

## **Diffusion of News of the Terrorist Attacks of September 11, 2001<sup>1</sup>**

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**ABSTRACT** *We report findings here from an audience survey in New Mexico of the diffusion of a spectacular news event, the terrorist attacks on New York and Washington on September 11, 2001. This news event was perceived as very salient, and it diffused rapidly. The first terrorist attack occurred at 6:45 am (New Mexico time); within three hours almost all respondents had heard about the news event. Individuals reacted to this news in an emotional way, with many respondents praying, participating in a memorial event for the victims, contributing money and donating blood. The terrorist attacks also evoked a strong sense of patriotism. Compared to the news events studied in 52 previous investigations, the September 11 terrorist attacks caused stronger, and more emotional, audience reactions.*

**Keywords:** September 11, diffusion, news.

‘My stepfather was in the World Trade Center and my uncle was in the Pentagon.’

‘Makes me realize that airport security was a farce.’

‘We are going to die.’

‘Oh my God, we are in war!’

‘Ask not for whom the bells toll, they toll for thee.’

(Statements made by respondents in our September 2001 survey).

The terrorist attacks on New York and Washington, DC, much more than the news events studied in past research, affected audience members emotionally. The terrorist attacks on September 11, 2001 were intended to create terror, and our New Mexico survey suggests that the terrorists were quite successful. The terrorist attacks, however, also brought forth a high degree of American patriotism, with people displaying flags in their homes, at workplaces, and on their vehicles. The world united in fighting terrorism to an extent seldom seen in past attempts at international collaboration.

The September 11 news event was the first to be studied in which cellular telephones and the Internet were widely available to the public. A system overload of telephone calls and the Internet occurred in the early hours after the terrorist attacks on September 11. Cell phones were used to call people in their cars with news of the terrorist attacks, but our present survey data show that telephone calls were not a particularly important channel of communication in diffusing the news event of study.

The September 11 attacks represent a spectacular news event that the public perceived as highly salient, and that diffused rapidly. The mass media devoted hours of news coverage each day, yet the public did not seem to become tired of the news, in part because yet newer events continued to occur, such as the bombing of Afghanistan, the threat of Anthrax, video speeches by bin Laden, and the landing of special military forces in Afghanistan. Thus the news story was of a continuing nature, and received very heavy media coverage for months after September 11.

### The Present Research

Two days after September 11, 2001, with the assistance of 35 communication students at the University of New Mexico, we began conducting a survey of the diffusion of this news event. Each interviewer contacted three or four people in Albuquerque, using a prepared questionnaire. A total of 127 respondents were interviewed in the following ten days. Although the sample is non-random, the interviewers contacted a wide variety of people: the respondents include 37 students, 76 employed people, three unemployed, three retired people, and eight others. Some 73 individuals (57%) were male, and 54 (43%) were female. The average age was 29 years, and the respondents averaged 14 years of education. The survey participants were fairly characteristic of the adult population of Albuquerque, with the exception of the over-representation of university students.

*Diffusion* is the process through which an innovation is communicated through certain channels over time among the members of a social system.<sup>2</sup> An *innovation* is an idea, practice, or object perceived as new by an individual or other unit of adoption.<sup>3</sup> In the present study, the innovation of study is a *news event*, defined as a newsworthy topic that attracts widespread public attention.<sup>4</sup>

Past diffusion research suggests five stages in the innovation–decision process: (1) knowledge; (2) persuasion; (3) decision; (4) implementation; and (5) confirmation.<sup>5</sup> ‘Individuals usually only gain awareness–knowledge of a news event, thus the main dependent variable of study in most news event diffusion studies corresponds only to the knowledge stage.’<sup>6</sup> The present news event diffusion study included not only questions about the respondents’ sources/channels of awareness–knowledge about the terrorist attacks, but also about the sources/channels from which they obtained further information, and also questions about what the respondent first heard, how the news event affected them, and what actions they took as a consequence.

The first news about the terrorist attacks reached Albuquerque at 6:45 am, due to a two-hour difference in time zones. The sequence of the September 11 attacks is summarized in Table 1.

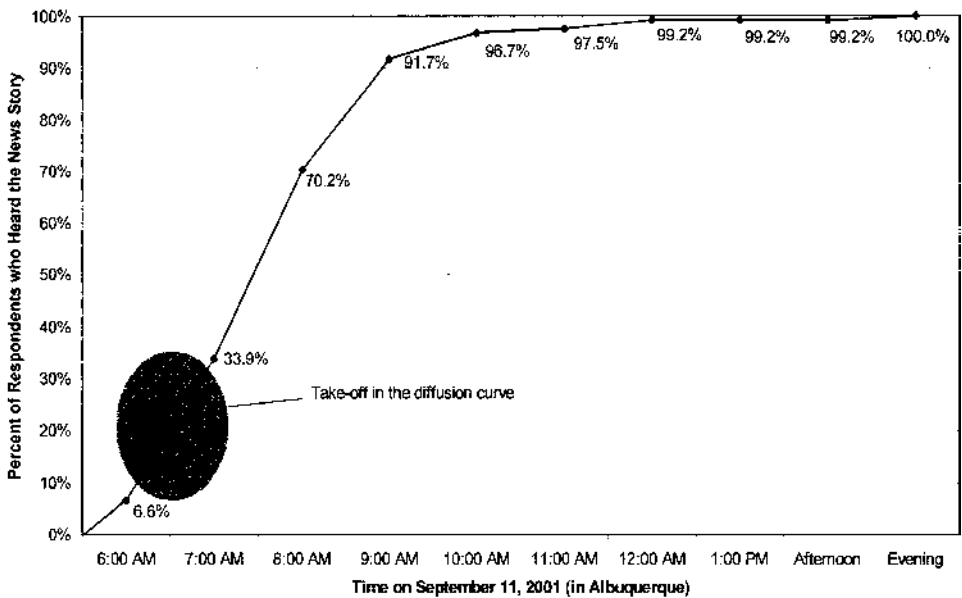
**Table 1.** Time-line for the sequence of the terrorist attacks on September 11, 2001

Time (Eastern Standard Time)	Events
7:58 am	United Airlines Flight 175, a Boeing 767, took off from Boston for Los Angeles with 65 passengers on board.
7:59 am	American Airlines Flight 11, a Boeing 767, took off from Boston for Los Angeles with 92 passengers on board.
8:01 am	United Airlines Flight 93, a Boeing 757, took off from Newark for San Francisco with 45 passengers on board.
8:10 am	American Airlines Flight 77 took off from Washington Dulles International Airport for Los Angeles with 64 passengers on board.
8:45 am	AA Flight 11 slams into the North Tower of the World Trade Center (WTC) in New York.
9:06 am	UA Flight 175 slices through the South Tower of the WTC; this event is broadcast live by US television networks.
9:35 am	Bridges and tunnels are shut down in New York. The Empire State Building and the Metropolitan Museum of Art are evacuated. New York and Washington airports are closed. All commercial planes over the United States are ordered by the FAA (Federal Aeronautics Administration) to land at the nearest airport.
9:40 am	AA Flight 77 hits the west side of the Pentagon, Washington, DC, where high-ranking military offices were located.
10:00 am	The WTC's South Tower collapses, trapping hundreds of rescue workers below, in addition to thousands of workers in the building; debris guts the 4th WTC building below.
10:29 am	The WTC's North Tower collapses.
10:37 am	UA Flight 93 crashes, presumably after its passengers gained control, in Shanksville, PA, 80 miles southeast of Pittsburgh.

### **Rate of Diffusion of News of the Terrorist Attacks**

The rate of diffusion is the cumulative percentage of individuals to whom the news event had spread over time. As in past news event diffusion research, the rate of diffusion of news of the September 11 terrorist attacks formed an S-shaped curve (Figure 1). By noon on Tuesday, September 11, more than 99% of our 127 respondents were aware of the news event, and most were aware of the news event by 9:30 am (Albuquerque time), less than three hours after the first plane crashed into the North Tower of the World Trade Center in New York.<sup>7</sup>

The first terrorist attacks on the World Trade Center occurred at 6:45 am (Albuquerque time). The percentage of our 127 respondents knowing of the terrorist attacks increased between 6:00 and 7:00 am to 7%. Cumulative diffusion reached 34% between 7:00 and 8:00 am, which expanded to 70% between 8:00 and 9:00 am, and then jumped to 92% between 9:00 and 10:00 am. By noon, 120 of the 121 respondents, 99% (six of the 127 did not answer this question) knew about the news event that Tuesday. The relatively rapid diffusion of this



**Figure 1.** The time-of-day that respondents first heard of the terrorist attacks on September 11.

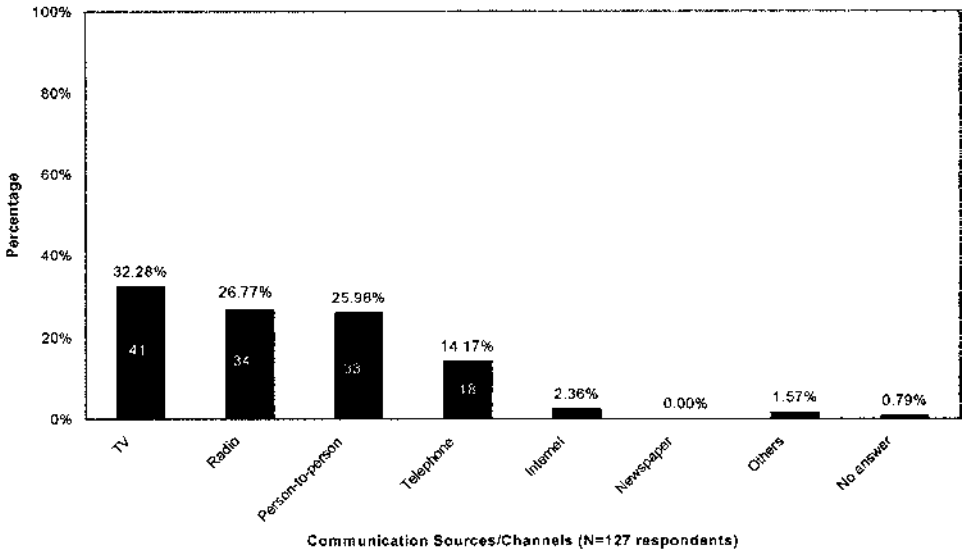
news event was due to its high salience to our respondents, and to its complete dominance of news coverage by the broadcasting media.

The relatively slow diffusion curve in its initial stages may be due to the early hour at which this event occurred (Albuquerque time). Some 6% of our respondents woke up to the news of the terrorist attack and 26% heard of it approximately 45 minutes after it occurred. Many respondents were at home, 'Where the likelihood of being told about the news story by others, and of telling someone else, is more restricted than for individuals who are in a work setting'.<sup>8</sup> The first individuals to hear about the terrorist attacks were mainly at home, and so, despite its high salience, the news event spread slowly at first. At this point, calls on cell phones played their most important role.

After a slow early growth, the diffusion curve took off around 7:00 am. People wanted to share information about the terrorist attacks, and person-to-person communication played a major role in the news event's diffusion. The news or pictures that were seen were so shocking that people felt they had to share the news, and their feelings, with others.

### Sources/Channels of Communication

Tuesday is a weekday, so many people went to work or school. Mayer *et al.*<sup>9</sup> state that: 'People tend to hear of the occurrence of a major news event from another person when the event takes place during a weekday, but from the media when the event takes place on a weekend'. Figure 2 shows that television (32%) and radio (27%) played a major role in how people first heard about the September 11 news event. Broadcasting channels are able to respond quickly to a fast-breaking news story.<sup>10</sup> Person-to-person communication (26%) and telephone (14%) were also important in diffusing awareness-knowledge of the terrorist attacks. Newspapers



**Figure 2.** Communication sources/channels for first hearing about the September 11 terrorist attacks ( $N = 127$  respondents).

were reported by none of our respondents as a source/channel for first hearing about the news event, perhaps because the September 11 morning editions were already distributed before the terrorist attacks occurred. The *Albuquerque Tribune*, the city's afternoon newspaper, was the first to publish the news locally at 10:00 am.

Many Americans turn on their television set on waking up, in order to obtain the latest news. Radio (27%) was frequently named as a source/channel because many people woke up to a radio alarm clock or were in their cars on their way to work when they heard the news. The relatively high frequency of person-to-person communication (26%) is because the news event was so salient that people told complete strangers about it, as well as their family members, friends, and work associates. Basil and Brown<sup>11</sup> stated that: 'When a story is personally relevant to people, a person is more likely to pass the news on to others'. Mayer *et al.*<sup>12</sup> pointed out that: 'News of an important event quickly diffuses throughout the populace by word-of-mouth, while people discover the occurrence of a less important event through the media'.

Figure 2 shows that the telephone also played an important role in diffusing news of the terrorist attacks: 18 respondents (14%) mentioned the telephone as their source/channel for first hearing of the news event. However, the percentage of audience members reporting telephones as their first source/channel about the September 11 news event (14%) is not as high as in the Indian study (25%) by Singhal and others.<sup>13</sup> The Internet played only a minor role in providing news about the terrorist attacks (2%), perhaps because there was little material on websites in the early hours of the terrorist attacks.

Which source/channel provides the most accurate news? Television and radio broadcast every item of information that they could obtain during the first hour or two of the terrorist attacks, even information coming via telephone calls from the public. As a result, certain information was broadcast that later was found to be

incorrect. This bogus information was then passed along by interpersonal channels and by telephone. People who learned of the news event from interpersonal channels, often then sought additional information via the mass media.

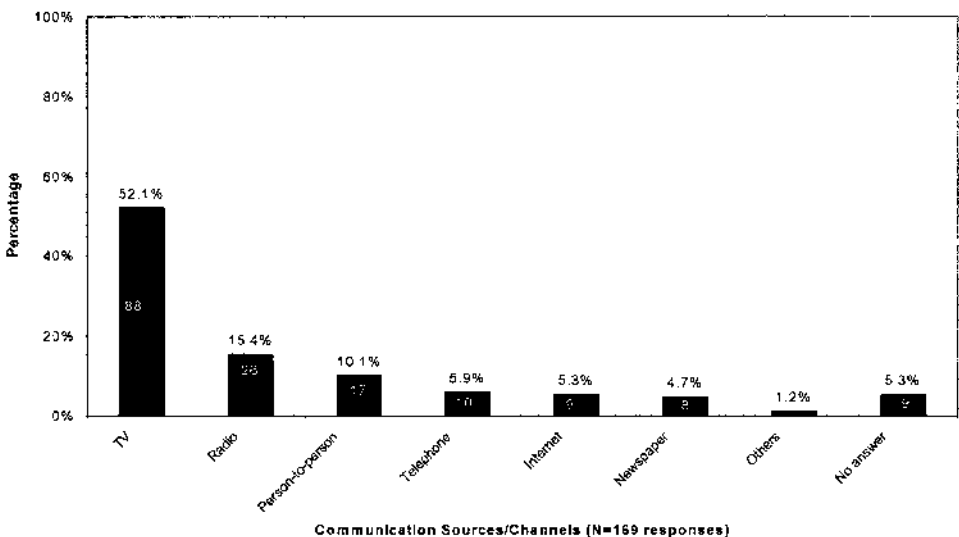
We asked our respondents what they first heard about the terrorist attacks of September 11, 2001. People stated: 'A small plane hit one of the World Trade Towers', 'The World Trade Center and the Pentagon have been divebombed', 'Bomb went off in New York's World Trade Center', 'We are under attack; it was the Palestinians', and 'Pentagon blew up'. These responses indicate that incorrect information about the news event diffused. However, almost all of our survey respondents knew that the World Trade Towers had been hit (68%), fewer mentioned the Pentagon (16%), and only one respondent mentioned that a plane had crashed in Pennsylvania.

### **Respondents' Location when First Learning about the News Event**

Most respondents easily recalled where they were when they first heard about the September 11 news event. Some 68% of the respondents were at home when they first heard of the news event. Many students and other younger people were at home, and were told by their family members about the terrorist attacks. Nearly 13% of the respondents were at work or at the University of New Mexico; 12% were in their car, where they possibly heard the news on the radio or received a call on their cell phone.

### **Sources/Channels for Further Learning about the Terrorist Attacks**

Some 116 of our 127 respondents (91%), after first hearing of the terrorist attacks, searched for further information. Our respondents gave 169 responses (nine respondents did not answer, while many of the other 118 respondents gave multiple sources/channels). Figure 3 shows that television played the major role in



**Figure 3.** Communication sources/channels for further information about the September 11 terrorist attacks ( $N = 169$  responses).

providing further information, increasing from first hearing (32%) to further information (52%). The terrorist attacks were visually powerful, and the television networks broadcast images of the burning World Trade Towers, 'Ground Zero', and the Pentagon.

Obtaining information from radio dropped (from 27% for first knowledge) to 15% of the 169 multiple responses for further information about the news event. Person-to-person communication declined from 26% at first hearing to 10% at further information. The telephone as a communication channel dropped from 14% at first knowledge to 6% for further information. The Internet increased from 2 to 5%.

### **Interpersonal Network Diffusion**

Few previous news diffusion studies asked questions about interpersonal network diffusion. Singhal and others<sup>14</sup> studied the important role of interpersonal diffusion networks for a highly salient news event in India. A *network* is the communication links that connect people through a process of information exchange.

The news diffusion process is shaped by each individual's interpersonal communication network, and 'how the previous person in the diffusion chain judges the news'.<sup>15</sup> When people in a network think that the news is not very salient, the interpersonal diffusion process can slow or stop.

Some 88 of the 127 respondents (69%) told someone else about the terrorist attacks. These 88 people reached, in total, 418 other people, an average of 4.8 people. Some 80% of the 88 respondents told between one and four people; two respondents (2%) told us they each informed over 50 people about the terrorist attacks! Some 41 respondents informed 87 other people by telephone, an average of 2.1 people.

How many of the people who were told about the news event were strangers? One respondent said that he/she told between 50 and 60 strangers about the terrorist attacks (this respondent was teaching classes at the University of New Mexico).

### **Knowledge of the Terrorist Attacks**

The diffusion of a news event depends on: (1) situational factors, such as if someone is at home or at work; (2) salience, how important the news is to the respondent; and (3) time, such as the time of day or the day of the week when the news event happened.<sup>16</sup> Most of our 127 respondents knew: (1) how many planes were hijacked (84%); (2) that the World Trade Towers were completely destroyed (97%); (3) that the Pentagon was not completely destroyed (100%); (4) many respondents knew that the terrorists told the airline passengers to call their family members by telephone (43%); and (5) 51% knew that US government authorities identified who was responsible for the terrorist attack (most respondents said that it was Osama bin Laden).

### **Personal Effects on the Respondents**

Of our 127 respondents, 75 people (59%) said they were personally affected by the terrorist attacks of September 11, 2001. Our respondents made the following statements:

'I am depressed, sad, upset and angry.'

'I now live in a country that is going to war.'

'I am in the British Army, might have to go.'

'Do not complain when something goes wrong in my life, I still have my beloved ones.'

'I no longer want to move to NY.'

'Affected me as an US citizen.'

'Reaffirmed my patriotism.'

'My stepgrandfather was in the WTC and my uncle was in the Pentagon.'

'My grandson is in the service and on full alert.'

'I am in the military and ready to fly.'

'My uncle almost died, but he was late to work.'

Some respondents knew someone who was flying on September 11 or who was working in New York or Washington (13%). Many respondents said that they became more conscious of life, and more thankful that they still had their beloved ones. Other respondents reported they felt less safe (19%), or said that the terrorist attacks were an attack on the freedom of the United States (5%), the first step to a never-ending uncertainty in everyday life. An increase in patriotism (reported by 6%) occurred as many felt that this attack was directed at all American people. Many respondents were depressed, scared, nervous, and said they could not sleep (37%). A few expressed anger against people of the Muslim religion. One respondent stated that: 'This terrorist attack puts a lot of things in perspective'.

Our respondents' reactions are somewhat comparable to those of the public after Princess Diana's death in 1997; Rogers<sup>17</sup> stated that there was a 'widespread outpouring of grief' and explained it as due to *parasocial interaction*, defined as the degree to which audience individuals perceive that they have a personal relationship with a media personality. Millions of people attended a memorial service for Princess Diana, viewed her funeral on television, or brought flowers or candles to Buckingham Palace, in London.

We observed a high degree of patriotism by our Albuquerque respondents. Many felt closely connected to the people that died in the World Trade Towers and the Pentagon. They perceived a parasocial relationship with the victims. Respondents stated: 'Because I'm an US citizen' and 'I'm an American'.

### **Actions as a Result of the Terrorist Attacks**

Some 86% of the 127 respondents engaged in some activity as a result of the terrorist attacks. Some 85 respondents (67%) said that they prayed for the victims. Some 21% participated in memorial events,<sup>18</sup> 16% contributed money, and 8% contributed blood. Some 37% of the respondents displayed a US flag on their home or vehicle. Other people spoke with Muslim friends, volunteered to help in New York, or gave lessons or talks about the terrorist attacks to a class or at a meeting.



**Table 2.** Time of first hearing about the news event by the communication sources/channels utilized ( $N = 127$  respondents)

Time of first hearing	Mass media channels	Interpersonal channels	Other channels or no answer	Totals
6:00 to 6:59 am	6 (5%)	1 (1%)	1 (1%)	8 (6%)
7:00 to 7:59 am	22 (17%)	10 (8%)	1 (1%)	33 (26%)
8:00 to 8:59 am	20 (16%)	22 (17%)	1 (1%)	43 (34%)
9:00 to 9:59 am	16 (13%)	8 (6%)	1 (1%)	25 (20%)
10:00 to 10:59 am	4 (3%)	1 (1%)	1 (1%)	6 (5%)
11:00 to 11:59 am	0	1 (1%)	0	1 (1%)
12:00 to 12:59 am	0	2 (2%)	0	2 (2%)
1:00 to 1:59 pm	0	0	0	0
Afternoon	0	0	0	0
Evening	1 (1%)	0	0	1 (1%)
No answer	—	—	8 (6%)	8 (6%)
Totals	69 (54%)	45 (35%)	13 (11%)	127 (100%)
Average time of hearing	8:38 am	10:03 am	—	—

### Time of Hearing by Communication Source/Channel and Location

Mayer *et al.*<sup>19</sup> proposed that: ‘The length of time between the event’s occurrence and discovery of the event is correlated with how people hear of the event’. These scholars found that the earliest half of the people who obtained information about a news event did so mainly through the mass media, while many of those who heard about the news event later were informed through interpersonal channels. Table 2 shows that the average time of first hearing about the terrorist attacks from mass media channels was 8:38 am, while that for first hearing from interpersonal channels was 10:03 am, about 1.5 hours later.

Mayer *et al.*<sup>20</sup> also found important differences in the time at which people first heard of the 1986 Challenger disaster on the basis of whether they were at home or at work. They<sup>21</sup> argued that: ‘People at work tend to discover the occurrence of a major event from another person, while those who are at home or elsewhere discover the occurrence of the event from the media’. However, we found no relationship between the location of respondents (at work or at home) and the role of interpersonal channels versus mass media channels in first hearing of the terrorist attacks. Perhaps this news event was so salient that its diffusion swamped the usual differences in channels by location at work or home.

### Discussion

Rogers<sup>22</sup> suggested that the news event diffusion research tradition could be rejuvenated by pursuing an additional set of questions (to those studied in earlier research), such as how individuals give meaning to the news event, and how their perceptions affect what actions they take, including how many other people they tell about the news event, and who these people are. Essentially, these new leads to research, amount to taking a social constructionist approach to understanding how audience individuals make sense out of the news event of study, thus moving beyond studying variables related to awareness–knowledge of

the news event, the most common dependent variable in earlier news event diffusion research.

Fortunately, news events are for communication scholars what *Drosophila melanogaster*s (fruit flies) are for geneticists. A new generation comes along very quickly.<sup>23</sup> News event diffusion studies represent a type of 'firehouse research' in which investigators gather data under time pressures.<sup>24</sup> Our present sample of respondents in Albuquerque was modest in size, and non-random in nature. These shortcomings were necessitated by the speed with which we gathered survey data in our quick-response research.

The present investigation differs from previous news event diffusion studies in several important ways. We investigated the emotional impacts of the terrorist attacks, and the actions that people took as a result of hearing about the news event. We followed the leads suggested by Mayer *et al.*<sup>25</sup> in studying location, time of day, day of the week, and other situational variables that might affect news event diffusion patterns. We conclude that many interesting research questions are available for study in future news event diffusion research.

## Notes and References

1. An earlier version of the present paper was presented at the International Communication Association, Seoul, Korea, July 15–19, 2002.
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3. *Ibid.*
4. Everett M. Rogers, 'Reflections on news event diffusion research', *Journalism & Mass Communication Quarterly*, 77, 3, 2000, pp. 561–76.
5. Rogers, *op. cit.*, 1995.
6. Rogers, *op. cit.*, 2000, p. 569.
7. The results of our survey are comparable with a study conducted by Professor Arvind Singhal and others in September 1995, in New Delhi, India. He was traveling by taxi early in the morning, and saw long lines of people at Hindu temples, with many people carrying milk containers. People believed that religious statues were drinking milk. Cows are considered sacred by Hindus, and milk is also perceived as sacred (Rogers, *op. cit.*, 2000, p. 571). Although this news event happened at 4:00 am, the news spread very rapidly. Almost 90% of the 199 respondents heard about the news by 11:00 am. Some 99% of the respondents gained initial knowledge via interpersonal channels, a quarter by telephone and three-quarters through face-to-face interaction. See Arvind Singhal, Everett M. Rogers and Meenakshi Mahajan, 'The gods are drinking milk! Word-of-mouth diffusion of a major news event in India', *Asian Journal of Communication*, 9, 1999, pp. 86–107.
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11. Michael D. Basil and William J. Brown, 'Interpersonal communication in news diffusion: a study of "Magic" Johnson's announcement', *Journalism Quarterly*, 71, 2, 1990, pp. 305–320, quote from p. 316.
12. Mayer *et al.*, *op. cit.*, p. 114.
13. Singhal *et al.*, *op. cit.*
14. *Ibid.*
15. Basil and Brown, *op. cit.*, p. 316.
16. Rogers, *op. cit.*, 2000, p. 572.
17. *Ibid.*, p. 568.

18. Miller found 'that 6 million Americans (6% of the population) participated in a memorial service for the seven astronauts who were killed [in the Challenger explosion]. And even more Americans, 16 percent, viewed a television memorial service'. Jon D. Miller, *The Impact of the Challenger Accident on Public Attitudes toward the Space Program*, DeKalb, Northern Illinois University, Public Opinion Laboratory, Report to the National Science Foundation, 1987.
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25. Mayer *et al.*, *op. cit.*