

Gender and Age Effects on Information-Seeking after 9/11

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This study investigated the relationship between gender, age and information-seeking behavior after the terrorist attacks of September 11th, 2001, drawing on uncertainty reduction and placing the study in the framework of a crisis event. Surveys were collected from 1329 respondents from three different geographic regions in the United States between two and five days after the terrorist attacks. Results indicated that females regarded television and radio as more useful than males, while males reported the Internet as a more useful source of information. Differences for age were also found for use of print media and the Internet. These findings are discussed, along with limitations and suggestions for future research.

Keywords: Gender; Age; Information Seeking; 9/11; Uncertainty Reduction

On September 11th, 2001 (9/11), a group of terrorists hijacked four airplanes. Two were crashed into the World Trade Center in New York City, the third was crashed into the Pentagon in Washington D. C., and the fourth was crashed into a field in Pennsylvania, although it was possibly headed for the White House. Television broadcast images of the second plane crashing into the World Trade Center live,

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as news reports covered the first crash on location. This exemplified the idea of the "theatre of terror" (Weimann, 1990), where terrorists attempt to stage the most spectacular display possible in order to attract media coverage. While terrorists use the media (whether intentionally or not) to create uncertainty, the media is also used by the general public to reduce uncertainty in these types of situations.

This article examines how age and sex impacted the use of media to obtain information to reduce uncertainty immediately following the events of 9/11. Discovering the information-seeking habits of individuals during a crisis is useful for several audiences. Although individuals tend not to display characteristics of panic during a crisis (Fischer, 2002) the ability of those involved in crisis events to correctly process information and make reasoned decisions is often seriously reduced. Crisis events lead to increased uncertainty (Quarantelli, 1988; Seeger, Sellnow, & Ulmer, 1998) in this way, which also leads to an increased need for information-seeking about the event (Brashers, Neidig, Haas, Dobbs, Cardillo, & Russell, 2000). Understanding patterns of information-seeking will allow practitioners, such as first responders, to use the best possible media to give instructions and relay information and help minimize casualties. Knowing the information-seeking habits of individuals based on age and sex will also aid in getting messages to the necessary audiences. Although this may create more work in the initial message design, the results will aid in the management and coordination of the crisis.

One type of crisis that has received a great amount of attention recently is terrorist attacks. Keinan, Sadeh, and Rosen (2003) noted that "[s]ince terrorist acts are by their very nature unexpected, dramatic, exceptionally violent, and extremely distressing, they are perceived by the media as sought-after news items deserving of extensive coverage" (p. 150). Because terrorist attacks generally attract this extensive coverage, they are considered to be threatening crisis events. Crisis events create high uncertainty and threat, both perceived and real (Seeger, Vennette, Ulmer, & Sellnow, 2002). Weick (1988) describes crises as low-probability/high-consequence events that are characterized by fast actions by public officials to counteract the potential threat, and are unanticipated events that throw off everyday patterns of life.

Because they are unanticipated and are accompanied by great risk, crisis events such as 9/11 usually cause a great deal of fear and uncertainty (Quarantelli, 1988). Uncertainty is an uncomfortable state that people generally try to reduce (Berger, 1987). Another source of uncertainty occurs when one's beliefs about the world are challenged (Berger & Burgoon, 1995). Because crises usually begin with some trigger event that indicates something is incongruent with normal procedures, uncertainty is further increased.

Generally speaking, when uncertainty represents danger, as is characteristic of crisis, people actively engage in information-seeking (Brashears et al., 2000). They will look for information from wherever they can find it, and will constantly look for the most current and correct information. Mass media are usually the dominant source (Murch, 1971), possibly because the media are generally considered valuable and timely sources of information (Heath, Liao, & Douglas, 1995). Moreover, media are generally accessible even during a crisis; for example, people usually (although not always) have access to radios in crisis situations.

Griffin, Dunwoody and Neuwirth (1999) have proposed a model describing how people seek information in crises. Part of their model concerns individual differences in information-seeking behavior. They list a variety of characteristics that influence people's risk information-seeking. Although there is little literature investigating the subject of sex and information-seeking during crisis events, one study in Israel about information-seeking and terrorism (Keinan, Sadeh, & Rosen, 2003) found that men prefer to get their information from vivid media (e.g., television) while women prefer non-vivid media (e.g., radio). Further, there is a substantial body of research indicating that women find television news relatively uninteresting (Jensen, 1988; Morley, 1986), may be less likely to pay attention to it (Konig, Reckstorf, & Wester, 1988), and may avoid television news because of its masculine presentation characteristics (Vettehen, Schaap, & Schlosser, 2004). Research also indicates that women may be more reliant on radio and print media (Faber, Reese, & Steeves, 1985) for issue-relevant information. Given the demonstrated importance of sex differences, the following hypotheses are proposed:

- H1: Males will report higher levels of perceived usefulness for television as an information source about the 9/11 attacks than females.*
- H2: Females will report higher levels of perceived usefulness for radio as an information source about the 9/11 attacks than males.*
- H3: Females will report higher levels of perceived usefulness for print media as an information source about the 9/11 attacks than males.*

One medium that does not fit neatly into the "vivid/non-vivid" medium dichotomy is the Internet, given that it presents print, audio, and audio-visual messages. Thus, a follow-up question to hypothesis 1 is:

- RQ1: How will males and females differ in the perceived usefulness of the Internet for information about the 9/11 attacks?*

Another variable that is included in the risk information-seeking model is age (Griffin et al., 1999), although this variable does not systematically predict risk information-seeking behavior. There are some risks that may be more important to some age groups than others. For example, the elderly may see a coming heat wave as a risk (due to being generally less able to deal with extreme temperatures), while younger people may not. In addition, differences may be expected in how different age groups obtain information. For example, the Internet has diffused at a rapid rate in recent years, but this diffusion has occurred more slowly among older media users, particularly the elderly (Cole et al., 2002). Thus, an additional research question is offered:

- RQ2: How will age affect the use of media in information-seeking about 9/11?*

Method

The dataset used for this study consisted of 1329 questionnaires collected in three different cities in the U.S. within five days after the terrorist events of September 11th, 2001. Respondents ranged in age from 18 to 61 with a mean of 22.52 (S.D. 7.22). The sample consisted of 686 females (52%) and 641 males (48%).

Measures

The survey instrument contained a series of measures designed to assess how media were used after the 9/11 attacks. Respondents were also asked about their emotional and behavioral reactions to the events. Standard demographic items were also included that asked about the gender and age of respondents.

Media use was measured by asking subjects how useful TV, radio, the Internet, and print media were for disseminating different types of information the attacks, including the scope of the damage, cause of the tragedy, implications of the tragedy, other threats, closures and cancellations, reassuring information from political leaders, reassuring information from religious leaders, who might have been affected, and rescues and survivors. Responses to these items were recorded on a 1 to 5 scale, with 1 meaning "not useful" and 5 meaning "useful." The nine types of information were assessed for four media types, and scores for each medium were summed and divided to create indices of 1) TV usefulness, 2) radio usefulness, 3) Internet usefulness, and 4) print media usefulness. Alpha reliabilities for the scales were .90, .95, .96, and .94, respectively.

Results

This study used multiple regression analyses to test the hypotheses and research questions in this study, with sex (dummy coded as female = 0 and male = 1) and age as independent variables and the media usefulness measures as dependent variables. The independent variables were simultaneously entered in each of the four analyses (one for each DV), allowing for tests of the relative contribution of each independent variable. All four of the usefulness outcome measures were significantly predicted by the combination of sex and age: television, $F(2, 1164) = 6.14, p < .01$; radio, $F(2, 1121) = 16.52, p < .01$; print media, $F(2, 1076) = 7.67, p < .01$; and the Internet, $F(2, 1056) = 13.45, p < .01$.

Hypothesis one predicted that males would find television (i.e., visual media) more useful for information about the 9/11 attacks than females. The data were not consistent with this hypothesis. Contrary to expectations, femaleness (and not maleness) was a significant predictor of perceived television usefulness ($\beta = -.098, t = -3.35, p < .01$). Females ($M = 4.22, SD = .87$) perceived television slightly but significantly more useful than males ($M = 4.05; SD = .96$).

Hypotheses two and three predicted that females would report greater usefulness of radio and print media than males. As expected, femaleness was a significant predictor of perceived radio usefulness ($\beta = -.168, t = -5.72, p < .01$), as radio was perceived as being significantly more useful for females ($M = 3.13, SD = 1.26$) than males ($M = 2.69, SD = 1.29$). However, sex did not significantly predict print usefulness ($\beta = -.013, t = -.433, n.s.$) (female $M = 2.81, SD = 1.42$; male $M = 2.78, SD = 1.40$).

Research question one asked about potential sex differences in the perceived usefulness of the Internet for information about the 9/11 attacks. Surprisingly, given the

above pattern of women having higher means for all three of the more traditional media, maleness predicted perceived Internet usefulness ($\beta = .083$, $t = 2.74$, $p < .01$). The Internet was perceived as more useful by males ($M = 2.53$, $SD = 1.43$) than females ($M = 2.28$, $SD = 1.50$).

Research question two asked about the role of age in information-seeking about 9/11. Age emerged as a significant predictor of the perceived usefulness of two of the four media. It related inversely to both perceived print media usefulness ($\beta = -.118$, $t = -3.89$, $p < .01$) and perceived Internet usefulness ($\beta = -.132$, $t = -4.35$, $p < .01$). Age did not predict perceived television usefulness ($\beta = -.032$, $t = -1.09$, n.s.) or perceived radio usefulness ($\beta = -.020$, $t = -.677$, n.s.), however.

Discussion

This investigation examined the way in which age and sex influence information-seeking after a crisis event. As has been demonstrated, crisis events produce uncertainty among individuals, creating an uncomfortable state, and information-seeking can be seen as an important way of reducing uncertainty, especially about risks and dangers (Heath & Gay, 1997), which are a hallmark of crises. These drives to obtain information are especially potent when outcomes involved with the uncertain events could be potentially rewarding or harmful (Heath & Gay, 1997) and where the potential risk is completely uncontrollable (Miller, 1987).

It was predicted that males would report finding television more useful for information about the 9/11 attacks, while females would report finding radio and print media more useful. Results indicate mixed support for this hypothesis. Radio was found to be more useful to women, but contrary to predictions, so was television. The time of the event may be a factor that can help interpret these results. The first attack occurred at 8:45 am EST. At the time of the first attack, many men may not have been watching television. Morning television programming is generally marketed towards women (a contention that has long been supported by Nielsen audience measurement data, <http://www.nielsenmedia.com>), and this may have contributed to lower reports of use by males. Similarly, because of the time of the event, men may have only had access to the Internet (at work, for example), thus causing the reports in higher usage. Although those at home may also have had Internet access, the increased network activity that day caused the medium to be slow, making television and radio more attractive if these media were available. Many seeking information on the Internet reported that the Web sites they wanted information from were difficult to access (Jones & Rainie, 2002). For example <http://www.CNN.com> usually generates 11 million page views each day; however, on 9/11, the site was tracking 9 million each hour, further causing network activity to lag (Blair, 2002). The difference in media use and choice that appeared along the lines of sex are useful for further analysis in crisis message design.

The impact of age on usefulness of media type was also investigated. It appears younger individuals view print and the Internet as accessible and useful sources of

information. The finding that younger people reported using print media more than older people is especially interesting and seems to contradict the notion that young people are not reading newspapers (Kohut, 2002; Schoenbach & Bergen, 2002). One potential reason for this finding in the current study is the sample utilized. A large number of the younger people in this study were college students. Many universities (especially large ones) provide free newspapers to the student body that are easily accessed on the way into classes, and newspaper readership on such campuses is among the highest (Curley, 2003). If this is the case, then the perceived usefulness of the medium may be due in part to the accessibility and habitual nature of the media. These notions are ones that should be explored by future research.

There are some important limitations of this study. First, the study used a convenience sample of primarily college students, as indicated by the mean age and standard deviation. Concerns also exist about the memory of individuals as indicated through self-report data. The measures are based upon the memories of respondents between two and five days after the attacks. Although this is a short period of time, there is still a potential for error in the reports of the respondents. Because the study was put together very quickly in order to collect data rapidly after the attacks, many variables were measured with only one item. Unfortunately, this means that the quality of the measures cannot be determined using traditional methods.

Last, the present research on the subject of age, sex, and information seeking is useful for several audiences and purposes. The determination of what is known about the patterns of use and audience response associated with the media coverage of 9/11 is one step in providing crisis communication practitioners with data suggesting directions for the placement and design of future crisis-related messages. In the event of another terrorist attack, such research needs to be replicated and expanded. Further research should also examine other types of crisis events.

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