

# COMMUNICATION DURING DISASTER RESPONSE AND RECOVERY

Communication during and immediately after a disaster situation is an important component of response and recovery, in that it connects affected people, families, and communities with first responders, support systems, and other family members. Reliable and accessible communication and information systems also are key to a community's resilience. Following recent disasters—including Superstorm Sandy, the Boston bombings, and the tornadoes in Oklahoma—stories emerged on the importance of social media as a communication tool. These stories described how social network applications like Facebook, Twitter, and Instagram were being used by affected individuals to communicate with friends, family, first responders, and those providing relief and assistance. However, social media and other communication tools are not ubiquitous across all demographic segments, and the utility of some communication tools deteriorates in disaster situations where there are extensive power outages or downed cellular service. As emergency responders, utility companies, relief organizations, and governments invest in infrastructure to support post-disaster communications, and as they look to invest in and leverage social media for communications during a disaster, it is imperative to understand how various types of people actually communicate in the wake of a disaster situation and how various communication strategies can best be utilized.



AP Photo/ John Minchillo

In June 2013, the Associated Press-NORC Center for Public Affairs Research released the results of a national survey, funded by the Rockefeller Foundation, of 2,025 individuals, including an oversample of 1,007 interviews with residents in the New York and New Jersey region affected by Superstorm Sandy. The survey included questions that asked those in the affected area about their modes of communication during the storm.<sup>1</sup>

## **AFFECTED INDIVIDUALS COMMUNICATED DURING THE STORM WITH LOW-TECH METHODS, ELECTRONIC COMMUNICATIONS, AND SOCIAL MEDIA.**

Individuals in the affected areas of New York and New Jersey report using a variety of communication methods to reach out to those around them, including cell phones (77 percent), in-person communications (73 percent), and landline phones (41 percent). Residents in the affected area also utilized electronic methods to

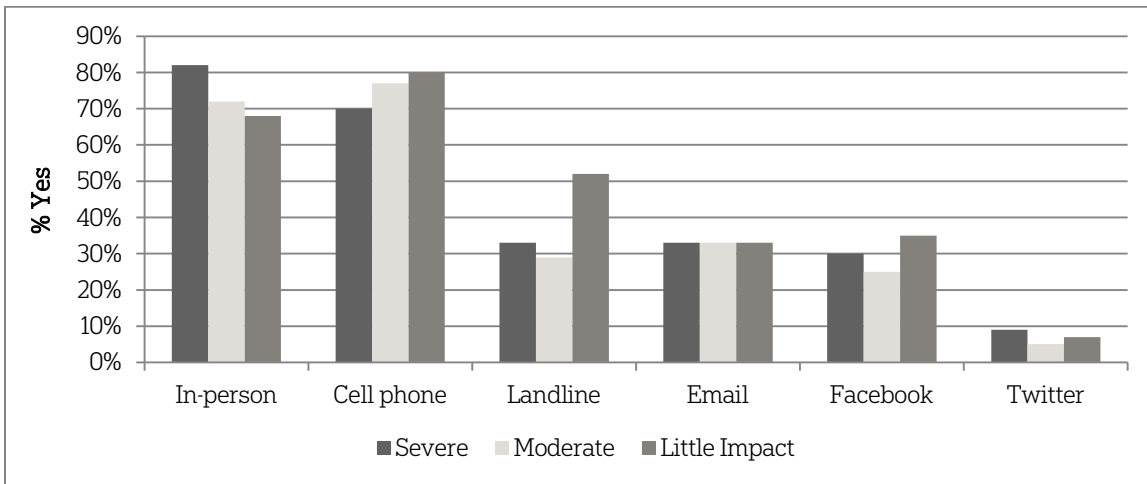
<sup>1</sup> The exact question wording was, "How did you communicate with others during Superstorm Sandy? This can include communications with friends and family as well as communications with utility companies, emergency services, and relief organizations."

communicate during the storm. Thirty-three percent reported using email, 31 percent reported using Facebook, and 7 percent reported using Twitter.

**COMMUNICATION METHODS VARIED BY THE EXTENT OF SUPERSTORM SANDY’S IMPACT.**

Superstorm Sandy did not impact all individuals and neighborhoods to the same degree. Differences in the level of impact made by the storm affected how individuals chose—or were able to—communicate. Hard-hit neighborhoods saw a greater number of in-person communications than those that were only a little or not at all affected. Eight in 10 people who report being extremely or very affected by the storm used in-person communications, significantly higher than in neighborhoods that were only a little or not at all affected (68 percent). Additionally, individuals who report being most affected by the storm personally were the least likely to use landlines. Fifty-two percent of those reporting that they were only a little or not at all affected by Sandy said they used a landline phone to communicate, compared to just three out of 10 of those who were more affected. Notably, residents’ use of cell phones, email, Facebook, and Twitter to communicate after Superstorm Sandy was not related to the extent of Superstorm Sandy’s impact.

**Communication methods by level of personal storm impact**



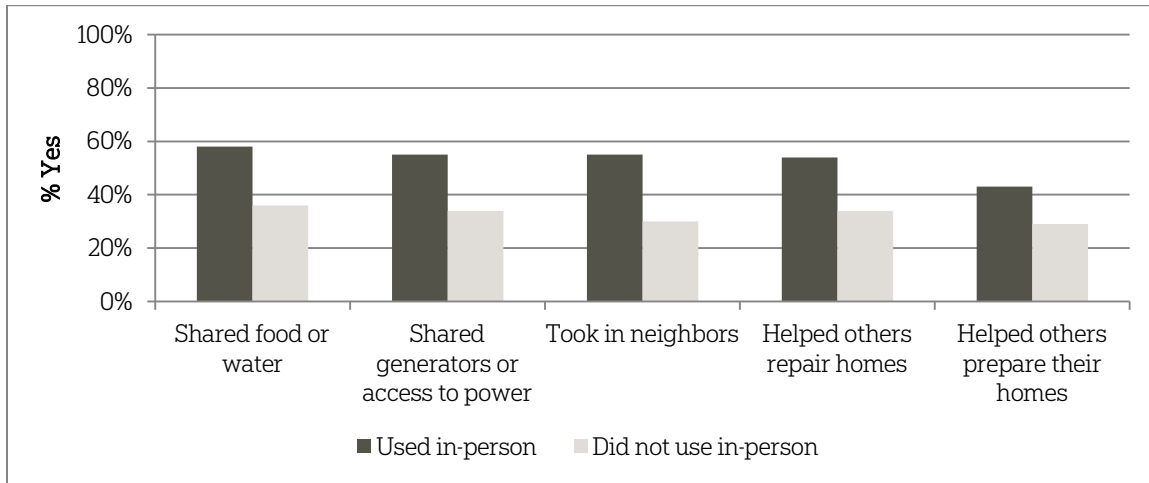
**PEOPLE WHO UTILIZED IN-PERSON COMMUNICATIONS WERE MORE LIKELY TO REACH OUT FOR HELP AND TO REPORT POSITIVE SOCIAL INTERACTIONS LIKE SHARING FOOD AND GENERATORS DURING THE STORM.**

Many residents living in the affected region needed to ask for help in the aftermath of Superstorm Sandy. Common sources of support included local police and fire departments, other first responders, friends and family members, relief organizations such as the Red Cross, and charitable organizations such as the Salvation Army. Residents who needed to reach out for help were more likely to report using in-person communications during the storm. Almost eight in 10 (78 percent) of affected residents who asked for help reported communicating using in-person conversations, compared to 66 percent of affected residents who did not ask for help. Affected residents who utilized in-person communications were more likely than those who did not to turn to friends, family, and neighbors close to home for help (35 percent vs. 20 percent) and friends and family further from home (31 percent vs. 18 percent).

People who report using in-person communications were more likely than those who did not use in-person communications to report occurrences of positive social interactions in their neighborhoods before, during, and after the storm, such as taking in neighbors when their homes were damaged or they lost utilities (55 percent vs. 30 percent), sharing food (58 percent vs. 36 percent), and sharing generators (55 percent vs. 34 percent). The likelihood of these interactions did not vary by other types of communications used, including phone or social media use. Reported use of in-person communications did not decrease the likelihood of

people reporting negative social interactions such as looting, hoarding, or vandalism occurring in their neighborhoods.

**Positive social interactions were more likely in neighborhoods when people reported using in-person communications during the storm.**



**CELL PHONE SERVICE PROBLEMS WERE WIDESPREAD AS A RESULT OF SUPERSTORM SANDY.**

A majority of residents (54 percent) living in the affected region say they experienced issues with their cellular phone service, including limited or no cell signal, as a direct result of Superstorm Sandy. Reported cellular service problems varied significantly by how seriously affected the respondent’s neighborhood was by the storm. Seventy-two percent of residents whose neighborhoods were extremely or very affected by the storm and 63 percent of residents whose neighborhoods were moderately affected by the storm say they experienced issues with their cellular service, compared to 40 percent of residents whose neighborhoods were only a little or not at all affected by the storm and who say they experienced issues with their cellular service.

Cellular service issues were reported by a majority of residents in the counties of Nassau and Suffolk (72 percent); Bergen, Essex, Hudson, Richmond, and Union (64 percent); and Middlesex, Monmouth, and Ocean (58 percent). Less than half of the residents in the counties of Bronx, Kings, New York, and Queens (45 percent) and Atlantic and Cape May (40 percent) say they experienced problems with their cellular service as a result of Superstorm Sandy.

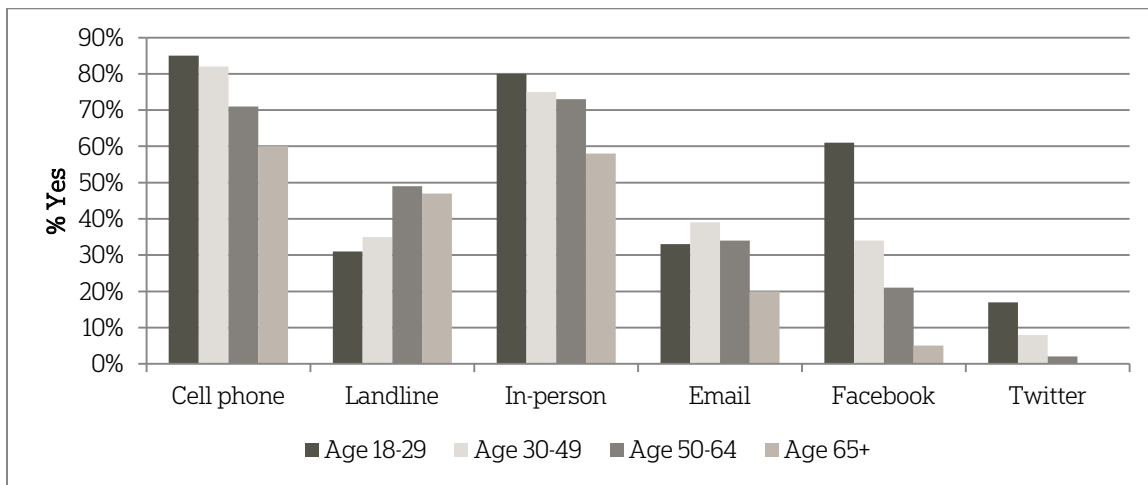
**AGE IS CLOSELY ASSOCIATED WITH COMMUNICATION METHODS AND SOCIAL MEDIA USE IN A DISASTER SITUATION.**

Communication by cell phone, landline, and in-person conversations differed significantly based on age of resident. Those 65 and older were the most likely to report using landlines but the least likely to report using any other mode of communication. Those in the two older age groups (50-64 and 65 or older) were more likely than the younger age groups to use landlines; 47 percent of individuals age 65+ and 49 percent of individuals age 50-64 used landlines to communicate during Sandy, compared to just 35 percent of individuals age 30-49 and 31 percent of individuals age 18-29. Individuals who were 65 or older also utilized in-person communications less frequently than younger age groups. Although 58 percent of those 65 and over reported communicating using in-person conversations during the storm, this was significantly lower than the 50-64 (73 percent), 30-49 (75 percent), and 18-29 (80 percent) age groups.

Additionally, social media usage during Superstorm Sandy varied significantly by age of resident. Overall, 7 percent of those living in the affected region report having used Twitter, and 31 percent used Facebook to communicate during Superstorm Sandy. Less than 2 percent of people over 50 used Twitter to communicate

during Superstorm Sandy, compared to 8 percent of people age 30-49 and 17 percent of people age 18-29. Sixty-one percent of residents age 18-29 used Facebook to communicate during Sandy, while 34 percent of residents age 30-49 and 21 percent of residents age 50-64 did so. Just 5 percent of people age 65 and older used Facebook to communicate during the storm.

#### Communication methods by age of respondent



#### EMAIL USAGE DURING SUPERSTORM SANDY VARIED SIGNIFICANTLY BY AGE AND SOCIOECONOMIC STATUS.

Despite the widespread power and infrastructure disruptions resulting from Superstorm Sandy, 33 percent of those living in the affected region say they used email to communicate during the storm. This usage varied widely by the age, educational attainment, race, ethnicity, employment status, and income of the respondent.

- Significantly fewer residents age 65 and older reported using email during the storm (20 percent) than residents age 50-64 (34 percent) and residents age 30-49 (39 percent). However, younger adults, 18-29, utilized email slightly less than the 30-49 age group and about equally with the 50-64 age group.
- Fifty-one percent of residents living in the affected region who have a college degree say they used email to communicate during the storm, compared to 25 percent of residents with a high school degree and just 6 percent of residents with less than a high school education.
- Forty-one percent of white respondents say they used email to communicate during the storm, compared to just 18 percent of black respondents and 22 percent of Latino respondents.
- Employed residents (40 percent) were more likely to use email to communicate during the storm than unemployed residents (25 percent).
- Higher-income earners reported more widespread email usage than lower-income earners. Fifteen percent of those with a household income of less than \$30,000 say they used email to communicate during the storm. Twenty-four percent of those with a household income of \$30,000 to \$50,000 say they used email to communicate during the storm. Forty percent of those with a household income of \$50,000 to \$75,000 say they used email. Nearly half (48 percent) of those earning \$75,000 or more say they used email during the storm.

**About the study**

This survey was conducted by the Associated Press-NORC Center for Public Affairs Research with funding from the Rockefeller Foundation. The random digit dial survey of landline and cell phone numbers was conducted from April 19 through June 2, 2013. This nationally representative survey was conducted with 2,025 adults in the 50 states, including an oversample of 1,007 adults residing in the Superstorm Sandy affected regions of New York and New Jersey at the time of the storm. The final response rate for the national sample was 13 percent (CASRO). The overall margin of error for the national sample was +/- 4.0 percentage points. The margin of error for the affected region sample was +/- 4.7 percentage points. The margin of error for the sample in the unaffected region was +/- 4.2 percentage points. Sampling weights were calculated to adjust for sample design aspects (such as unequal probabilities of selection) and for nonresponse bias arising from differential response rates across various demographic groups. Poststratification variables included age, sex, race, region, education, and landline/cell phone use. The weighted data, which thus reflect the U.S. general population age 18 years old or older, were used for all analyses. The weighted data also reflect the two subpopulations of interest, adults living in the Superstorm Sandy affected areas on October 29, 2012, and adults living in the rest of the United States.

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**The complete topline data and an analysis of the findings, including a full description of the survey methodology, are available at [www.apnorc.org](http://www.apnorc.org).**