is in relation to the mean citizen trust scores. Using standard deviations helped determine if there were any outliers or if the responses were generally leaning towards one direction.

Ethics, IRB Approval, and Limitations

Respondents to the survey of the study were presented two short vignettes which will include information on the Pulse Nightclub Shooting and Hurricane Irma. Along with the two vignettes, the participants responded to nine questions regarding the dimensions of citizen trust which are perceived competence, perceived benevolence, and perceived integrity. Demographic questions referencing sex, age, race, and ethnicity were included as well. Completion of the survey took a maximum of 10 to 15 minutes.

As stated by the *Belmont Report* (1978), the three principles of ethical research are defined as respect for persons, beneficence, and justice, all of which this study abides to. Respect for all persons was met in the research as all respondents of the survey are informed of what the research is about and are given free choice to answer survey questions or not. The research ensured beneficence as it consists of minimal amount of risk and does not put participants in possibility of harm. In addition to participants being informed and not at risk, participants' justice was also ensured as there are no costs, burdens, or benefits to all participants who complete the survey as well as the research being shared with a large audience of course including the participants.

A potential limitation of the survey was that it was a nonrandom sample. Due to the surveys being distributed by Orange County Commissioners via their newsletters and social media posts, the survey was only be sent to individuals who are subscribed to and follow the commissioner for their district. Although this strategy helped in an easier distribution of surveys by sharing a link, it may hold the risk of only having a specific group of people receiving the survey and not all residents of Orange County. An additional potential limitation of the survey is residents who lived in the county during the two incidents using prior memory and feelings rather than current vignettes on which to base their responses. Responses should be contingent on the vignettes alone, but residents may still use their own memory which may produce biases in their answers. See Table 1 for budget and schedule.

Table 1

Budget and Schedule

	Procedure	Budget	Schedule
1.	Creation of the survey consisting of demographic questions and a Likert Scale.	\$0.00	2 months
2.	Develop written vignettes for man-made and natural disasters events.	\$0.00	2 weeks
3.	Submit the survey to a panel of experts in the field for recommended revisions.	\$0.00	2 weeks
4.	Provide the survey to the Institutional Review Board (IRB) for assessment and approval.	\$0.00	2- 6 weeks
5.	Make necessary revisions to the survey based on IRB's response.	\$0.00	1 week
6.	Distribute Qualtrics link for survey to Orange County, Florida residents.	\$0.00	1 day
7.	Allow for two weeks to receive responses from survey participants.	\$0.00	2 weeks
8.	Distribute additional surveys if an inadequate number of responses are received.	\$0.00	2 weeks
9.	Analyze data received through Qualtrics to assess for correlations between variables.	\$0.00	2 months
10.	Write a discussion and conclusion for the results of the	\$0.00	1 month

	research.		
11.	Publish and distribute findings from the research.	\$0.00	1 week
Total		\$0.00	Approx. 8 months (34 weeks)

|

Results

On September 21st, 2022, the survey was shared with Orange County residents bringing forth-six responses. On September 29th, unfortunately Hurricane Ian reached Central Florida causing much disaster. Due to the need for government attention on recovery, the survey was not shared again until October 1st. After being shared again, the survey only received an additional 11 responses for a total of 17 responses.

It became apparent that the Orange County Commissioners were most likely reluctant to share the survey as they were rightfully still focused still on Hurricane Ian recovery. Therefore, the study shifted to take on the distribution, sharing the survey via social medias and public surveying of Orange County residents. It is important to note the potential impact of Hurricane Ian's influence on the responses as it may create some bias of trust for natural made disasters.

Description of Participants

In total, there were 55 responses with 32 responses being used in the data analysis due to some participants withdrawing their consent and discontinuing participation in the study. Responses were not used within the data analysis if participants responded to less than half of the survey questions. Of the responses, 17 were 18 to 25 years old, 7 were 26 to 41 years old, 5 were 42 to 57 years old, 3 were 58- 76 years old, and none were 77 years old or older. Of participants, 12 were White and non-Hispanic or Latino, 8 were Black or African American and non-Hispanic or Latino, there were no Native American or Alaska Native or Native Hawaiian and Other Pacific Islanders participants, 3 were Asian, 4 were two or more races, and 5 were Hispanic or Latino. See Figure 1 for participants age and Figure 2 for participants race and ethnicity.

Figure 1

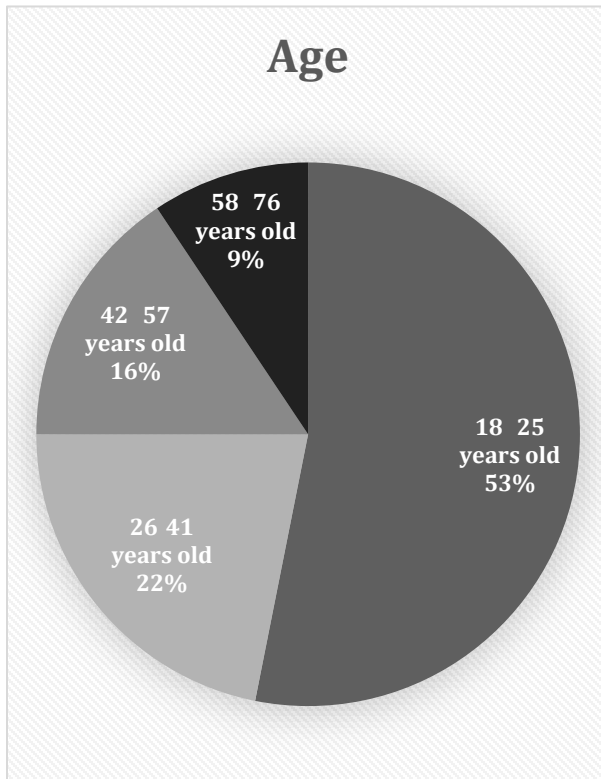
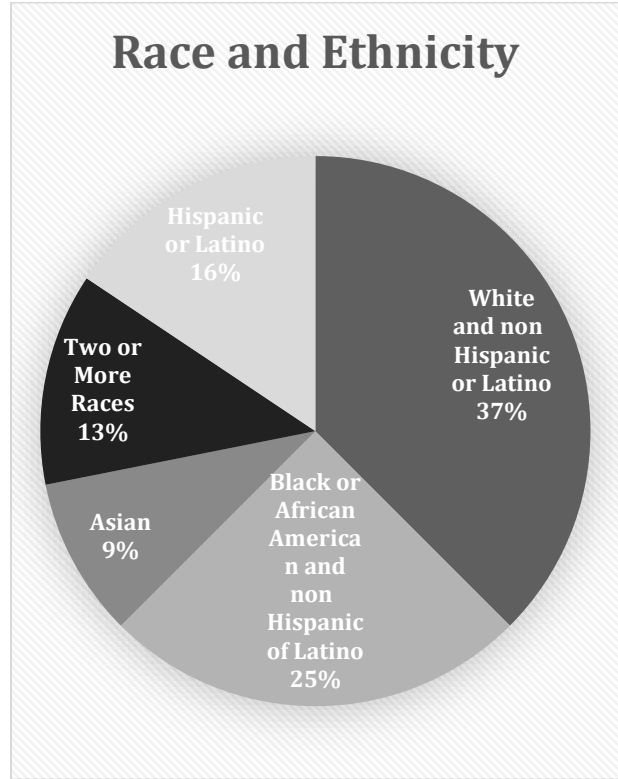


Figure 2



Results for Hypothesis 1

Hypothesis 1 was Orange County citizens will more likely have trust in the government for its response to man-made or human disasters than to natural disasters due to the nature of the disaster being more unpredictable and more difficult to prepare for.

The overall average citizen trust score for Orange County's responses to the man-made disaster Pulse Nightclub Shooting and natural disaster Hurricane Irma was approximately 2.9384 with a standard deviation of approximately 0.6622.

The county's average citizen trust score in response to the Pulse Nightclub Shooting alone was approximately 2.8368 with a standard deviation of approximately 0.7472. The county's average citizen trust score in response to Hurricane Irma was approximately 3.0035

with a standard deviation of approximately 0.6154. There was no significant difference between the citizen trust score of the Pulse Nightclub Shooting and Hurricane Irma with $t= 0.3339$, $p >0.05$. See Table 2 for Orange County overall citizen trust score.

Table 2
Orange County Overall Citizen Trust Score

Orange County Overall Citizen Trust Score	Number of Participants Who Gave Score
0.0- 1.0	0
1.1- 2.0	4
2.1- 3.0	16
3.1- 4.0	12

Results for Hypothesis 2

Hypothesis 2 was Orange County citizens of minority groups, Black or African American; Hispanic or Latino; Native American or Alaska Native; Asian; and Native Hawaiian or Other Pacific Islander, will less likely have trust in government response to man-made and natural disasters compared to the white majority group because of disparities in support and assistance between differing racial and ethnic groups.

Participants who were White and non-Hispanic or Latino had an overall score of 3.1558, Black or African Americans had a trust score of approximately 2.9850, Asians had a trust score of approximately 2.9800, participants of two or more races had a trust score of approximately 2.7500, and Hispanic or Latino participants had a trust score of approximately 2.4680.

When looking at all minority participants citizen trust scores, the average citizen trust score was approximately 2.808 with a standard deviation of approximately 0.6021. For White

and non-Hispanic or Latino participants citizen trust score, the average was 3.1558 with a standard deviation of approximately 0.7260. There was no significant difference between the overall citizen trust scores of White and non-Hispanic or Latino participants and minority participants (Black or African American; Hispanic or Latino; Asian; and two or more races) with $t=0.2065$, $p > 0.05$. See Table 3 for Orange County overall citizen trust score by race and ethnicity.

Table 3
Orange County Overall Citizen Trust Score by Race and Ethnicity

Orange County Overall Citizen Trust Score by Race and Ethnicity	Average Participant Score Given
White and non-Hispanic or Latino	3.1558
Black or African American	2.9850
Asian	2.9800
Two or more Races	2.7500
Hispanic or Latino	2.4680

Results for Hypothesis 3

Hypothesis 3 was Orange County citizens from younger generations like Generation Z and Millennials will more likely have greater trust in the government for its response disasters than older generations like Generation X, Boomers, and Silent due to younger generations favoring a large and more involved government.

When assessing age, participants 18 to 25 years old had an overall average citizen trust score of approximately 2.6041, 26 to 41 years old had a score of approximately 3.1886, 42 to 57 years old had a score of approximately 3.4880, and 58 to 76 years old had a score of approximately 3.3333.

The average overall citizen trust score for the younger generations which were ages 18 to 41 was approximately 2.7746 with a standard deviation of approximately 0.6451. The average overall citizen trust score for the older generations which were ages 42 to 76 was approximately 3.43 with a standard deviation of 0.4545. There was no significant difference between the average overall citizen trust score between younger and older generations with $t = 0.0069$, $p < 0.05$. See Table 4 for Orange County overall citizen trust score by age.

Table 4
Orange County Overall Citizen Trust Score by Age

Orange County Overall Citizen Trust Score by Age	Average Participant Score Given
18- 25 years old	2.6041
26- 41 years old	3.1886
42- 57 years old	3.4880
58- 76 years old	3.3333

Discussion and Conclusions

The objective of this study was to discover if there is a difference between citizen trust in the county government regarding handling of natural and man-made disasters. The survey included questions related to perceived competence, benevolence, and integrity of the county to determine a level of citizen trust in its government. A Two-Sample Equal Variance T- Test was used in Microsoft Excel to determine the T value. An Independent T- Test was used to determine statistical significance for the collected responses. The Independent T- Test was two-tailed with 95% confidence level. The results of the survey responses brought forth insight on whether variables like disaster type, race and ethnicity, and age have an impact on citizen trust of the county.

Comparing Natural and Man-Made Disasters Trust Scores

Is there a difference in citizen trust in Orange County government between man-made and natural disasters?

Although the average citizen trust score for Hurricane Irma was higher than the one for the Pulse Nightclub shooting, there was no statistical difference between the average citizen trust scores between the two disasters. This observation rejects hypothesis one that the county citizens will more likely have trust in the government for its response to man-made or human disasters than to natural disasters due to the nature of the disaster being more unpredictable. Based on Independent T- Test, there was no difference in citizen trust between man-made and natural disasters.

Comparing Trust Scores Between Different Racial and Ethnic Groups

Is there a difference between racial groups' trust in government following disaster?

While the overall average citizen trust score for White and non-Hispanic or Latino participants was higher than the one for racial and ethnic minority participants group, there was no statistical difference between the average citizen trust scores for the two groups. This observation rejects hypothesis two that county citizens of minority groups will less likely have trust in government response to man-made and natural disasters compared to majority groups because of disparities in support and assistance between differing racial and ethnic groups. Based on Independent T- Test, there was no difference in citizen trust between the white majority and minorities.

Comparing Trust Scores Between Different Generations

Is there a difference between generations' trust in the government following disaster?

Although the trust score for older generations was higher than the one for younger generations, there was no statistical difference between the overall average citizen trust score between older and younger generations. This result rejects hypothesis three that county citizens from younger generations like Generation Z and Millennials will more likely have greater trust in the government for its response disasters than older generations like Generation X, Boomers, and Silent. Based on Independent T- Test, there was no difference in citizen trust between younger and older generations.

Due to having fewer responses received because of the interruption and destruction of Hurricane Ian, the samples were too small to prove any significance. The samples overall did not have an adequate number of responses from each demographic group for the racial, ethnic, and

generational groups to determine any statistical differences for hypotheses two and three. If there were more responses, with a more diverse group of participants, statistical significance may have been found for the hypotheses.

A possible future research idea to investigate further by concentrating on the three aspects of trust specifically: perceived benevolence, perceived competence, and perceived integrity. By focusing on these three dimensions, -perhaps it can be determined if citizens perceive the local government to be better at one type of disaster than another as well as to determine possible factors that may increase or decrease one of the dimensions of trust. An additional research idea is increase participation to explore if there is a difference between each racial, ethnic, and age group independently instead of in two groups of White citizens and/or underrepresented minorities, and/-or older and younger generations. An additional interesting demographic that could be explored in the future is gender.

Possibly, a big takeaway from this study is that though there is no difference in citizen trust scores between disaster types, race, ethnicity, and age, there appears to be a moderate to high level of citizen trust in Orange County's response to disasters. Although the participants responses were low, this observation may leverage to assist the county government to continue their good response to disasters as well as always finding ways to improve to better serve their citizens.

Appendix A

Citizen Trust and Governments' Response to Disasters Survey: English

Citizen Trust and Governments' Response to Disasters

Purpose of the survey: The purpose of this survey is to gain knowledge from Orange County citizens on if the government handling of different disasters impacts citizen trust. The survey will consist of several statements regarding the county governments' perceived competence, benevolence, and integrity in responding to such events.

Ethics Statement: The survey will be provided online and will take approximately 20 minutes to consider accurate responses. In effort to ensure the safety of participants, the Belmont Report (1978) three standards of respect for persons, beneficence, and justice will be implemented in this study. All participants are given the option to complete the survey as well as are allowed to omit questions or stop the survey at any time of the duration of the study. With the purpose of complying with beneficence, there is little to no harm that could come to citizens who decide to complete the survey. The justice of respondents is ensured as there will be no benefits, awards, punishments, or harm to all participants of the survey.

Instructions: The survey includes statements to evaluate Orange County governments response to disaster. Please mark on the scale where you personally prefer for each item. Thank you in advance for participating in this survey.

Survey: After reading the below vignettes on a difficult event that occurred in Orange County, rate your level of agreement to the following statements. Please make answers contingent on vignettes provided alone rather than memory.

Vignette on Pulse Nightclub Shooting

Orange County, Florida government newsroom webpage released nineteen updates between June 12, 2016, to June 24, 2016. Below is a summary of information that was released to the public. The statements have been paraphrased to fit the length of the survey.

- **June 12, 12:35PM:** Mayor Teresa Jacobs declared a state of emergency.
- **June 13, 10:45PM:** Information on updates and on the tragedy and resources for emotional support shared.
- **June 13, 4:00PM:** The Orange County Medical Examiner's Office updates included the following: all 50 deceased individuals have been identified, forty-eight

notifications were sent to families, personnel from the Orange County Medical Examiner met directly with immediate family members.

- **June 13, 9:22PM:** All victims have been identified and relatives notified.
- **June 14, 2:15PM:** Orlando Mayor Buddy Dyer announced the formation of the OneOrlando Fund.
- **June 14, 3:30PM:** The Orange County Medical Examiner’s Office announced that of the 49 victims, 20 victims have been released to a funeral home.
- **June 15, 10:00AM:** The Orange County Medical Examiner’s Office announced that of the 49 victims, 35 victims have been released to a funeral home.
- **June 15, 12:30PM:** Mayor Teresa Jacobs hosted a press conference with LGBTQ representatives and faith leaders to showcase support.
- **June 16, 3:00PM:** All the 49 victims have been released to a funeral home.
- **June 20, 11:00AM:** The Orange County Medical Examiner’s Office announced that the body of the Pulse shooter has been released from its office.
- **June 22, 4:00AM:** Orange County Government and the City of Orlando announce the Orlando United Assistance Center which will support families and victims of the tragedy.
- **June 24, 11:00AM:** The Historical Society of Central Florida is committed to being the repository for memory of the Orlando Pulse Nightclub tragedy.

Survey Questions:

Statements	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
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Regarding response to disaster, Orange County, Florida government is capable of responding to matters within the area.					
Regarding response to disaster, Orange County, Florida government is proficient and competent in addressing matters within the area.					
Regarding response to disaster, Orange County, Florida government carries out its efforts very well.					
Regarding response to disaster, if citizens need assistance, Orange County, Florida government will do its best to provide aid to its citizens.					
Regarding response to disaster, Orange County, Florida acts in the interest of its citizens.					
Regarding response to disaster, Orange County, Florida government acts in the interests of its citizens to ensure their wellness.					
Regarding response to disaster, Orange County, Florida government is genuine and honest in its actions and work.					
Regarding response to disaster, Orange County, Florida government keeps its commitments to conduct its role to meet the needs of its constituents.					

Regarding response to disaster, Orange County, Florida government is honest and transparent in fulfilling its promises.					
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Vignette on Hurricane Irma

Orange County, Florida government newsroom webpage released fifty-four updates between September 5, 2017, to September 20, 2017. Below is a summary of information that was released to the public. The statements have been paraphrased to fit the length of the survey.

- **September 5, 5:30PM:** Orange County is encouraging residents to prepare for Hurricane Irma and continues to monitor updates from the National Hurricane Center
- **September 6, 6:3PM:** Statement from Orange County Mayor Teresa Jacobs regarding Hurricane Irma solid waste information.
- **September 7, 12:45pm:** County Office of Emergency Management provided hurricane update before the Board of County Commissioners.
- **September 7, 1: 45PM:** Mayor Teresa Jacobs Signs Emergency Executive Order 17-09 declaring local state of emergency.
- **September 8, 2:30PM:** Orange County will open shelters for the general population, including pet-friendly shelters
- **September 8, 6:00PM:** County issues mandatory evacuation notice for residents of mobile homes because of the expected impact of the hurricane.
- **September 9, 9:00PM:** Issuing of mandatory countywide curfew to be in effect September 10th through 11th.
- **September 2017, 8:00PM:** Information shared regarding debris drop-off sites for residents.
- **September 13, 12:30PM:** Due to the hurricane putting strain on pump stations, residents are asked to conserve water.

- **September 13, 5:30PM:** Permit fees pertaining to storm-damaged properties were temporarily waived.
- **September 14, 12:30PM:** Major Disaster Declaration for Orange County was made which qualified the county for FEMA assistance.
- **September 20, 4:00PM:** Orange County pump stations were restored allowing regular water used to resume following Hurricane Irma.
- **September 20, 6:00PM:** Crews expand shifts due to yard waste running behind because of volume.

Survey Questions:

Statements	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Regarding response to disaster, Orange County, Florida government is capable of responding to matters within the area.					
Regarding response to disaster, Orange County, Florida government is proficient and competent in addressing matters within the area.					
Regarding response to disaster, Orange County, Florida government carries out its efforts very well.					

Regarding response to disaster, if citizens need assistance, Orange County, Florida government will do its best to provide aid to its citizens.					
Regarding response to disaster, Orange County, Florida acts in the interest of its citizens.					
Regarding response to disaster, Orange County, Florida government acts in the interests of its citizens to ensure their wellness.					
Regarding response to disaster, Orange County, Florida government is genuine and honest in its actions and work.					
Regarding response to disaster, Orange County, Florida government keeps its commitments to conduct its role to meet the needs of its constituents.					
Regarding response to disaster, Orange County, Florida government is honest and transparent in fulfilling its promises.					

Demographic Questions:

What gender do you identify as?

A. Male

B. Female

C. Non-binary

D. _____ (Short Answer Space)

E. Prefer not to answer

What is your age?

A. 18- 25 years old

B. 26- 41 years old

C. 42- 57 years old

D. 58- 76 years old

E. 77+ years old

Please specify your race:

A. White

B. Black or African American

C. Native American or Alaska Native

D. Asian

E. Native Hawaiian and Other Pacific Islander

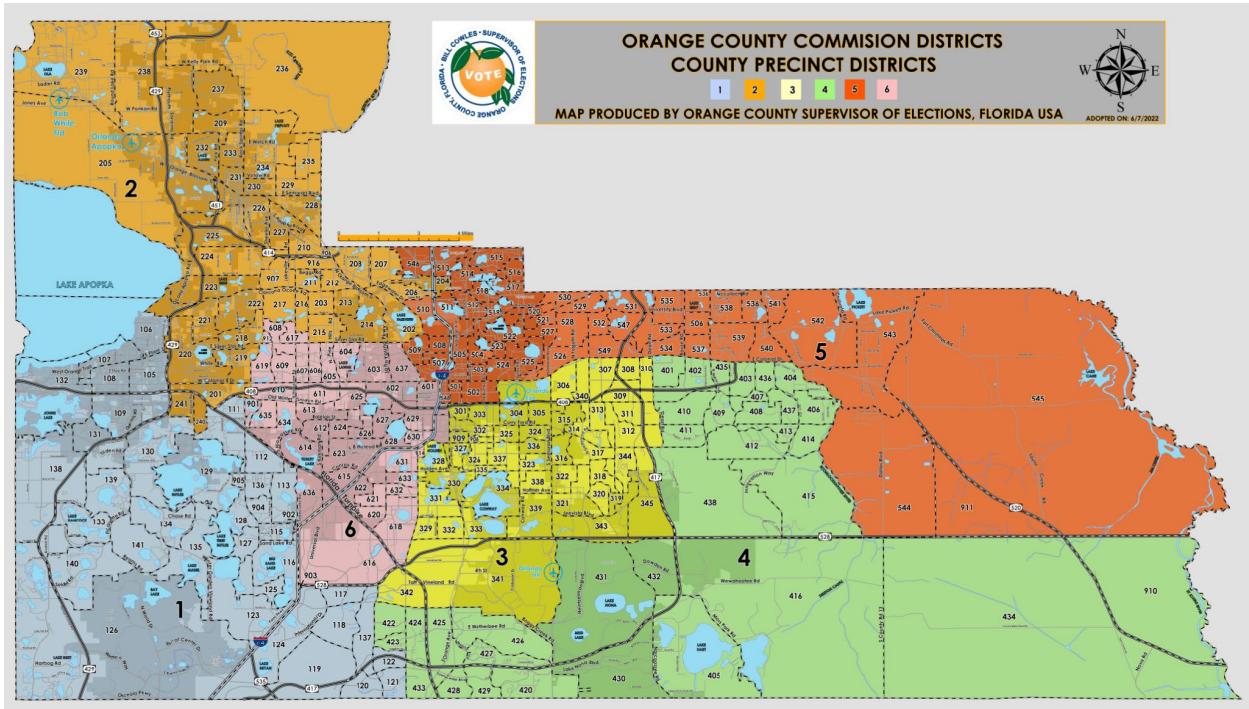
F. Two or more races.

Are you Hispanic or Latino:

A. Yes

B. No

Which district within Orange County, Florida do you live in? If you are unsure of what district you live in, please use the Orange County Commission Districts County Precinct Districts Map (2022) provided below:



- A. District 1
- B. District 2
- C. District 3
- D. District 4
- E. District 5
- F. District 6

Please include your zip code below:

Appendix B

Citizen Trust and Governments' Response to Disasters Survey: Spanish

Confianza Ciudadano y la Respuesta de Gobiernos a Desastros

Propósito del Estudio: El propósito del estudio es para ganar conocimiento de la confianza que tienen los ciudadanos de Orange County con respecto a la forma que el gobierno del condado maneja desastros en la comunidad. El estudio tendrá varias declaraciones con respecto a la competencia, benevolencia e integridad percibidas por los gobiernos de los condados al responder a tales eventos.

Declaración de Ética: El estudio será previsto en línea y tomará aproximadamente 20 minutos para considerar respuestas precisas. Para asegurar la seguridad de los participantes, las tres normas de respeto para personas, beneficencia y justicia del Belmont Report (1978) estarán implementadas en este estudio. Todos los participantes tendrán la opción de completar el estudio en el tiempo que necesiten. Los participantes también tienen la opción de omitir preguntas o para el estudio entero a cualquier hora. Con el propósito de cumplir con la beneficencia, es poco o ningún daño que pueda ocurrir a los ciudadanos que decidan completar la encuesta. La justicia de los encuestados está asegurada ya que no habrá beneficios, premios, castigos o perjuicios para todos los participantes de la encuesta.

Instrucciones: La encuesta incluye declaraciones para evaluar la respuesta de los gobiernos del Condado de Orange a los desastros. Por favor, marque en la escala dónde prefiere personalmente cada artículo. Gracias de antemano por participar en esta encuesta.

Estudio: Después de leer las siguientes viñetas sobre un desastre que ocurrió en el Condado de Orange, califique su nivel de acuerdo con las siguientes declaraciones. Haga que las respuestas dependen de las viñetas proporcionadas solo en lugar de la memoria.

Viñeta Sobre el Tiroteo en el club Pulse

La página web de la sala de redacción del gobierno del condado de Orange, Florida, publicó diecinueve actualizaciones entre 12 junio, 2016 y 24 junio, 2016. A continuación hay un resumen de la información lanzada al público. Las declaraciones han sido parafraseadas para adaptarse a la longitud de la encuesta.

- **12 junio, 12:35 PM:** La alcaldesa Teresa Jacobs declaró estado de emergencia.
- **13 junio, 10:45 PM:** Información sobre actualizaciones y sobre la tragedia y recursos de apoyo emocional compartidos.
- **13 junio, 4:00 PM:** Las actualizaciones de la Oficina del Médico Forense del Condado de Orange incluyen lo siguiente: se identificaron las 50 personas fallecidas, se enviaron

cuarenta y ocho notificaciones a las familias, el personal del Médico Forense del Condado de Orange se reunió directamente con los miembros de la familia inmediata.

- **13 junio, 9:22 PM:** Todas las víctimas han sido identificadas y sus familiares notificados.
- **14 junio, 2:15 PM:** El alcalde de Orlando, Buddy Dyer, anunció la formación del OneOrlando Fund.
- **14 junio, 3:30 PM:** La Oficina del Médico Forense del Condado de Orange anunció que de las 49 víctimas, 20 fueron enviadas a una funeraria.
- **15 junio, 10:00 AM:** La Oficina del Médico Forense del Condado de Orange anunció que de las 49 víctimas, 35 fueron enviadas a una funeraria.
- **15 junio, 12:30 PM:** La alcaldesa Teresa Jacobs organizó una conferencia de prensa con representantes LGBTQ y líderes religiosos para mostrar su apoyo.
- **16 junio, 3:00 PM:** Las 49 víctimas fueron enviadas a una funeraria.
- **20 junio, 11:00 AM:** La Oficina del Médico Forense del Condado de Orange anunció que el cuerpo del tirador de Pulse ha sido liberado de su oficina.
- **22 junio, 4:00 AM:** El Gobierno del Condado de Orange y la Ciudad de Orlando anuncian el Centro de Asistencia Orlando Unido, que apoyará a las familias y víctimas de la tragedia.
- **24 junio, 11:00 AM:** La Sociedad Histórica de la Florida Central se compromete a ser el depositario de la memoria de la tragedia del Orlando Pulse Nightclub.

Preguntas del Estudio:

Declaraciones	Total ment e de acuer do	Acep tar	Ni de acue rdo ni desa	Discr epar	Muy en Desa cuerd o
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			cu do		
Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, es capaz de responder a los asuntos dentro del área.					
Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, es hábil y competente para abordar asuntos dentro del área.					
Con respecto a la respuesta al desastre, el gobierno del condado de Orange, Florida, lleva a cabo muy bien sus esfuerzos.					
Con respecto a la respuesta a un desastre, si los ciudadanos necesitan asistencia, el gobierno del Condado de Orange, Florida, hará todo lo posible para brindar ayuda a sus ciudadanos.					
Con respecto a la respuesta al desastre, Condado de Orange, Florida actúa en interés de sus ciudadanos.					
Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, actúa en interés de sus ciudadanos para garantizar su bienestar.					
Con respecto a la respuesta al desastre, el gobierno del Condado de Orange, Florida, es genuino y honesto en sus acciones y trabajo.					

<p>Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, mantiene su compromiso de desempeñar su papel para satisfacer las necesidades de sus electores.</p>					
<p>Con respecto a la respuesta al desastre, el gobierno del Condado de Orange, Florida, es honesto y transparente en el cumplimiento de sus promesas.</p>					

Viñeta Sobre el Huracan Irma

La página web de la sala de redacción del gobierno del condado de Orange, Florida, publicó cincuenta y cuatro actualizaciones entre 5 septiembre, 2017 y 20 septiembre, 2017. A continuación se muestra un resumen de la información que se dio a conocer al público. Las declaraciones han sido parafraseadas para ajustarse a la longitud de la encuesta.

- **5 septiembre, 5:30 PM:** El Condado de Orange alienta a los residentes a prepararse para el huracán Irma y continúa monitoreando las actualizaciones del Centro Nacional de Huracanes.
- **6 septiembre, 6:30 PM:** Declaración de la alcaldesa del condado de Orange, Teresa Jacobs, sobre la información sobre desechos sólidos del huracán Irma.
- **7 septiembre, 12:45 PM:** La Oficina de Manejo de Emergencias del Condado proporcionó información actualizada sobre huracanes ante la Junta de Comisionados del Condado.
- **7 septiembre, 1:45 PM:** La alcaldesa Teresa Jacobs firma la orden ejecutiva de emergencia 17-09 que declara el estado de emergencia local.
- **8 septiembre, 2:30 PM:** El Condado de Orange abrirá refugios para la población en general, incluidos refugios que aceptan mascotas.
- **8 septiembre, 6:00 PM:** El condado emite un aviso de evacuación obligatorio para los residentes de casas móviles debido al impacto esperado del huracán.

- **9 septiembre, 9:00 PM:** Toque de queda obligatorio en todo el condado que entrará en vigencia del 10 al 11 de septiembre.
- **Septiembre 2017, 8:00 PM:** Información compartida sobre los sitios de descarga de escombros para los residentes.
- **13 septiembre, 12:30 PM:** Debido a que el huracán ejerce presión sobre las estaciones de bombeo, se les pide a los residentes que conserven el agua.
- **13 septiembre, 5:30 PM:** Las tarifas de permisos correspondientes a propiedades dañadas por tormentas se exoneran temporalmente.
- **14 septiembre, 12:30 PM:** Se hizo una Declaración de Desastre Mayor para el Condado de Orange, lo que calificó al condado para recibir asistencia de FEMA.
- **20 septiembre, 4:00 PM:** Las estaciones de bombeo del condado de Orange se restauraron, lo que permitió que se reanudara el uso regular del agua después del huracán Irma.
- **20 septiembre, 6:00 PM:** Las cuadrillas amplían los turnos debido a que los desechos del jardín se retrasan debido al volumen.

Preguntas del Estudio:

Declaraciones	Total ment e de Acue rdo	Acep tar	Ni de Acu erdo ni Desa cuer do	Discr epar	Muy en Desa cuerd o
Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, es capaz de responder a los asuntos dentro del área.					

Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, es hábil y competente para abordar asuntos dentro del área.					
En cuanto a la respuesta al desastre, el gobierno del condado de Orange, Florida, lleva a cabo muy bien sus esfuerzos.					
Con respecto a la respuesta a un desastre, si los ciudadanos necesitan asistencia, el gobierno del Condado de Orange, Florida, hará todo lo posible para brindar ayuda a sus ciudadanos.					
Con respecto a la respuesta al desastre, Condado de Orange, Florida actúa en interés de sus ciudadanos.					
Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, actúa en interés de sus ciudadanos para garantizar su bienestar.					
Con respecto a la respuesta al desastre, el gobierno del Condado de Orange, Florida, es genuino y honesto en sus acciones y trabajo.					
Con respecto a la respuesta a un desastre, el gobierno del condado de Orange, Florida, mantiene su compromiso de desempeñar su papel para satisfacer las necesidades de sus electores.					

Con respecto a la respuesta al desastre, el gobierno del Condado de Orange, Florida, es honesto y transparente en el cumplimiento de sus promesas.

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Preguntas Demográficas:

¿Con qué género te identificas?

- A. Masculino
- B. Feminina
- C. No binario
- D. _____

¿Cual es tu edad?

- A. 18-25 años
- B. 26-41 años
- C. 42-57 años
- D. 58-76 años
- E. 77+ años

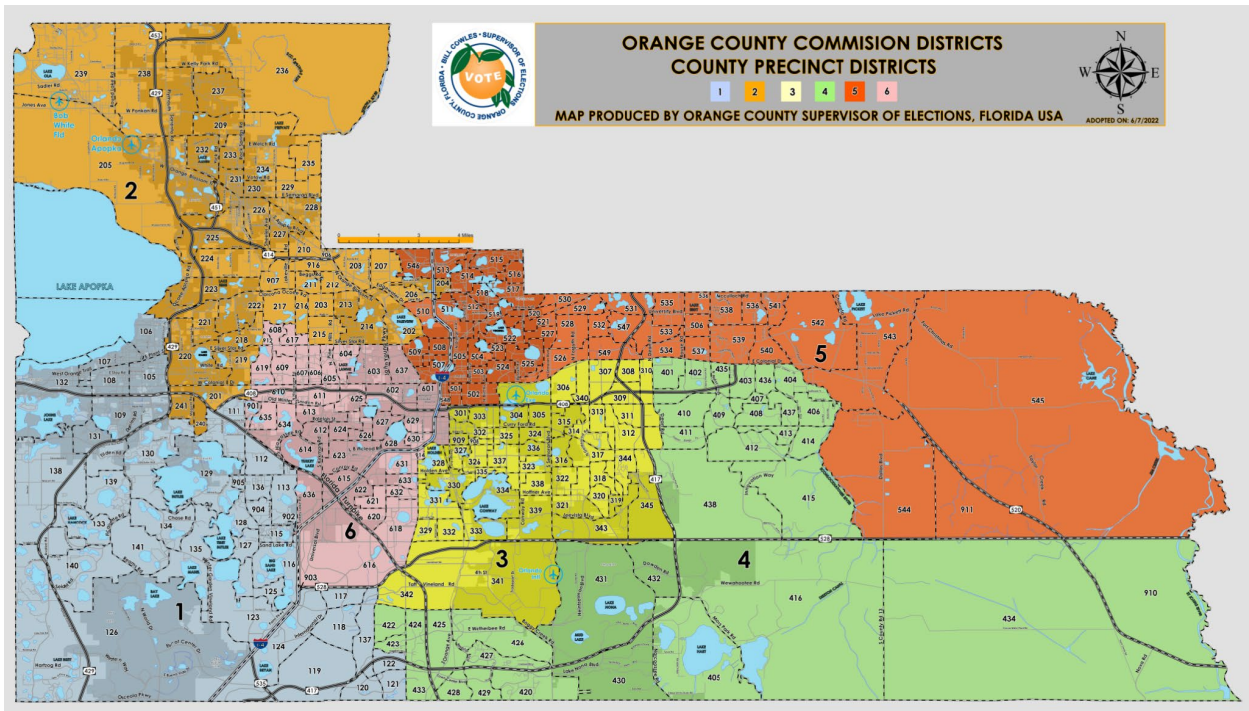
Por favor especifica tu raza:

- A. Blanco
- B. Negra o afroamericano
- C. Nativo americano o nativo de Alaska
- D. Asiático
- E. Nativo de Hawái y otras islas del Pacífico
- F. Dos razas o mas

Eres hispano o latino:

- A. Si
- B. No

¿En qué distrito del Condado de Orange, Florida vive usted? Si no está seguro del distrito en el que vive, utilice el mapa de distritos del precinto del condado de distritos de la Comisión del Condado de Orange que se proporciona a continuación:



- A. Distrito 1
- B. Distrito 2
- C. Distrito 3
- D. Distrito 4
- E. Distrito 5
- F. Distrito 6

Código postal:

| _____

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