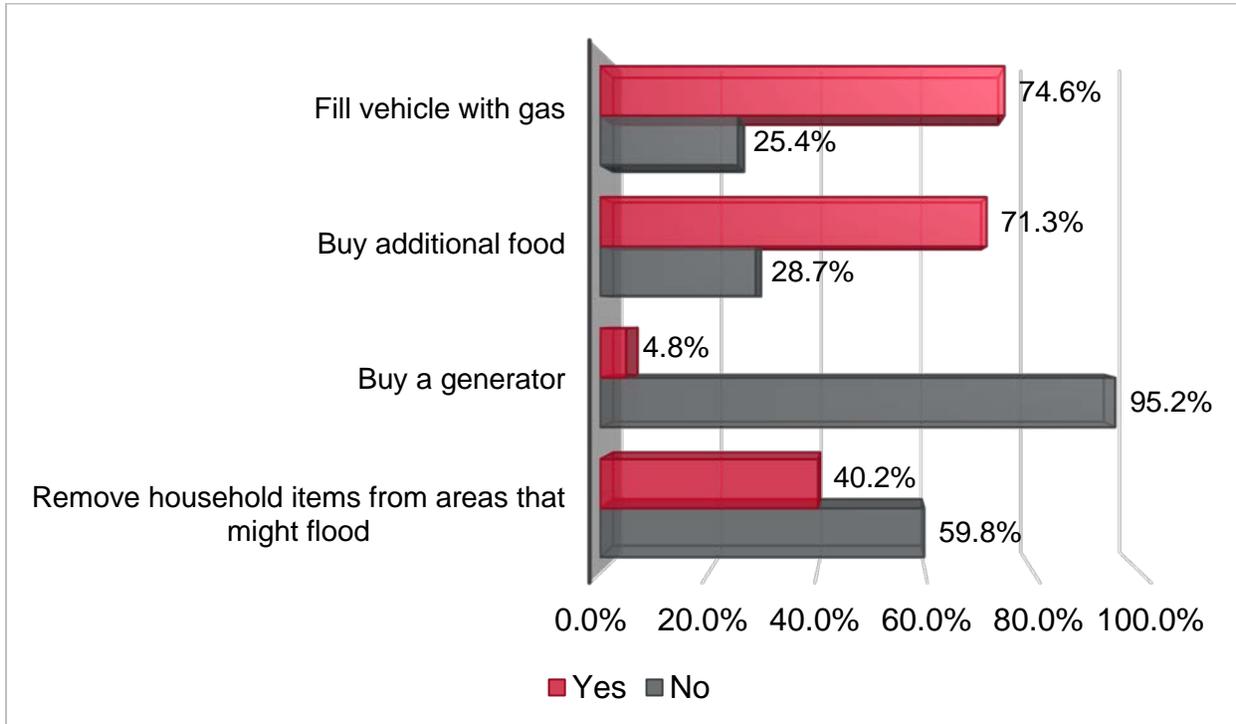


**2017 Hurricane Harvey Survey
Summary Figures and Tables**

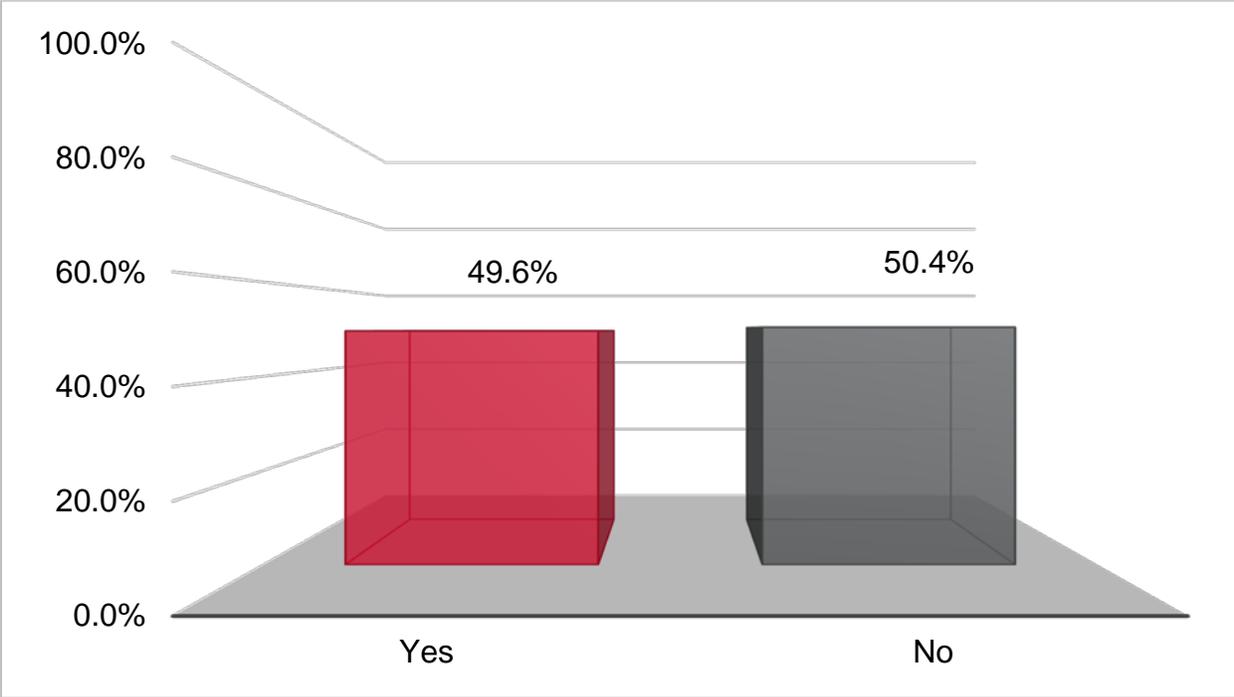
Figure 1. “To begin with, we would like to know about your experience before Hurricane Harvey made landfall. Before Hurricane Harvey arrived in Houston on August 25 which of the following did you do?”



N = 1968, 1993, 1996, and 1994, respectively.

Nearly three-fourths (74.6 percent) of the respondents filled their vehicles before Hurricane Harvey arrived in Houston and slightly more than seventy percent (71.3 percent) of the respondents bought additional food. Moreover, about two-fifths (40.2 percent) of the respondents removed household items from areas the might flood before Hurricane Harvey arrived in Houston. By contrast, only 4.8 percent of the respondents purchased generators.

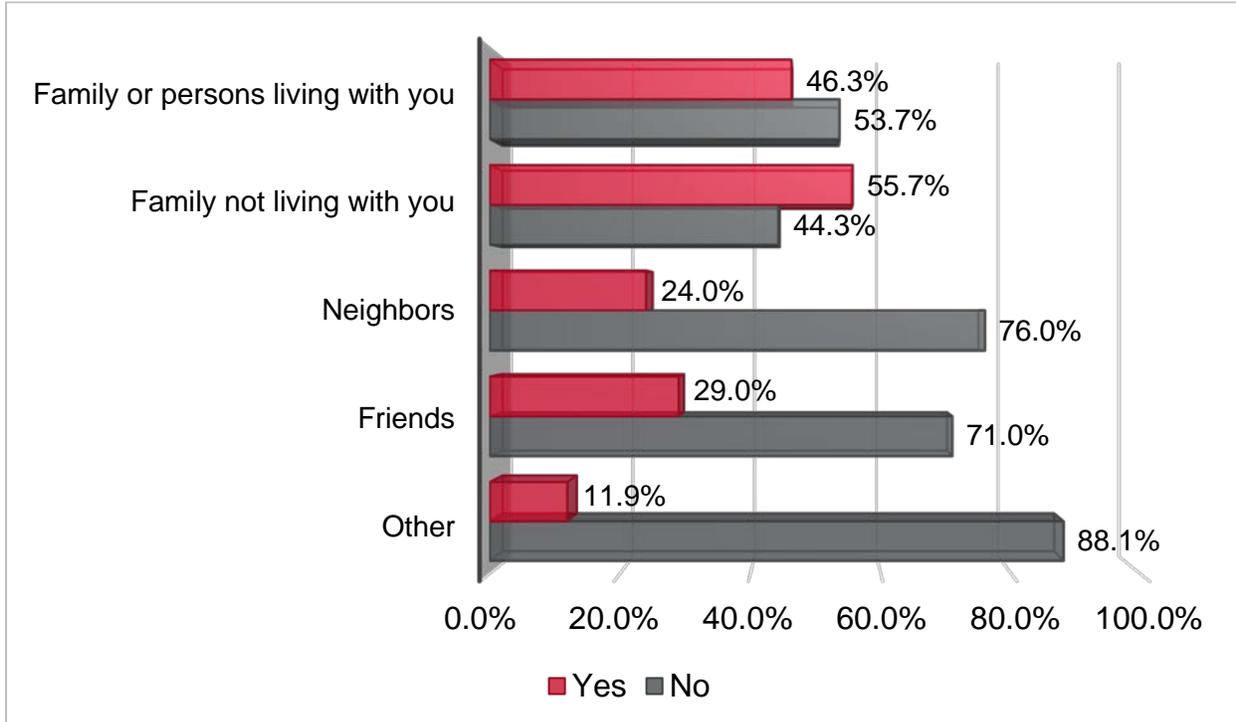
Figure 2. “Before Harvey reached Houston did you coordinate plans for the approaching hurricane with others?”



N = 1995

Nearly half (49.6 percent) of the respondents coordinated hurricane response plans with other people before Hurricane Harvey reached Houston.

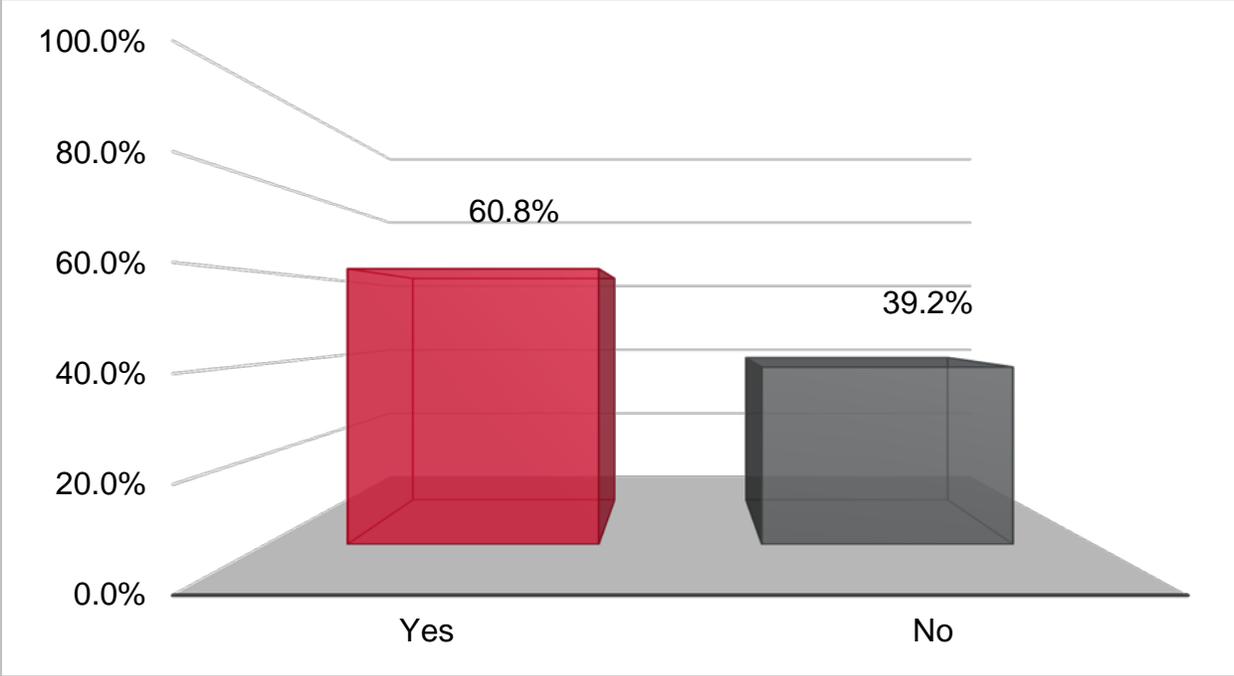
Figure 3. “With whom did you coordinate?”



N = 962

Among the respondents who coordinated hurricane response plans with other people, more than half (55.7 percent) of them coordinated with family members who do not live with them, whereas 46.3 percent of them also coordinated with family members or persons living with them. Additionally, 29.0 percent of the respondents coordinated hurricane response plans with friends and almost one-fourth (24.0 percent) of the respondents coordinated with neighbors in response to Hurricane Harvey.

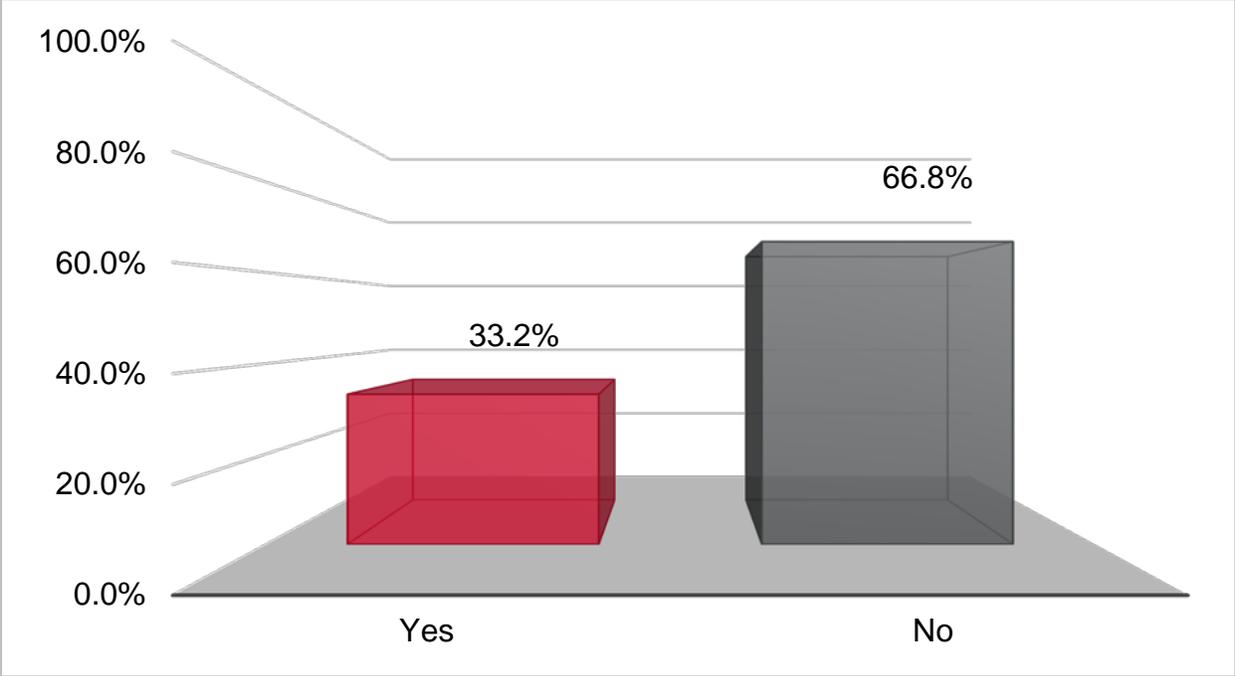
Figure 4. “In the days immediately before or after Hurricane Harvey did you provide any help to family members, friends, or other people who you might know through clubs, churches or organizations you belong to?”



N =1998

Approximately three-fifths (60.8 percent) of the respondents provided assistance to family members, friends, or other people in the days immediately before or after Hurricane Harvey.

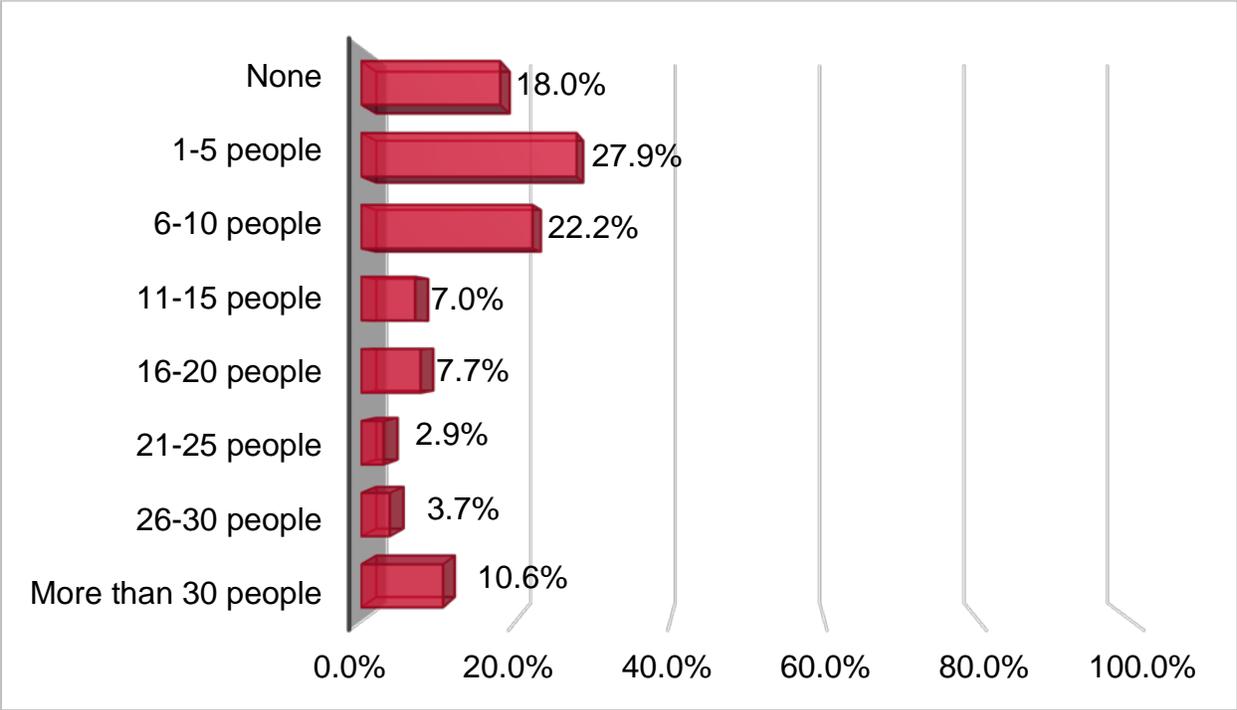
Figure 5. “In the days immediately before or after Hurricane Harvey did you receive any help from family members, friends, or other people who you might know through clubs, churches or organizations you belong to?”



N = 1994

Nearly one-third (33.2 percent) of the respondents received assistance from family members, friends, or other people in the days immediately before or after Hurricane Harvey.

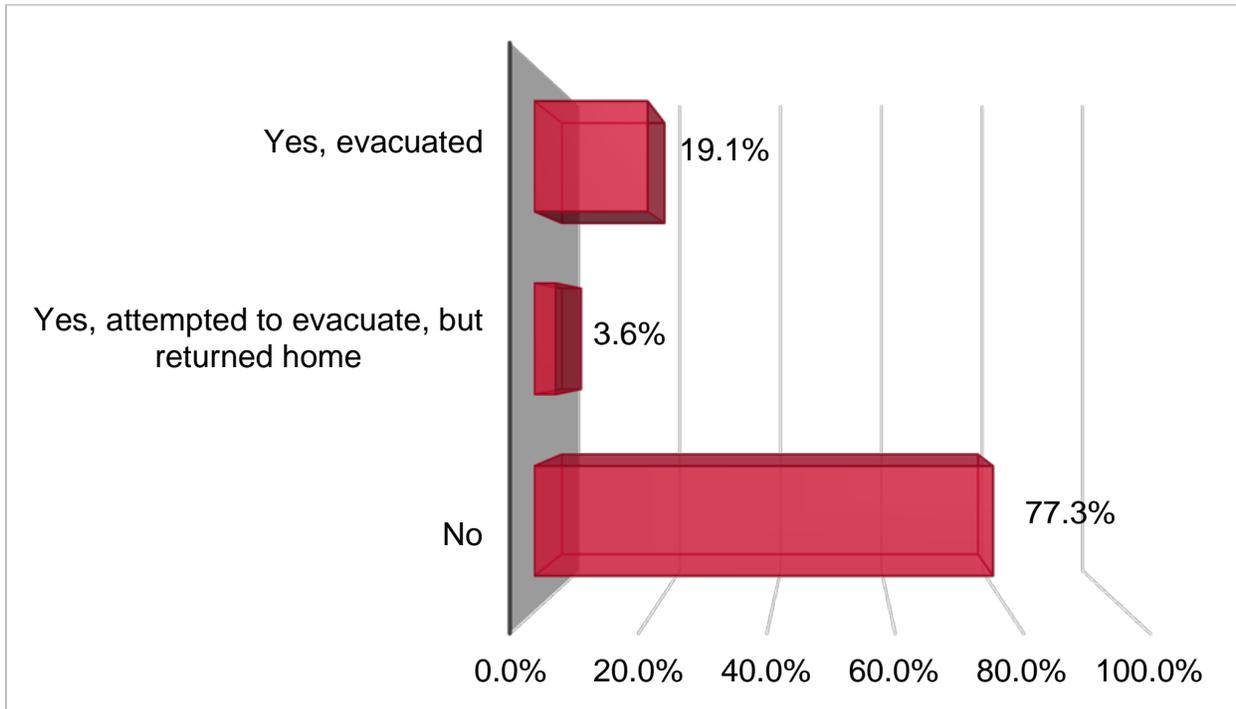
Figure 6. “How many volunteers do you know who provided help in the days immediately before or after Hurricane Harvey?”



N = 1542

Over four-fifths of respondents (82%) know at least one volunteer who provided assistance in the days immediately before or after Hurricane Harvey; 27.9 percent of respondents know one to five volunteers, and 22.2 percent know six to ten volunteers. In addition, 17.2 percent of the respondents know more than twenty volunteers who provided assistance in the days immediately before or after Hurricane Harvey.

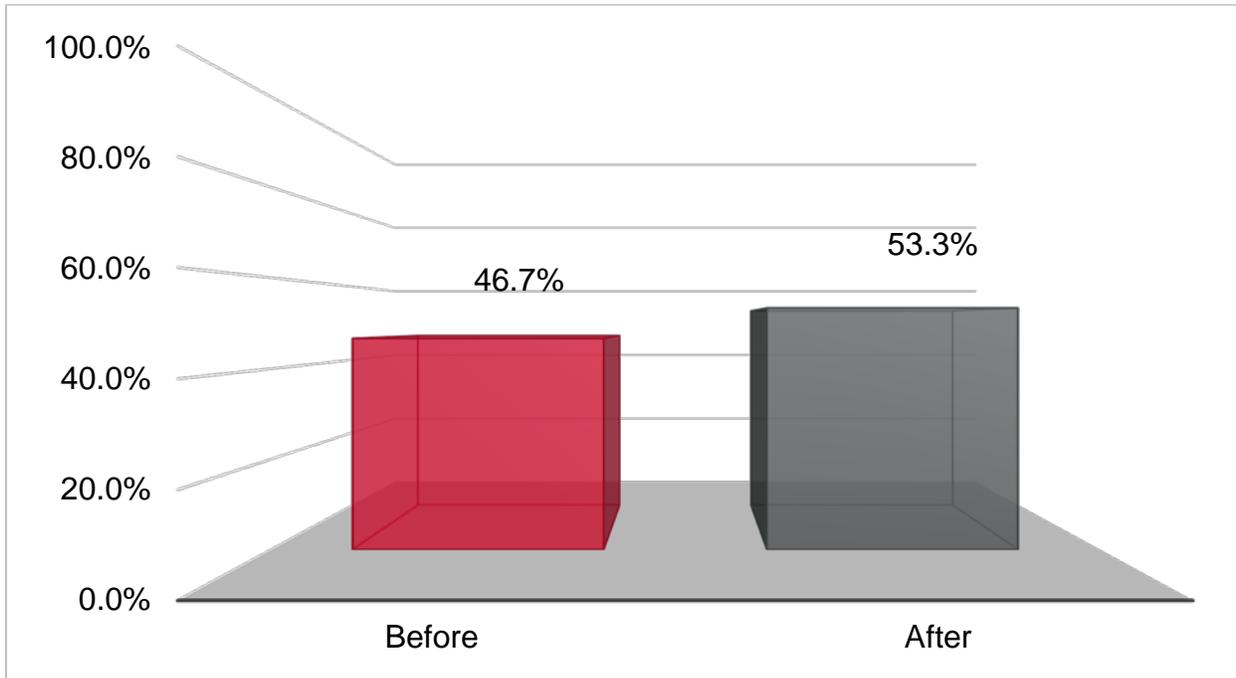
Figure 7. “Did you evacuate or attempt to evacuate your home to go someplace safer before or after Hurricane Harvey reached the Houston area?”



N = 2000

Less than one-fifth (19.1 percent) of the respondents evacuated and went someplace safer before or after Hurricane Harvey reached the Houston area, whereas 3.6 percent of the respondents attempted to evacuate but finally returned to their homes. By contrast, more than three-fourths (77.3 percent) of the respondents did not evacuate or attempt to evacuate before or after Hurricane Harvey reached the Houston area.

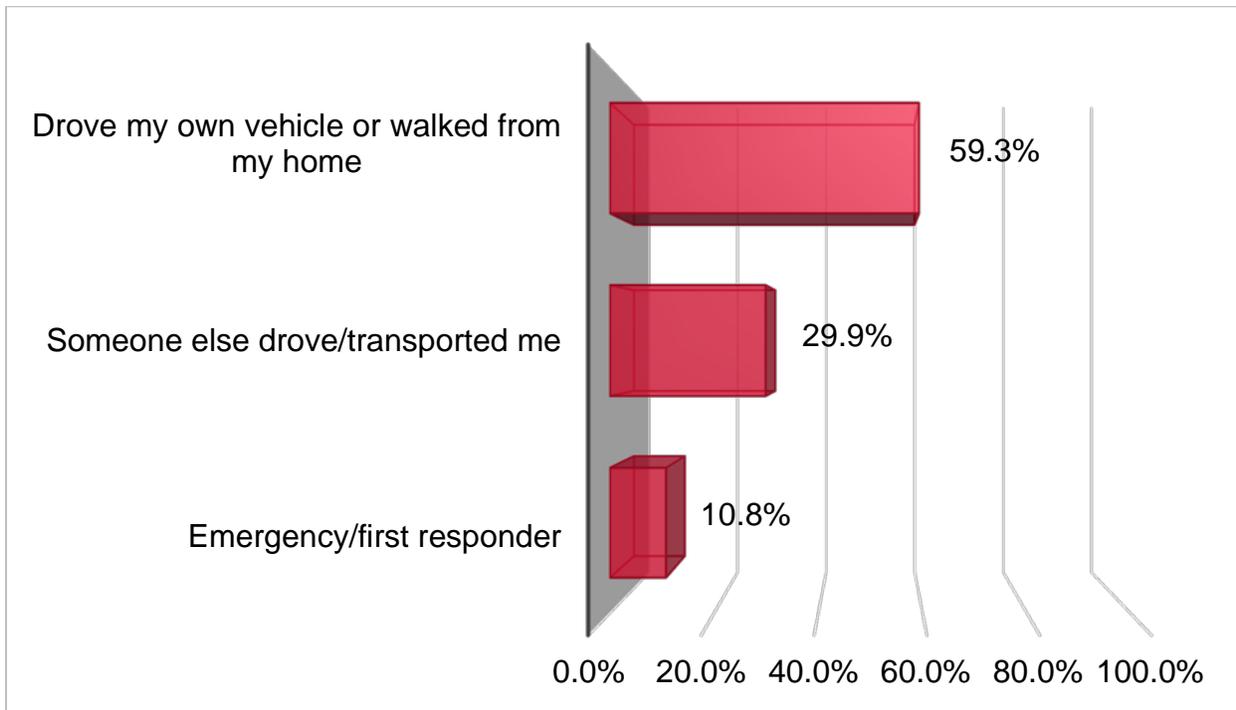
Figure 8. “Did you evacuate before or after Hurricane Harvey reached the Houston area?”



N = 410

Among the respondents who evacuated or attempted to evacuate, more than two-fifths (46.7 percent) of them chose to evacuate before Hurricane Harvey reached the Houston area, whereas the others (53.3 percent) evacuated after Hurricane Harvey reached the Houston area.

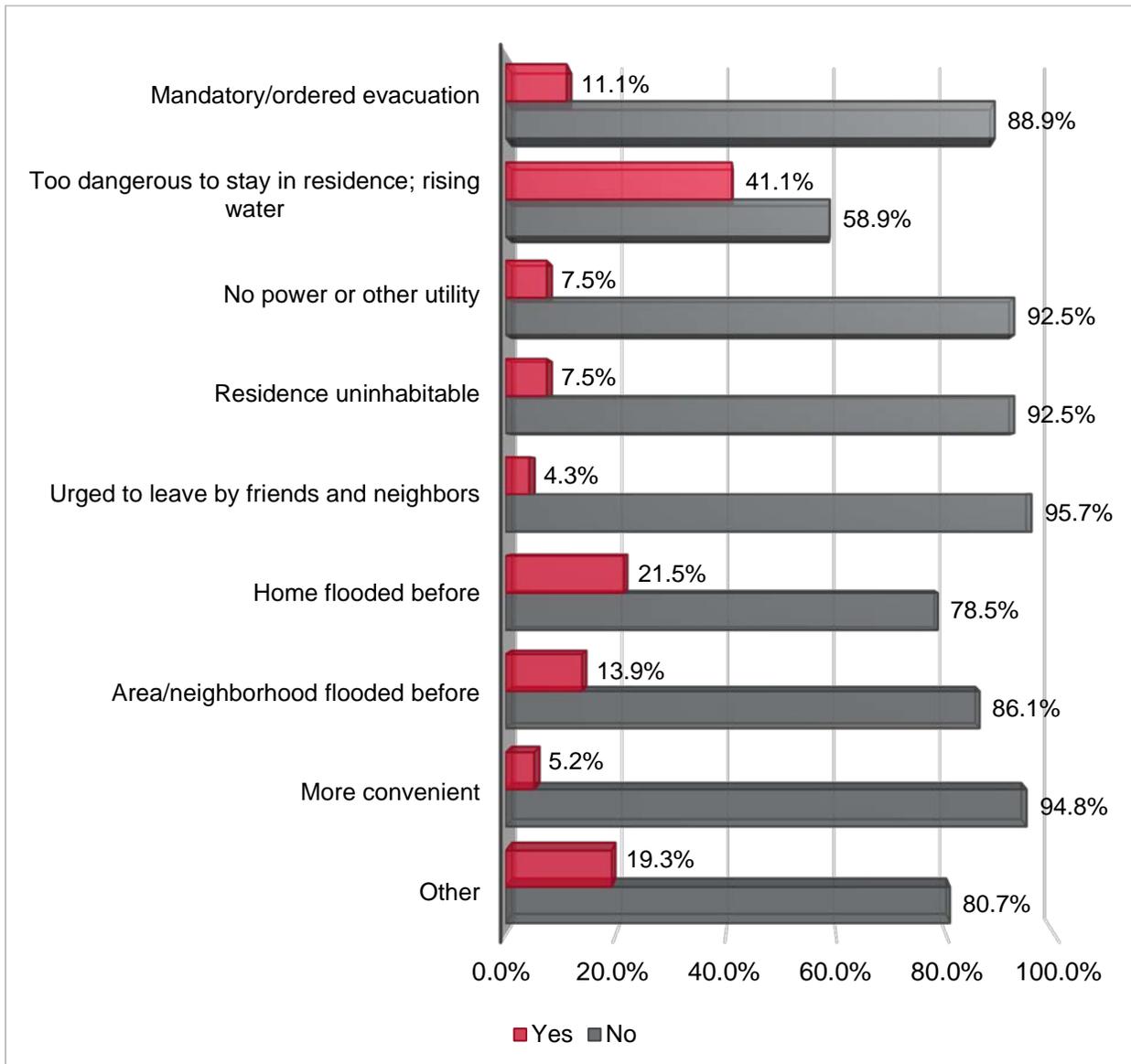
Figure 9. “How did you evacuate? Were you able to drive your own vehicle, did a neighbor, friend or relative assist you with evacuating, were you rescued by a first responder, police or emergency personnel, or someone else?”



N = 417

Among the respondents who evacuated or attempted to evacuate, nearly three-fifths (59.3 percent) of them evacuated by driving their vehicles or walking from their homes, whereas nearly three-tenths (29.9 percent) of them said that their neighbors, friends or relatives assisted them with evacuating. Besides, another 12.5 percent expressed that they were rescued by emergency personnel or first responders.

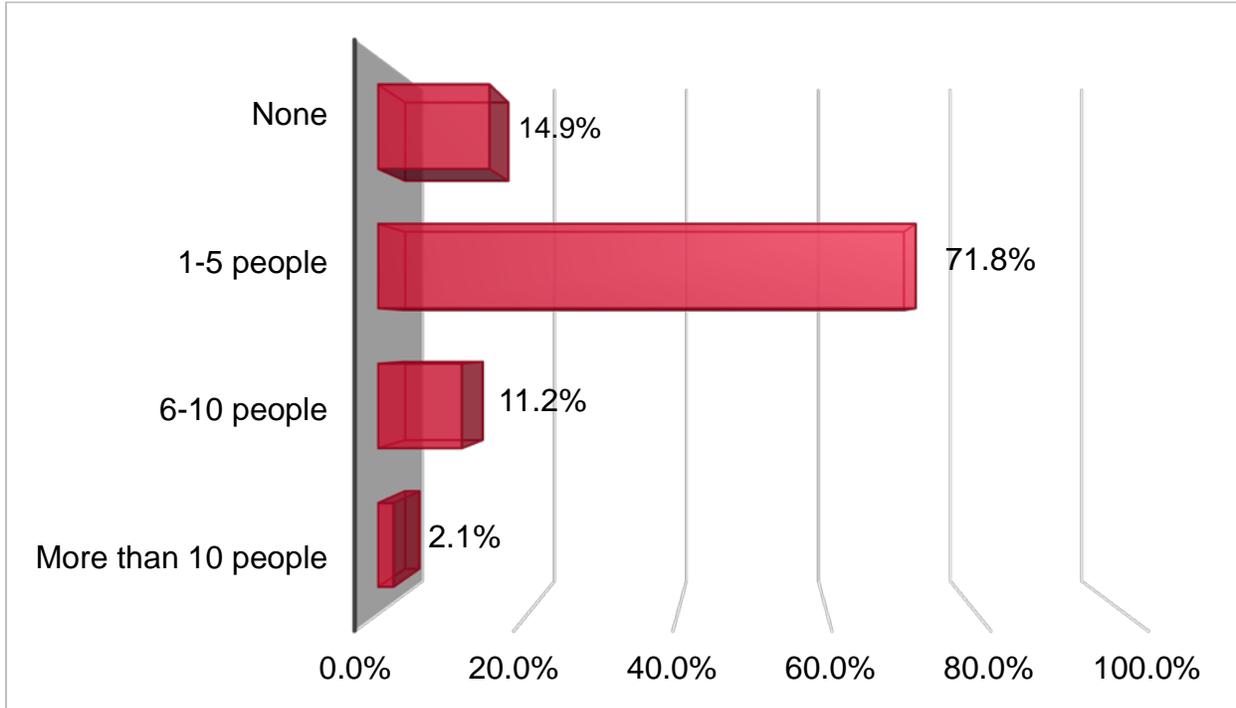
Figure 10. “Why did you evacuate?”



N = 428

Among the respondents who evacuated or attempted to evacuate, slightly more than two-fifths (41.1 percent) of them mentioned that they decided to evacuate because of the danger in staying in residence or rising water. Past flooding experiences also play an important role in motivating the respondents to evacuate: area/neighborhood flooded before (13.9 percent) and home flooded before (21.5 percent). Besides, 11.1 percent of them evacuated also because of mandatory or ordered evacuation.

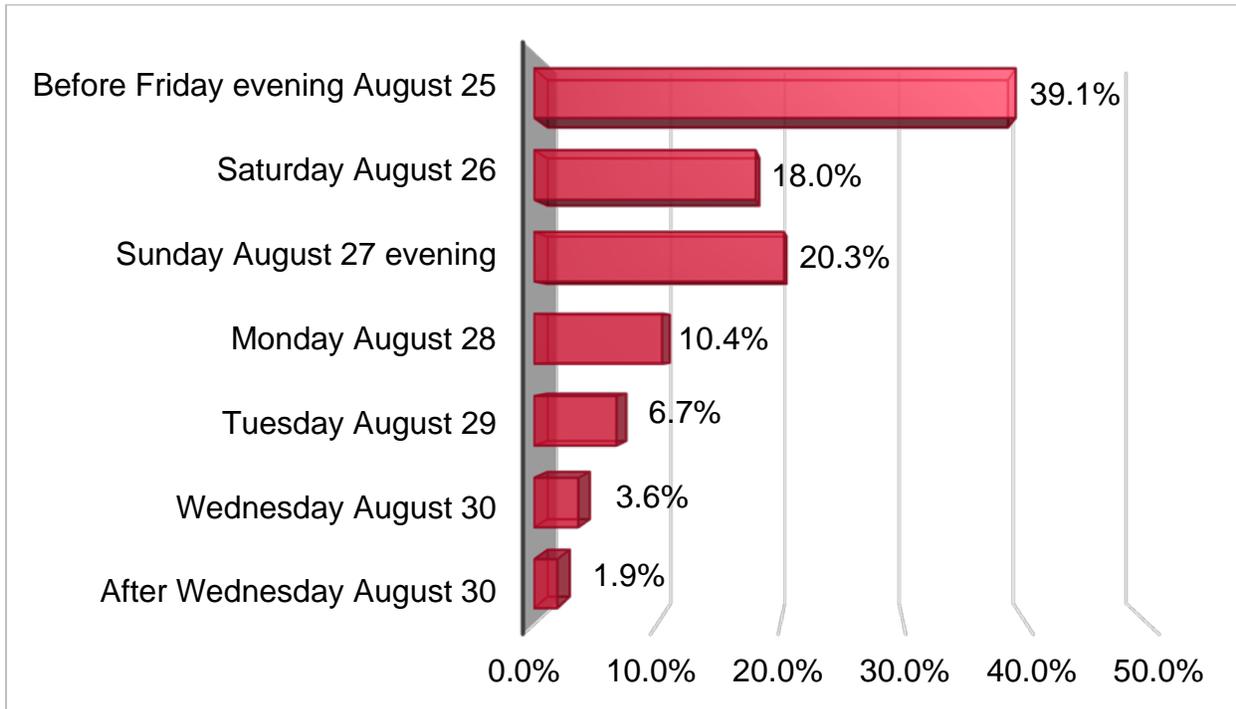
Figure 11. “How many persons, not counting yourself, did you evacuate with?”



N = 415

Among the respondents who evacuated or attempted to evacuate, 15 percent evacuated by themselves, 72 percent evacuated with one to five people, 11 percent evacuated with six to ten people, whereas only 2 percent evacuated with more than ten people.

Figure 12. “Harvey reached Houston Friday evening August 25. When did you leave?”



N = 395

Among the respondents who evacuated or attempted to evacuate, nearly two-fifths (39.1 percent) of them chose to leave before Hurricane Harvey reached Houston Friday evening August 25, whereas 18.0 percent of them left on Saturday, August 26. Furthermore, 20.3 percent of the respondents chose to leave on Sunday, August 27.

Table 1. “Before Hurricane Harvey made landfall did you believe your residence was located in an area where there was no risk, low risk, some risk, or high risk for each of the following:”

Risk	No Risk	Low Risk	Some Risk	High Risk	N
Wind damage	27.0%	36.4%	25.2%	11.4%	1952
Storm surge pushed inland	52.9%	25.4%	13.0%	8.7%	1932
Rainfall flooding	27.3%	29.5%	23.6%	19.7%	1981
Injury to yourself and your family members	57.3%	27.1%	10.4%	5.3%	1980
Power loss	28.1%	15.4%	27.2%	29.3%	1971
Losing water and sewage services	41.5%	24.3%	20.7%	13.5%	1969
Property damage from flying debris	39.8%	28.8%	20.6%	10.9%	1982

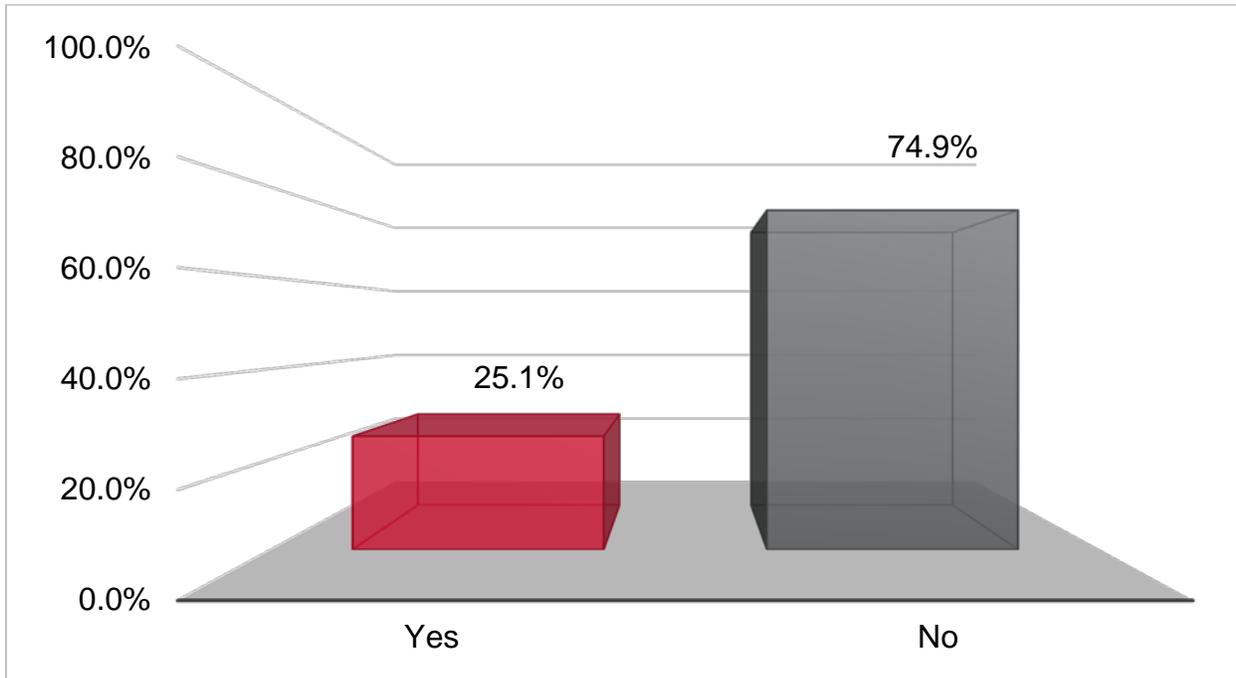
More than half of the respondents believed that there is either some risk (27.2 percent) or high risk (29.3 percent) in power loss in their residence areas. Besides, more than thirty percent of the respondents perceived either some risk or high risk in rainfall flooding (43.3 percent), wind damage (36.6 percent), losing water and sewage services (34.2 percent), and property damage from flying debris (31.5 percent). By contrast, more than half of respondents perceived no risk in injury to themselves and their family members (57.3 percent) and storm surge pushed inland (52.9 percent).

Table 2. “I am going to read you a list of things that might have happened to you and your family as a result of Hurricane Harvey. If any of these happened to you please tell me if it was extremely serious, very serious, somewhat serious, or not serious at all. Also tell me if these things did not happen to you.”

Damage	Did Not Happen	Extremely Serious	Very Serious	Somewhat Serious	Not Serious At All	N
Lost power	53.3%	5.8%	7.7%	17.6%	15.7%	1973
Lost water	74.7%	2.9%	4.0%	6.8%	11.6%	1977
Roof damage to residence	66.3%	3.8%	3.2%	14.3%	12.5%	1981
Flood damage to residence	60.2%	10.2%	7.6%	12.3%	9.7%	1995
Downed trees or branches	53.5%	2.9%	5.1%	19.8%	18.7%	1988
Flood damage to car	68.5%	9.4%	5.9%	7.3%	8.9%	1993
Home broken into/looted	86.2%	1.1%	1.1%	2.1%	9.5%	1999
Economic damages such as lost wages and unplanned expenses	42.8%	11.2%	12.7%	23.3%	10.0%	1981
Injury to yourself or family member	83.4%	1.5%	1.7%	3.2%	10.2%	1999

More than half of the respondents did not experience the following damages as a result of Hurricane Harvey: home broken into/looted (86.2 percent), injury to themselves or their family members (83.4 percent), water loss (74.7 percent), flood damage to car (68.5 percent), roof damage to residence (66.3 percent), flood damage to residence (60.2 percent), downed trees or branches (53.5 percent), and power loss (53.3 percent). By contrast, more than two-fifths of the respondents suffered from economic damages extremely seriously (11.2 percent), very seriously (12.7 percent), or somewhat seriously (23.3 percent).

Figure 13. “Have you applied to the Federal Emergency Management Administration for assistance?”



N = 1990

Approximately one-fourth (25.1 percent) of the respondents have applied to the Federal Emergency Management Administration for assistance.

Table 3. “How much did you rely on the following sources of information when deciding how to prepare for and respond to the Hurricane? Would you say you relied a great deal, somewhat, a little or none at all?”

Information Source	Great deal	Somewhat	A little	None at all	N
Neighbors and friends	22.0%	29.5%	14.1%	34.4%	1991
Radio news reports	32.3%	22.0%	10.8%	35.0%	1994
The Weather Channel	45.1%	21.2%	7.7%	25.9%	1977
Television station websites	48.2%	18.9%	8.8%	24.1%	1983
Facebook	14.2%	15.2%	8.8%	61.8%	1986
Twitter	3.3%	5.4%	3.1%	88.2%	1979
Nextdoor	11.5%	16.3%	9.5%	62.6%	1924
Houston Chronicle website	7.2%	10.4%	6.1%	76.4%	1979
County website	19.4%	18.2%	10.1%	52.3%	1976

Nearly half (48.2 percent) of the respondents relied a great deal on television stations websites to decide how to prepare for and respond to Hurricane Harvey, whereas 45.1 percent of the respondents also relied a great deal on the Weather Channel. Radio news reports are also the key source of information when deciding how to prepare for and respond to Hurricane Harvey. That is 32.3 percent of the respondents relied a great deal on radio news reports. Besides, more than one-fourth of the respondents relied on Facebook (29.4 percent) and Nextdoor (27.8 percent) either a great deal or somewhat to decide how to prepare for and respond to Hurricane Harvey. By contrast, few respondents used Twitter as the information source in response to Hurricane Harvey. Specifically, 88.2 percent of the respondents did not use Twitter to decide how to prepare for and respond to Hurricane Harvey.

Table 4. “A number of policies have been proposed to protect the Houston area from the effects of severe weather. Which of these proposals would you support?”

Policy	Support	Oppose	Nonresponse
A program to buy homes in areas that have repeatedly flooded with local state and federal moneys	63.2%	27.5%	9.2%
Construction of a new reservoir to protect west Houston	84.7%	8.2%	7.1%
Greater restrictions on construction in flood plains	82.7%	10.7%	6.7%
Establishment of a regional flood agency with taxing authority to plan for the prevention of regional flooding	67.1%	22.0%	10.9%
Denying federally financed flood insurance to homeowners whose homes that have flooded three of more times since 2001	42.0%	48.7%	9.4%
Not allow homes that have flooded three or more times since 2001 to be rebuilt by buying out these homeowners with local and federal moneys	61.5%	28.4%	10.1%
Requiring sellers of homes to fully disclose prior flood damage to their homes and prior flooding in the surrounding neighborhood	89.2%	6.6%	4.2%
Preventing development/construction on native prairies and wetlands in western and northwestern portions of Harris County	67.3%	19.2%	13.5%
Require government compensation for homes that are flooded due to the release of water from local reservoirs	77.2%	14.7%	8.1%
New building codes that require homes built in flood prone areas be elevated/raised to avoid flooding	85.6%	9.9%	4.5%

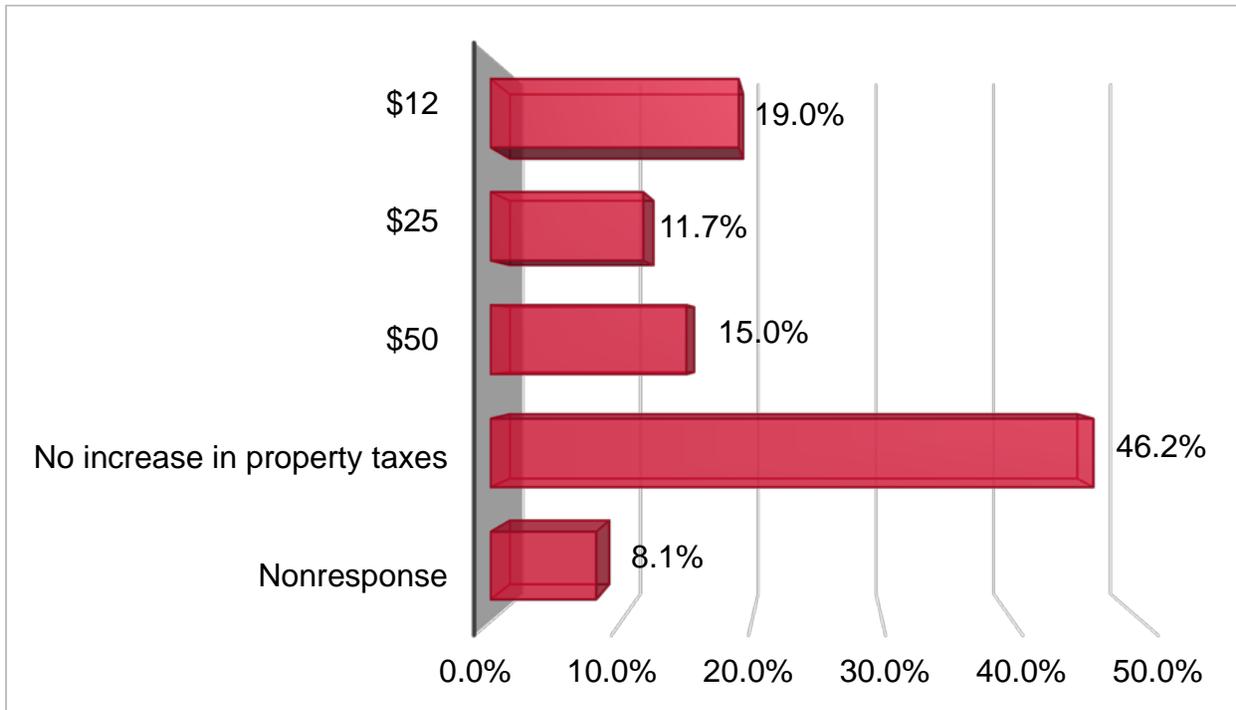
N = 1583

Note: 1. The results are solely based on the respondents in Harris County.

2. Nonresponse includes “Don’t know” and “Refused”.

Four proposals were supported by more than four-fifths of the respondents: requiring sellers to fully disclose flood damage and prior flooding in the neighborhood (89.2%), adopting new building codes to require homes be elevated in flood prone areas (85.6%), constructing a new reservoir in the western portion of the Houston area (84.7%), and placing greater restrictions on construction in flood plains (82.7%). Five proposals were supported by more than three-fifths of the respondents: providing government compensation for homes that are flooded due to the release of water from reservoirs (77.2%), preventing development on native prairies in the western and northwestern portions of Harris County (67.3%), establishing a regional flood agency with taxing authority to plan for the prevention of regional flooding (67.1%), implementing a program to buy homes in areas that have repeatedly flooded with local, state, and federal moneys (63.2%), and preventing homes that have been flooded three or more times since 2001 from being rebuilt and buying out these homeowners with local and federal moneys (61.5%). The only policy proposal that did not receive absolute majority support was denying federal financed flood insurance to homeowners whose homes have flooded three or more times since 2001 (42.0%).

Figure 14. “How much more in local property taxes would you be willing to pay to adopt any of the proposed policies to protect the Houston area from the effects of severe weather. Would you be willing to pay \$12, \$25 or \$50 more in property taxes to protect the Houston area from the effects of severe weather or would you not be willing to pay any more in property taxes?”

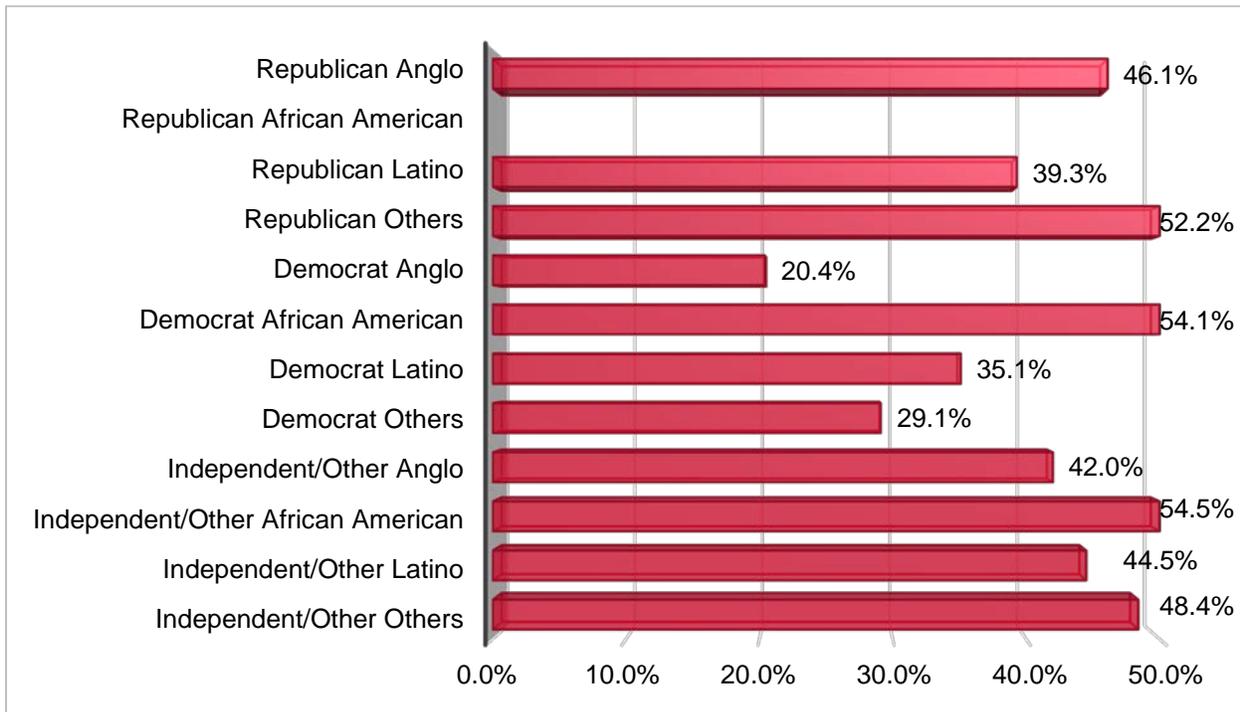


N = 1583

Note: 1. The results are solely based on the respondents in Harris County.
2. Nonresponse includes “Don’t know” and “Refused”.

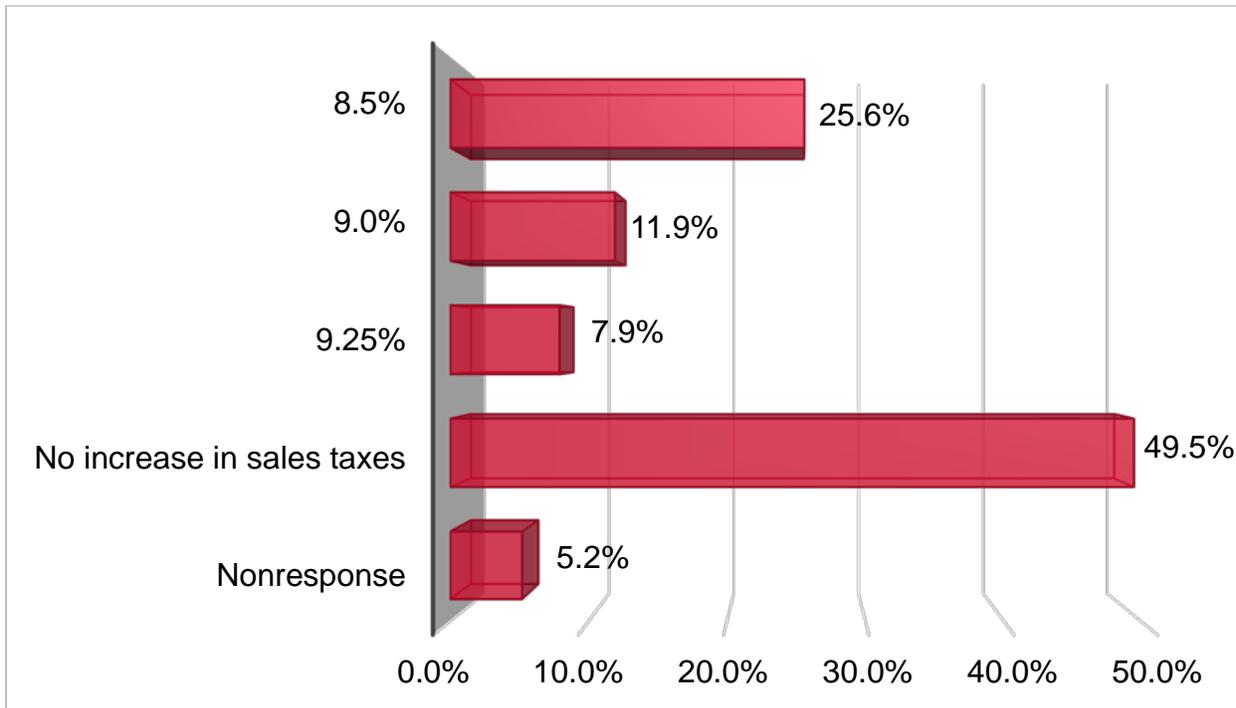
More than two-fifths (46.2 percent) of the respondents were not willing to pay any more in property taxes to implement any policy proposal to protect the Houston area from the effects of severe weather. Nearly one-fifth (19.0 percent) of the respondents were willing to pay \$12 more a year in property taxes to protect the Houston area from the effects of severe weather, whereas 15.0 percent of the respondents were willing to pay \$50 more a year.

Figure 15. Partisanship, ethnicity/race and opposition to any property tax increase to support flood protection



Overall partisan differences in opposition to any property tax increase are relatively modest in Harris County, with 45.9 percent of Republicans, 40.1 percent of Democrats, and 45.6 percent of all Others (those who do not identify as either a Republican or a Democrat) opposing any property tax increase to support policies designed to protect the region from future floods. However, when the numbers are broken down by partisanship and ethnicity/race, significant differences emerge, especially within the Democratic Party. Among Republican Anglos and Others (i.e., those identifying as Asian American or as a member of another ethnic/racial group), a majority or absolute majority (46.1 and 52.2 percent respectively) are opposed to any property tax increase, while Latino Republican opposition is less pronounced (39.3 percent) (only three Harris County African American Republicans were present in the survey population). Among Democrats, less than a quarter of Anglo Democrats (20.4 percent) oppose a property tax increase, in sharp contrast to the majority of African Democrats (54.1 percent) who oppose any property tax increase. Latino Democrats occupy an intermediate position between these two extremes with 35.1 percent opposing any property tax increase.

Figure 16. “Residents of the Houston area pay eight and a quarter percent (8.25%) in sales tax on most of their purchases. How much higher a sales tax would you be willing to pay to adopt any of the proposed policies to protect the Houston area from the effects of severe weather? Would you be willing to pay an eight and one half percent sales tax (8.5%), a nine percent sales tax (9.0%), or a nine and one quarter (9.25) sales tax to protect the Houston area from the effects of severe weather or would you not be willing to pay any more in sales taxes?”



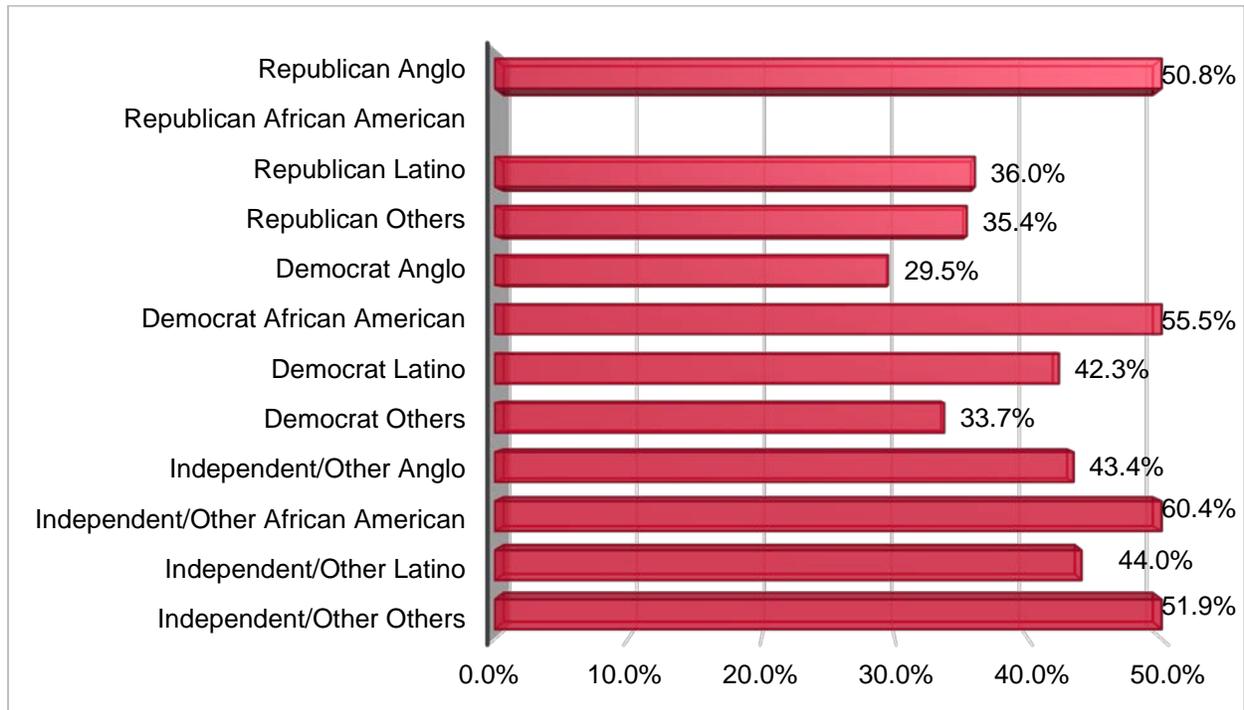
N = 1583

Note: 1. The results are solely based on the respondents in Harris County.

2. Nonresponse includes “Don’t know” and “Refused”.

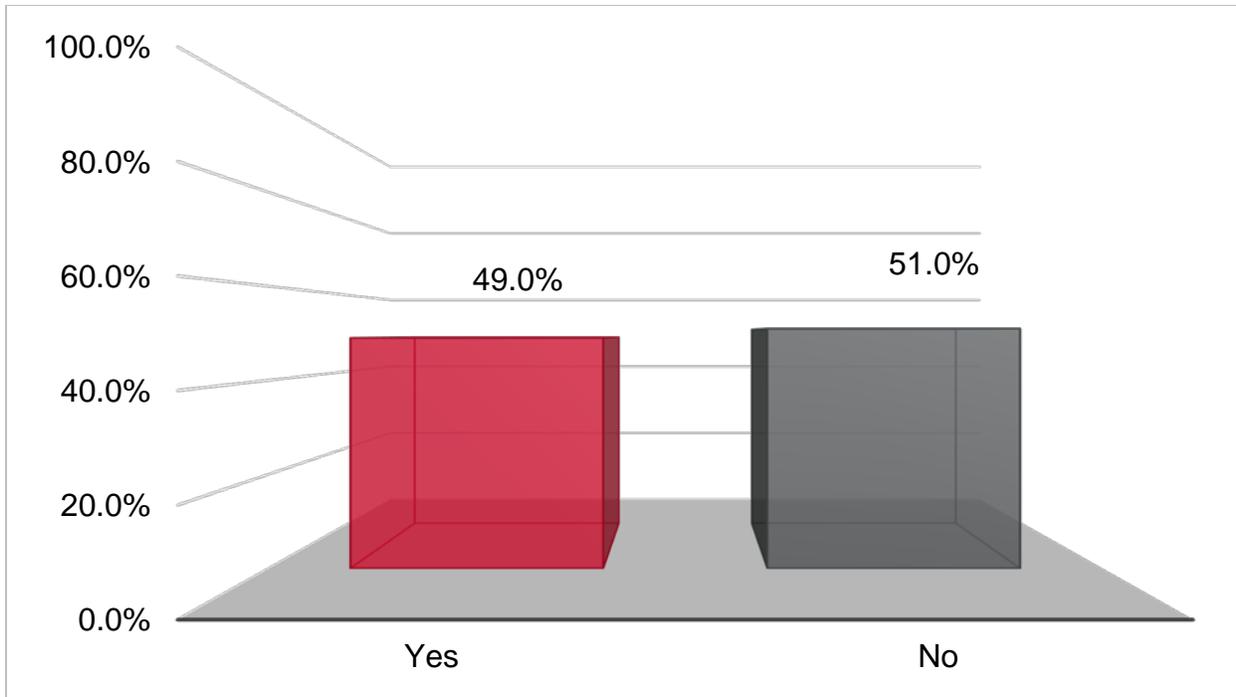
Nearly half (49.5 percent) of the respondents were not willing to pay any more in sales taxes to implement any policy proposal to protect the Houston area from the effects of severe weather. By contrast, 25.6 percent of the respondents were willing to pay an 8.5% sales tax to protect the Houston area from the effects of severe weather, whereas 11.9 percent of respondents were willing to pay a 9.0% sales tax.

Figure 17. Partisanship, ethnicity/race and opposition to any sales tax increase to support flood protection



The overall partisan differences in opposition to any sales tax increase are insignificant in Harris County, with 48.8 percent of Republicans, 44.8 percent of Democrats, and 47.8 percent of all Others opposing any sales tax increase to support policies designed to protect the region from future floods. But, when the numbers are broken down by partisanship and ethnicity/race, significant differences once again emerge. Nearly half (50.8 percent) of Anglo Republicans oppose any sales tax increase, while Latino opposition is more muted (36.0 percent). Less than three-tenths (29.5 percent) of Anglo Democrats oppose a sales tax increase, in sharp contrast to the majority of African American Democrats (55.5 percent) who oppose any sales tax increase. Latino Democrats occupy an intermediate position between these two extremes with 42.3 percent opposing any sales tax increase.

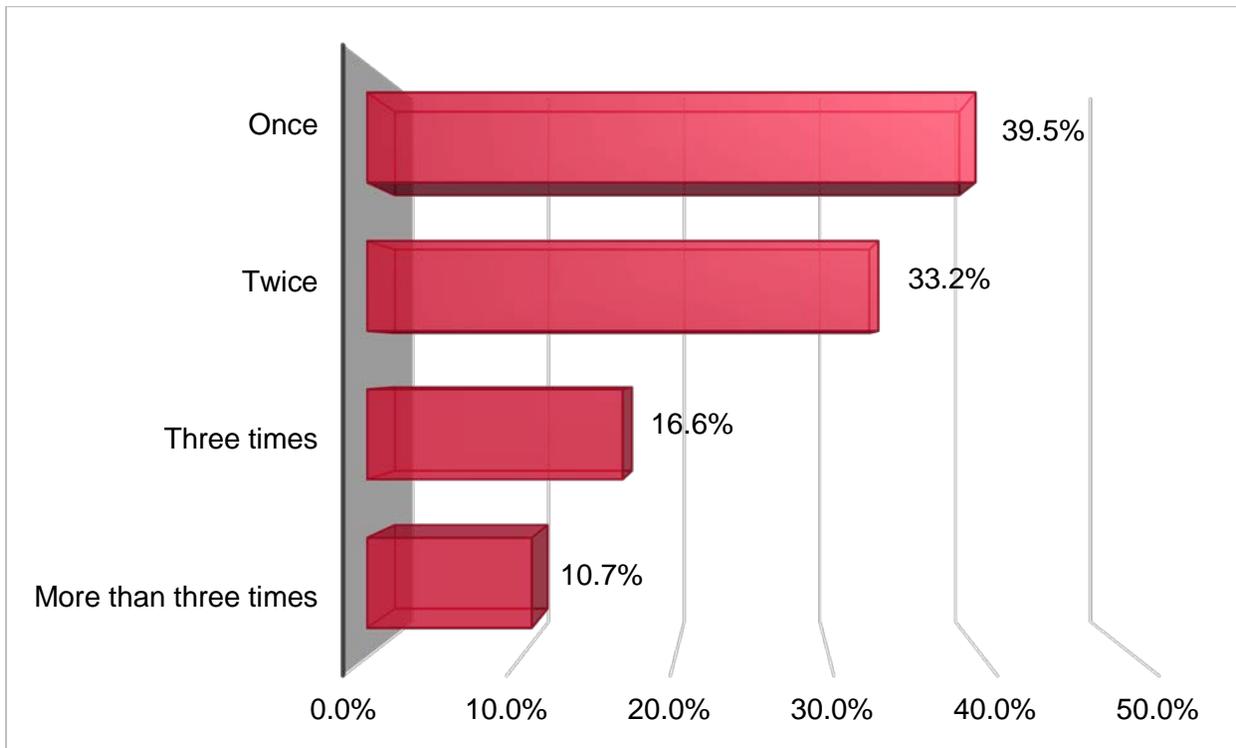
Figure 18. “Since 2001 have you or any member of your immediate family ever experienced a personal injury, property damage or had to evacuate from you home in face of severe weather like tropical storm, Allison, Hurricanes Rita or Ike or recent flooding in 2015 and 2016?”



N = 1979

49.0 percent of the respondents mentioned that they or their immediate family members have ever experienced a personal injury, property damage, or had to evacuate from their homes due to severe weather since 2001.

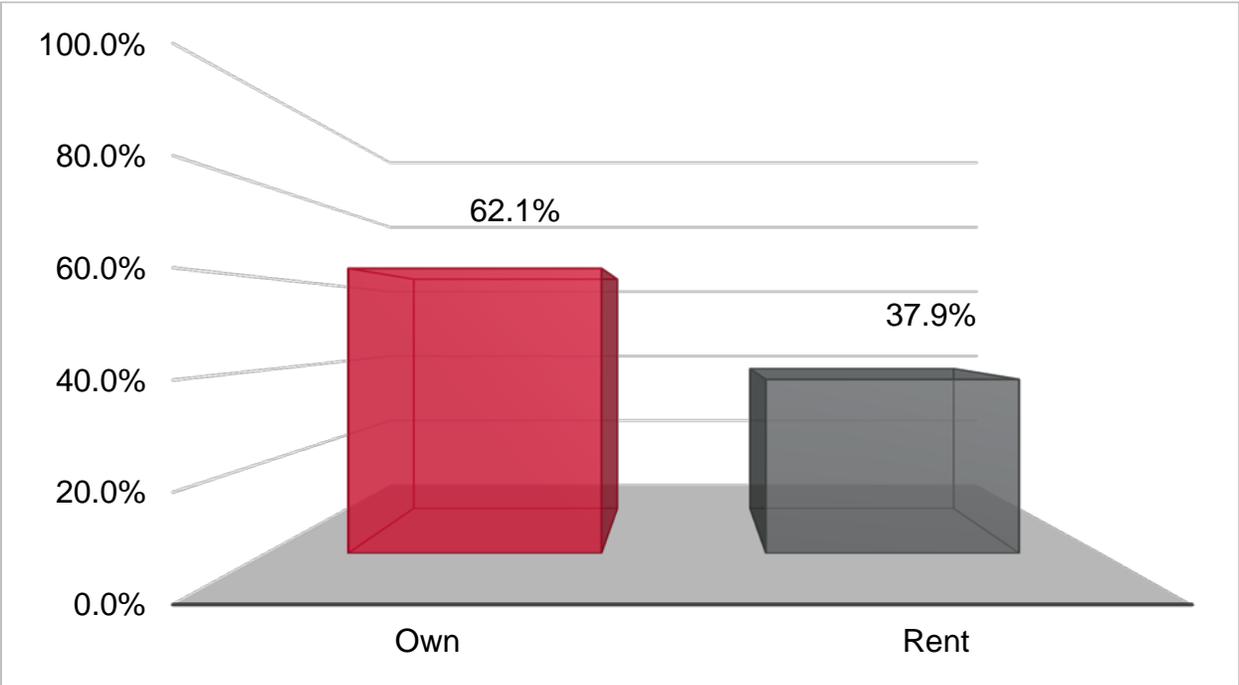
Figure 19. “How many times since 2001 have you or any member of your immediate family experienced a personal injury, property damage, or had to evacuate from your home in face of severe weather?”



N = 906

Among the respondents who mentioned that they or their immediate family members have ever experienced a personal injury, property damage, or had to evacuate from their homes due to severe weather since 2001, 39.5 percent of them have such experiences once, whereas another 33.2 percent have such experiences twice. Besides, 10.7 percent of the respondents or their immediate family members have experienced a personal injury, property damage, or had to evacuate due to severe weather more than three times since 2001.

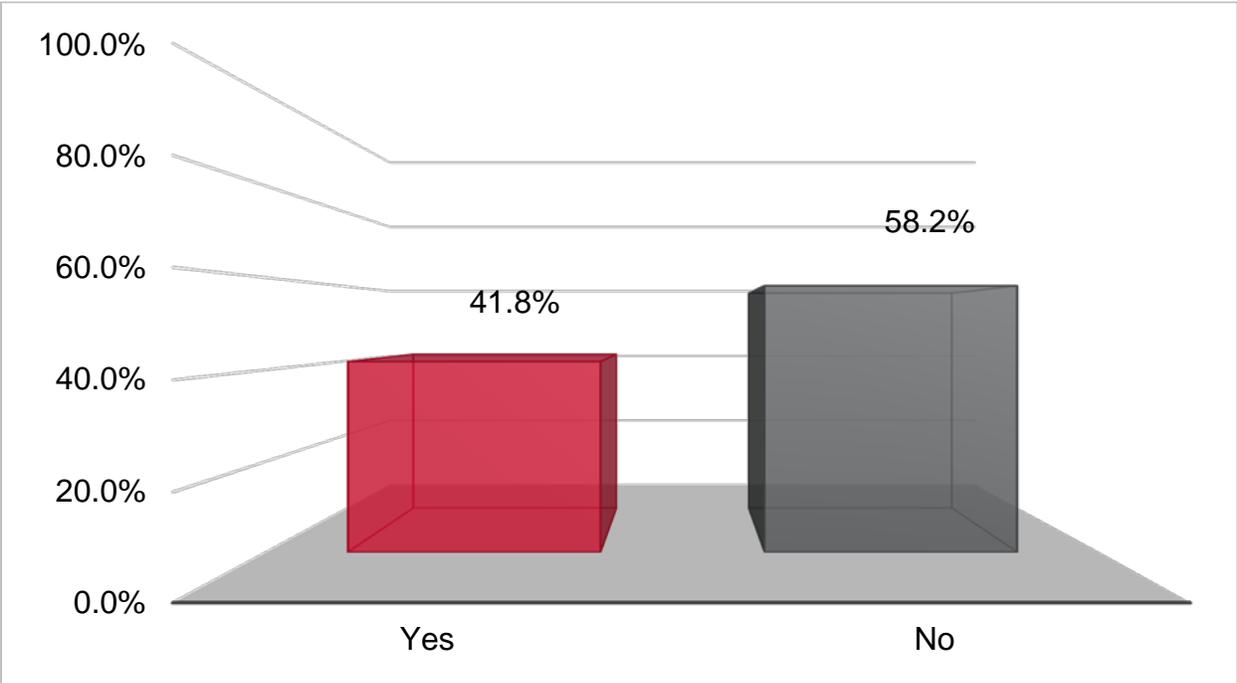
Figure 20. “Do you own or rent your residence?”



N = 1927

More than three-fifths (62.1 percent) of the respondents own their residences.

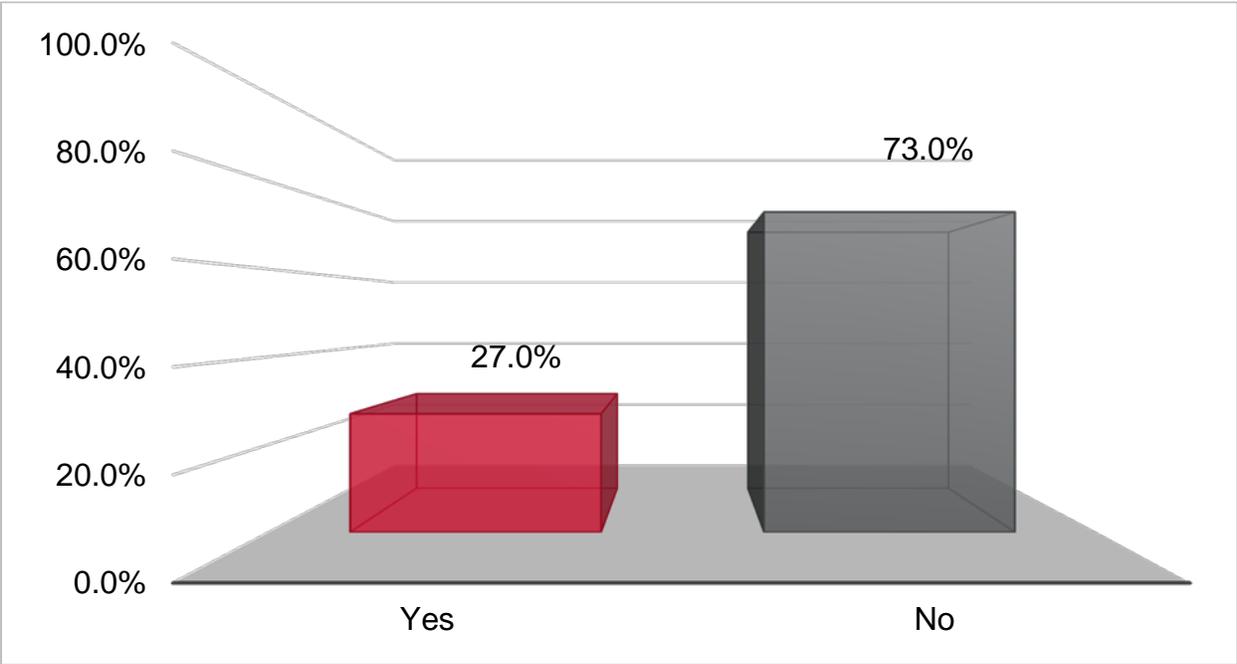
Figure 21. “Do you have flood insurance?”



N = 1942

Slightly more than two-fifths (41.8 percent) of the respondents have flood insurance.

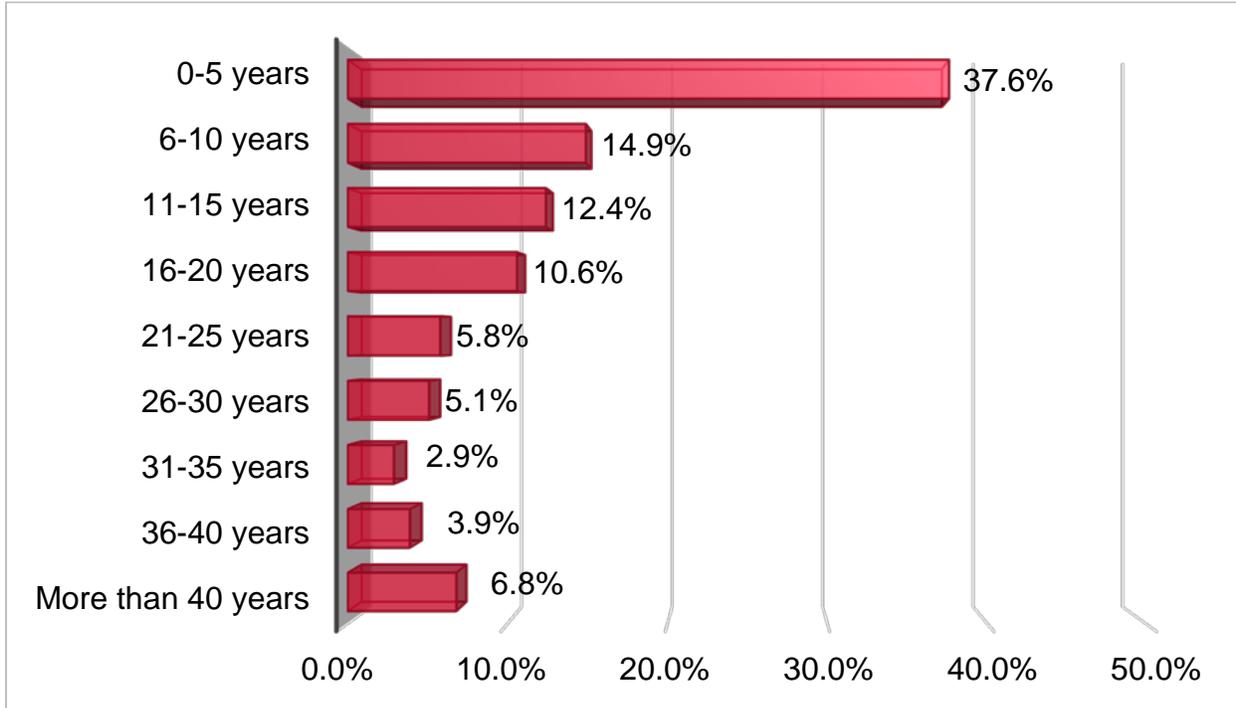
Figure 22. “Do you have renter’s insurance?”



N = 1937

More than seven-tenths (73.0 percent) of the respondents do not have renter’s insurance.

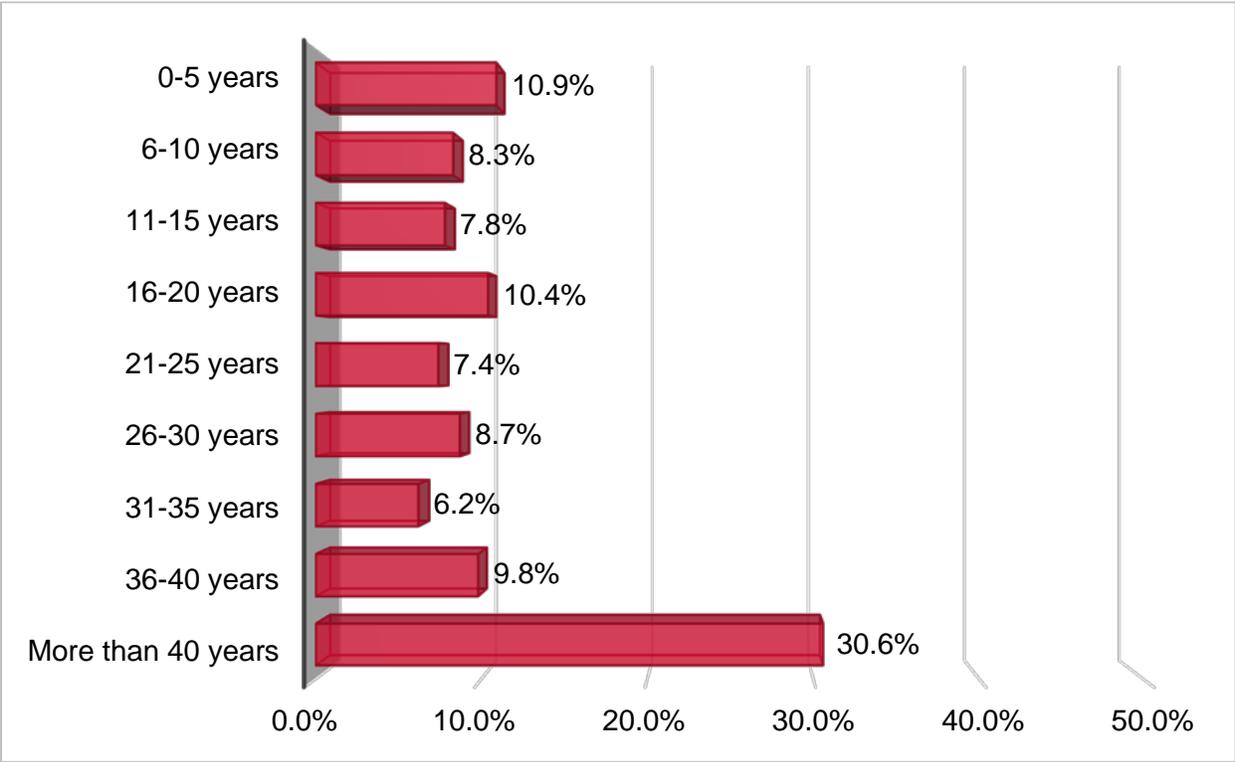
Figure 23. “How long have you lived at your current residence?”



N = 1928

More than one-third (37.6 percent) of the respondents have lived at their current residences no more than five years, whereas more than one-fourth (27.3 percent) of the respondents have lived at their current residences between six and fifteen years. Furthermore, 24.5 percent of the respondents have lived at their current residences more than twenty years.

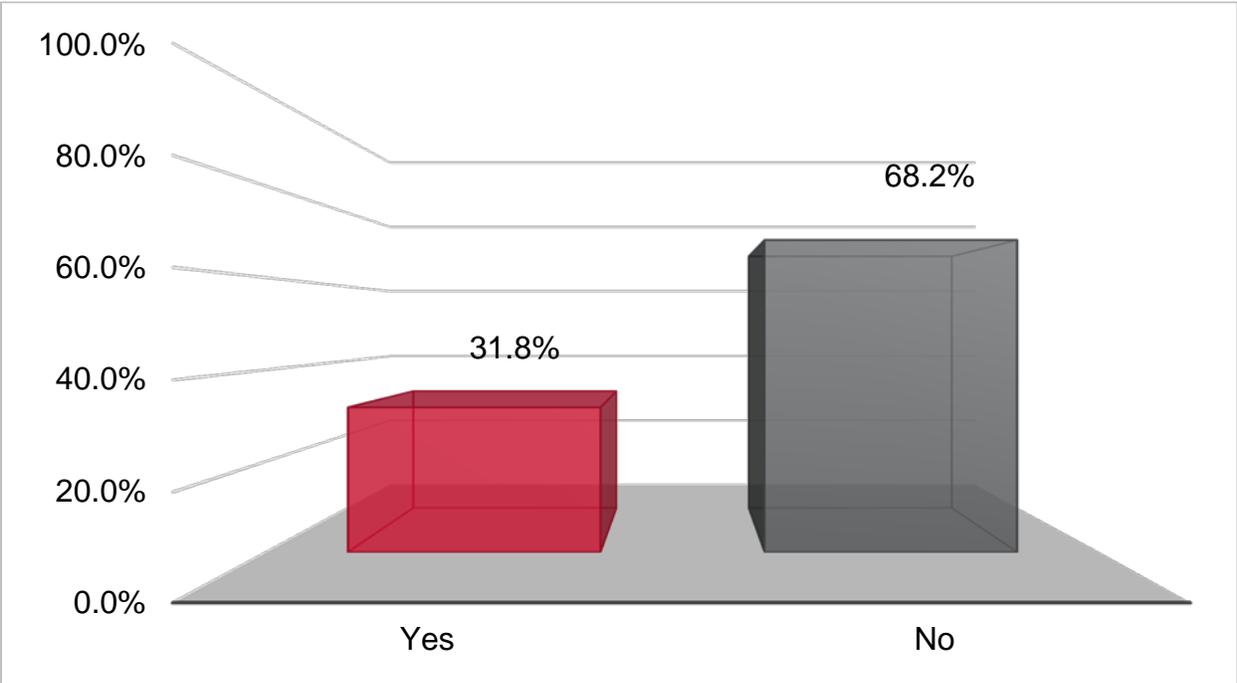
Figure 24. “How long have you lived in the Houston metropolitan area?”



N = 1892

Approximately three-tenths (30.6 percent) of the respondents have lived in the Houston metropolitan area for more than forty years, whereas 19.2 percent of the respondents have lived in the Houston metropolitan area for no more than ten years.

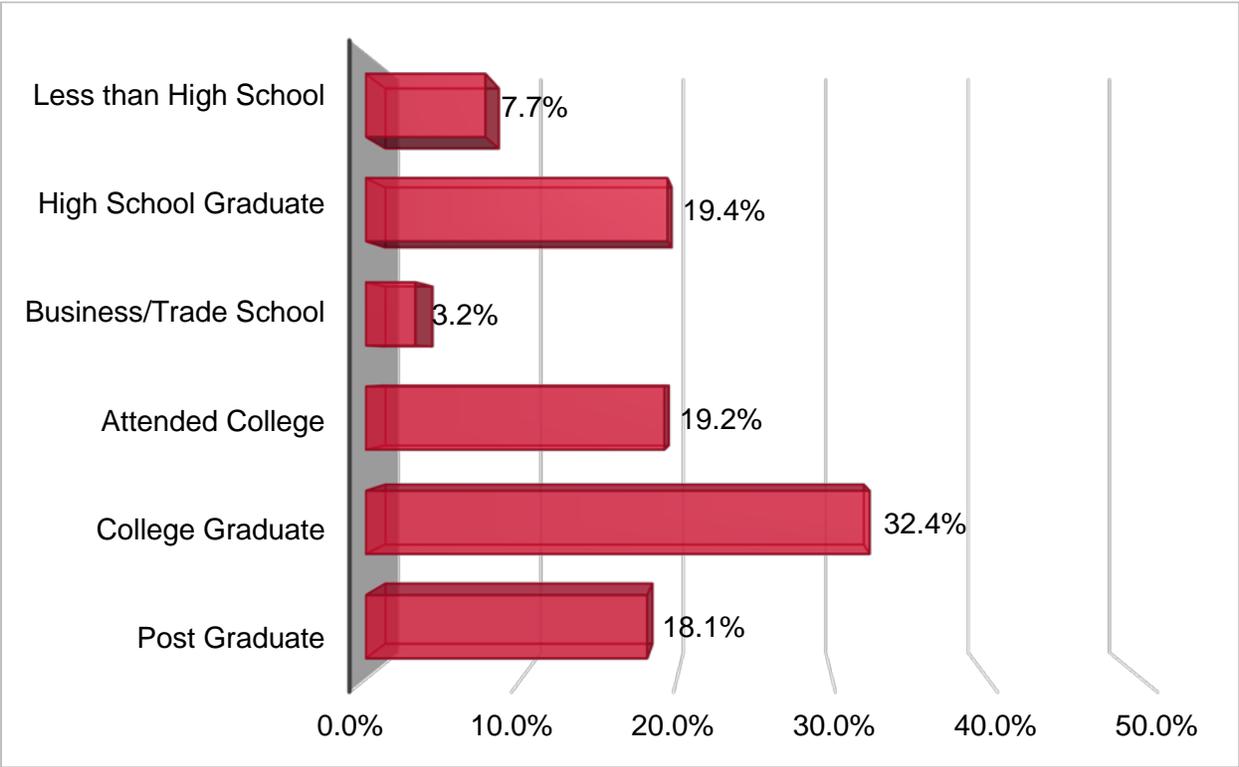
Figure 25. “Do you presently have children under 18 living in your household?”



N = 1968

More than three-tenths (31.8 percent) of the respondents presently have children under 18 years of age living in their households.

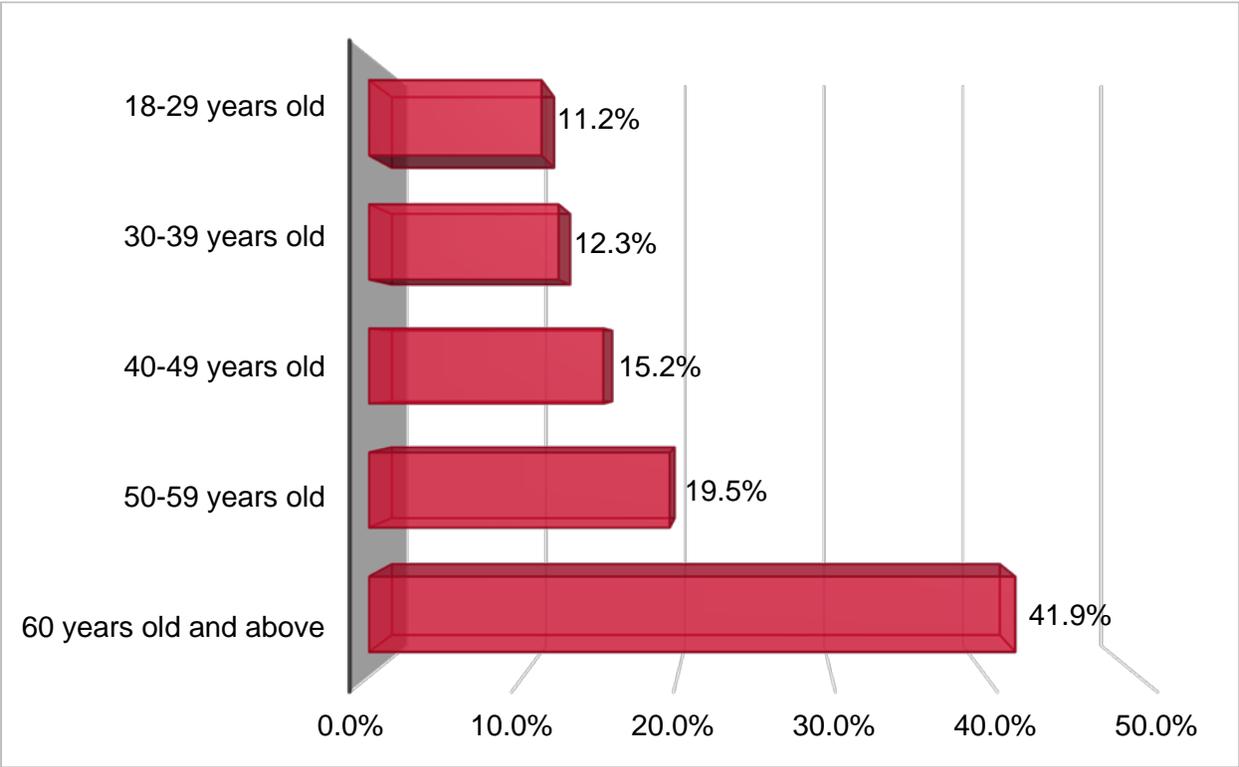
Figure 26. “What was the highest grade of formal education you completed?”



N = 1937

Slightly more than half of the respondents have either a college degree (32.4 percent) or a postgraduate degree (18.1 percent). By contrast, 27.1 percent of the respondents have a high school education or lower.

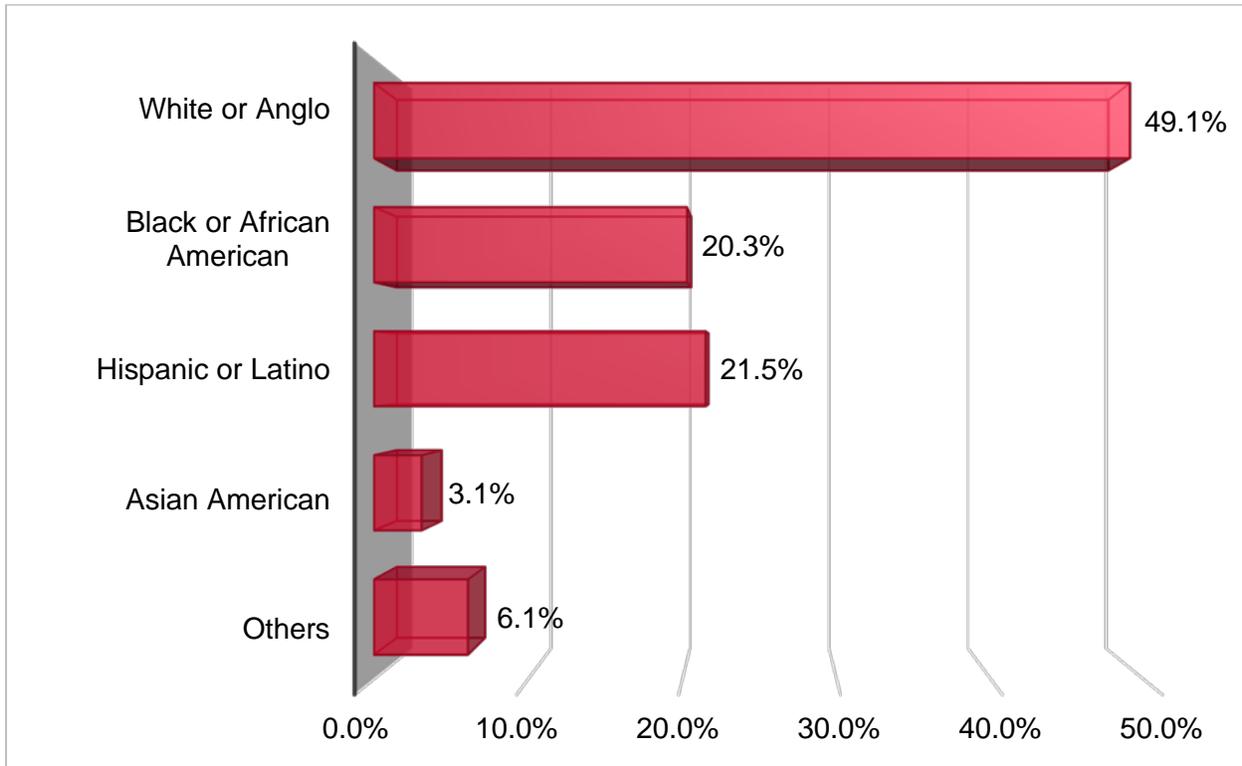
Figure 27. Respondents' Age



N = 1796

More than two-fifths (41.9 percent) of the respondents are 60 years old and above, whereas 23.5 percent of the respondents are between the ages of 18 and 39. The other respondents (34.7 percent) are between the ages of 40 and 59.

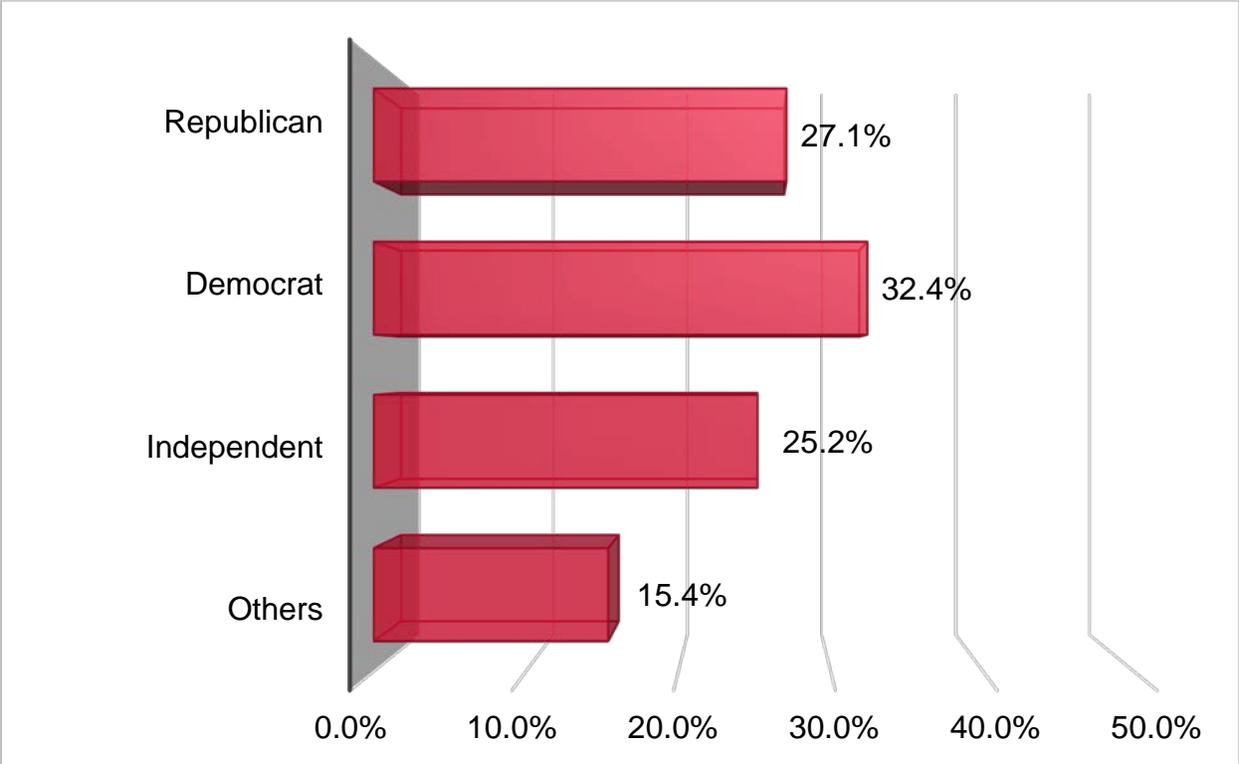
Figure 28. “In which one of the following racial or ethnic categories would you place yourself?”



N = 1882

Nearly half (49.1 percent) of the respondents are White or Anglo, whereas 21.5 percent of the respondents are Hispanic or Latino. Another 20.3 percent are Black or African American. Furthermore, 3.1 percent of the respondents are Asian American.

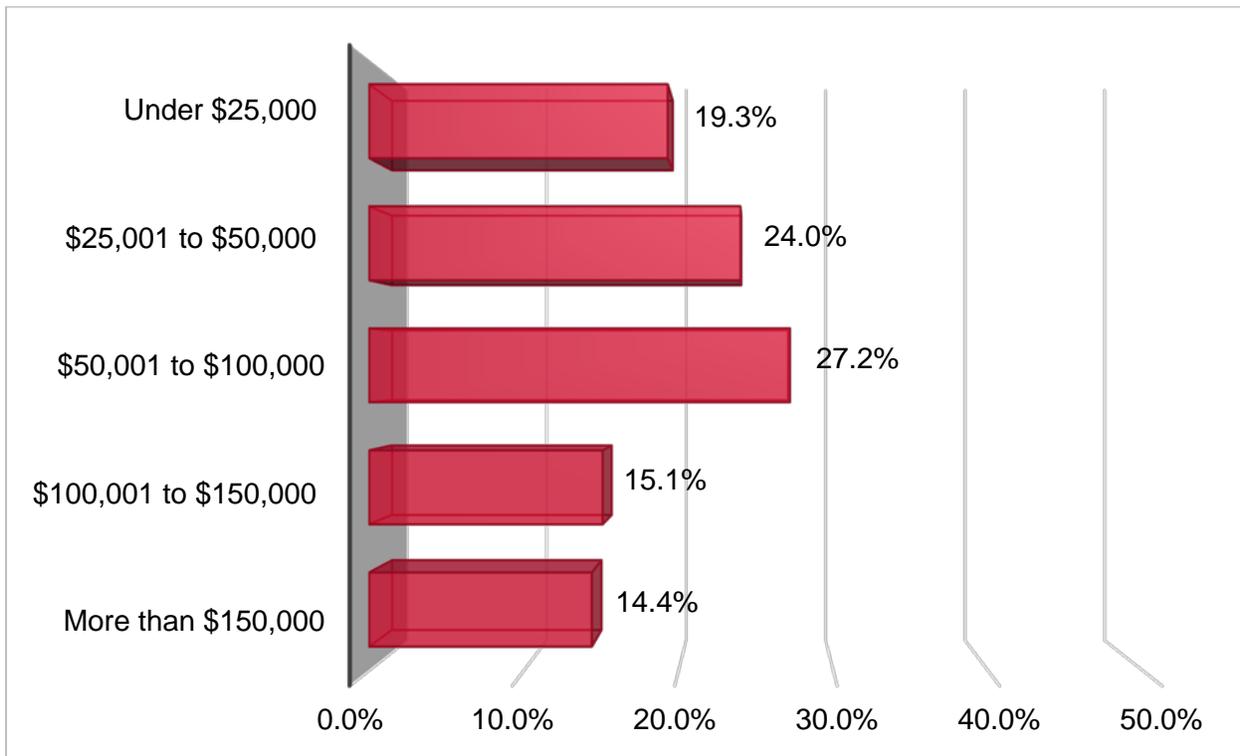
Figure 29. “Generally speaking, do you think of yourself as a Republican, a Democrat, an Independent, or something else?”



N = 1731

27.1 percent of the respondents are Republican, whereas 32.4 percent of the respondents are Democrat. Besides, about one-fourth (25.2 percent) of the respondents identify themselves as Independent.

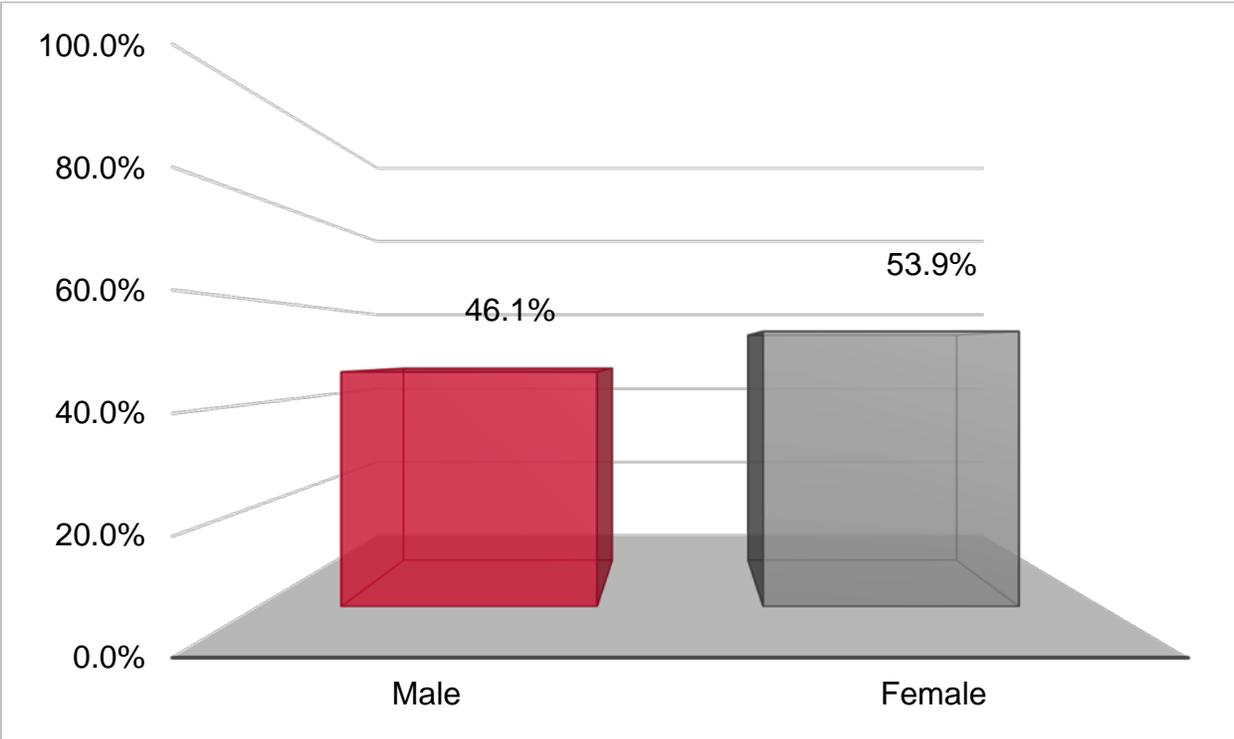
Figure 30. “I’ll read some annual family income categories. Could you please stop me when I reach the category that corresponds to your family income?”



N = 1498

Nearly one-tenth (29.5 percent) of the respondents reported that their household income is more than \$100,000, whereas more than two-fifths (43.3 percent) of the respondents have household income under \$50,000. Furthermore, more than one-fourth (27.2 percent) of the respondents have household income between \$50,001 and \$100,000.

Figure 31. Respondents' Gender



N = 2002

53.9 percent of the respondents are female, whereas 46.1 percent of the respondents are male.