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How Audiences Seek Out Crisis Information: Exploring the Social-Mediated Crisis Communication Model

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This study explores how audiences seek information from social and traditional media, and what factors affect media use during crises. Using the social-mediated crisis communication (SMCC) model, an examination of crisis information and sources reveals that audiences use social media during crises for insider information and checking in with family/friends and use traditional media for educational purposes. Convenience, involvement, and personal recommendations encourage social and traditional media use; information overload discourages use of both. Humor and attitudes about the purpose of social media discourage use of social media, while credibility encourages traditional media use. Practically, findings stressed the importance of third-party influence in crisis communication and the need for using both traditional and social media in crisis response.

Keywords: Social Media; Crisis Communication; Information Seeking; Public Relations

Search for British Petroleum's (BP's) Twitter site to see how BP communicated about the Gulf oil spill, and you might stumble across the Twitter account @BPGlobalPR, labeled as BP Public Relations. Tweets posted include: "Reports of 79% of the oil remaining in the Gulf are false according to the pie chart we made ourselves;" "We'd like to be remembered as 'The Company That Saved The Gulf.' What we saved it from

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is not important;" and "We are now accepting formal apologies from anybody who has slandered BP in recent weeks." With tweets such as these posted, most can see that this is not an official BP site, but instead a satirical Twitter page criticizing BP's handling of the Gulf oil spill. At the height of the Gulf oil spill crisis, BP's real Twitter account, @BP_America had more than 18,000 followers; the fake BP Twitter account, on the other hand, had more than 190,000 followers. While Twitter requested that the fake BP Twitter account reveal that it was not officially affiliated with BP, the site became a "viral hit" (Ehrlich, 2010). Crisis communication cases such as this have highlighted the increasing importance of monitoring social media and for understanding effective use of social media during crises situations.

Despite this identified importance, research on incorporating online media into crisis management is just emerging. The majority of this research focuses on websites (e.g., Bucher, 2002; Perry, Taylor, & Doerfel, 2003; Taylor & Kent, 2007) and blogs (e.g., Bates & Callison, 2008; Sweetser & Metzgar, 2007) and overwhelmingly concludes that audiences seek out online media for both immediate and in-depth crisis information. However, traditional blog use has decreased as individuals are increasingly using social networking and microblogging sites (Lenhart, Purcell, Smith, & Zickuhr, 2010), indicating the need for crisis communicators to consider other new media sources beyond blogging.

More studies have examined how practitioners and organizations use social media (e.g., Eyrich, Padman, & Sweetser, 2008; Lariscy, Avery, Sweetser, & Howes, 2009) as opposed to how audiences use social media to communicate with and about organizations during crises. As such, a theory-driven method is needed to strategically approach crisis communication via social media, which this study attempts to build. Additionally, this study provides unique insight into crisis communication behaviors both before and during crises. Current theory-based crisis communication research focuses mostly on crisis responses, although strategies for all phases of crisis are recommended for best practices in crisis communication (Seeger, 2006).

The purpose of this study is to build upon the social-mediated crisis communication (SMCC) model (Jin & Liu, 2010; Liu, Jin, Briones, & Kuch, in press) to understand how individuals and organizations use social media to communicate in the event of organizational crises. Through 22 in-depth interviews and an experiment with 162 participants, this study examines information seeking behaviors during organizational crises and primary factors affecting media use in relation to organizational crises. In particular, crisis information form and source were identified and tested as two important factors impacting how audiences seek further information after learning crisis information from a given form and source combination.

Literature Review

Social Media in Strategic Communication

Social media are digital tools and applications that facilitate interactive communication and content exchange among and between audiences and organizations (Wright

& Hinson, 2009). While social media such as Facebook and Twitter receive more attention, social media include a range of types relevant to the study of applied communication, such as blogs, micro-blogs, forums, photo and video sharing, Wikis, social bookmarking, and social networking.

In 2009, for the first time, American adults reported the Internet was their preferred source for information and the most reliable source for news (Zogby Interactive, 2009). Online sources can be ideal for generating timely communication (Taylor & Perry, 2005) and interactive, two-way conversations with audiences (Seltzer & Mitrook, 2007). Through virtual communities, consumers extend their social networks to people they have never met in person and seek out these people regularly for their opinions about products and services (Cheong & Morrison, 2008). During crises, social media can provide a new platform for online word-of-mouth communication, working as an informal communication channel through which personal, product/service, or organization information is conveyed, shared, and processed.

The majority of applied communication research on computer-mediated communication has focused on websites (e.g., Perry, Taylor, & Doerfel, 2003; Taylor & Kent, 2007) and blogs (Bates & Callison, 2008; Sweetser & Metzgar, 2007). However, research on social media usage in applied communication settings is beginning to grow (e.g., Palen et al., 2007; Wright & Hinson, 2009).

Motivations for social media use

Little theoretical work explores individuals' motivations for social media use in relation to organizations or crises; however, applied research shows factors that may have an impact on use of social media. Consumers' creation of their own media content is tied to social functions (i.e., the desire for relationships) and ego-defensive functions (i.e., helping to protect one's ego and validate self image to others), but not to utilitarian knowledge functions (i.e., for personal incentives or to gain knowledge) (Daugherty, Eastin, & Bright, 2008). Furthermore, young adults' motivations for use of newer communication technologies is related most to their need for connectedness, but also to their need for self-expression and, to a lesser extent, for utilitarian purposes (Behairy, Mukherjee, Ertimur, & Venkatesh, 2006; Phillips, 2008).

More narrowly looking at blogs, primary motivations for accessing blogs include: information seeking and media checking, convenience, personal fulfillment, political surveillance, social surveillance, and expression and affiliation (Kaye, 2005). Additionally, consumers who share their opinions online utilize platforms in four ways (Goldsmith & Horowitz, 2006; Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004): (1) *topic-related utility*: making a contribution to add value to the community; (2) *consumption utility*: using contributions from other community members to the user's own benefit; (3) *approval utility*: feeling satisfaction when commended by others; (4) *moderator-related utility*: acting as a third-party to aid community members in lodging a complaint; and (5) *homeostasis utility*: maintaining equilibrium or balance in the user's life.

Channel complementarity theory (Dutta-Bergman, 2004, 2006), which draws from selective exposure and uses and gratifications theories, suggests that audiences select certain types of media based upon the functions relevant to them. These forms of media tend to match audiences' perceptions and ways of thinking, reinforcing their beliefs. Individuals should also be more likely to choose forms of media complementary to the forms they already use. Additionally, recent research on uses and gratifications theory suggests that individuals use media that meets a larger number of their combined needs, such as information-seeking, socialization, and emotional support (Urista, Qingwen, & Day, 2009).

Role of Social Media in Organizational Crisis Communication

A crisis is an event that "creates an issue, keeps it alive, or gives it strength" (Heath & Palenchar, 2009, p. 278). As researches noted (Reynolds & Seeger, 2005; Seeger, 2006), crises can include natural disasters, industrial accidents, and intentional events. Social media use can change drastically in times of organizational crises, as issues emerging online can be more unpredictable, taking dramatic turns and multiplying more quickly than issues that emerge offline; social media, however, can allow more immediate response and interactive communication during crises (Coombs, 2008).

During crises, audiences' social media use increases (Pew Internet & American Life, 2006), and, in some situations, audiences perceive social media to be more credible than traditional mass media (Procopio & Procopio, 2007). Blog users rate blogs to be their most credible source of information (Johnson & Kaye, 2004), and increased blog reading enhances perceptions of blog credibility (Johnson & Kaye, 2010; Sweetser & Metzgar, 2007), although Americans as a whole rate blog credibility much lower (Banning & Trammell, 2006). However, during a crisis, audiences equally rate the credibility of third-person blogs and blogs sponsored by organizations experiencing crises (Bates & Callison, 2008). As journalists increasingly use social media for news generation (GWU & Cision, 2009), social media may have a direct and indirect impact on audiences in times of crisis.

Audiences seek out social media during crises because they provide an unfiltered, up-to-date line of communication (Procopio & Procopio, 2007) and provide unique crisis information that audiences cannot get elsewhere (Bucher, 2002; Sutton, Palen, & Shklovski, 2008). Audiences also use social media for emotional support and recovery from crises (Choi & Lin, 2009; Stephens & Malone, 2009). Sites such as Flickr and YouTube have been used to collect crisis images and information for larger groups of individuals (Palen, 2008b).

Social-Mediated Crisis Communication Model

Scholars recently have called for more theory building in crisis communication research (e.g., An & Cheng, 2010; Avery, Lariscy, Kim, & Hocke, 2010). Dominant crisis communication theories such as situational crisis communication theory (SCCT) (Coombs, 2012) and image repair theory (Benoit, 2004) do not address how

information form (traditional media, social media, or offline word-of-mouth communication) can impact publics' crisis communication behaviors. For example, Coombs and Holladay (2009) noted that effect of media type on publics' evaluation of crisis response strategies is minimal. Also, Coombs (2012) argued that social media make the channels used to deliver crisis responses more complex, but did not incorporate this complexity into SCCT. Yet, emerging research suggests that information form may be as important as—or more important than—the actual crisis response message (Jin & Liu, 2010; Schultz, Utz, & Göritz, 2011). In particular, the social-mediated crisis communication (SMCC) model (Jin & Liu, 2010; Liu et al., in press—see Figure 1), describes interaction between an organization in crisis and three types of publics who produce and consume information before, during, and after crises: (1) *influential social media creators*, who create crisis information for others to consume; (2) *social media followers* who consume the *influential social media creators*' crisis information; and (3) *social media inactives*, who may consume *influential social media creators*' crisis information indirectly through word-of-mouth communication with *social media followers* and/or traditional media who follow influential social media creators and/or *social media followers*. The model further describes how information is distributed by social media directly and indirectly. For example, crisis information is transmitted directly from *influential social media creators* to *social media followers*, but potentially indirectly from *influential social media followers* to *social media inactives*. Furthermore, crisis information is transmitted directly between traditional media and social media. Following up on research explaining why publics seek out social media during crises and the SMCC

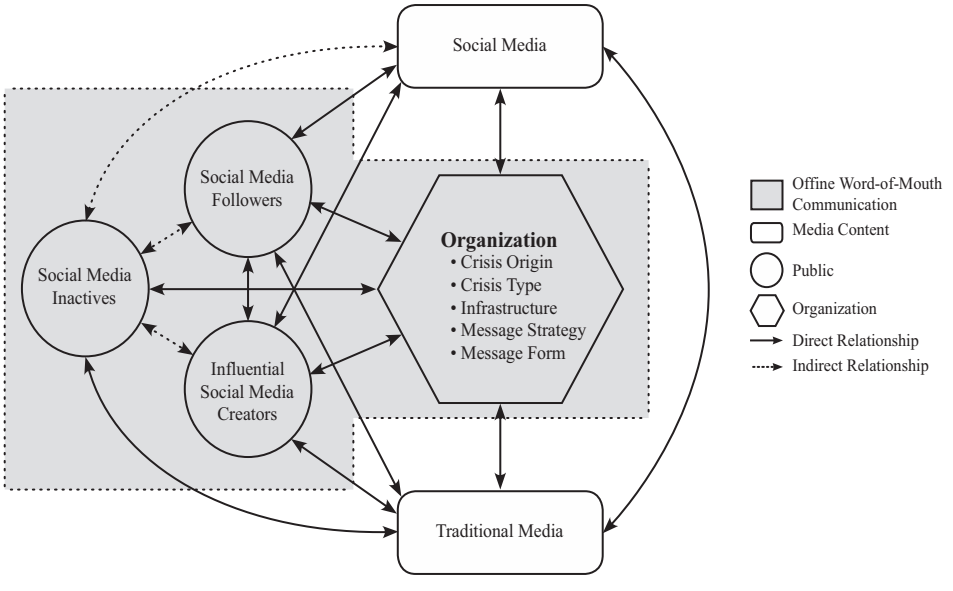

Figure 1. Social-mediated crisis communication model.

model's crisis information flow explanation, this study seeks to add depth to our understanding of:

RQ1: Why, if at all, do audiences seek out social and/or traditional media for crisis information?
RQ2: What factors affect whether audiences seek out social and/or traditional media for crisis information?

Based upon findings from the interviews and gaps in existing crisis communication research noted above, the experiment addressed an additional question regarding how the source and form of crisis information affects the type of media used to seek information. As conceptualized in the SMCC model, *information source* is where the crisis information originates from: either the organization experiencing the crisis or a third party such as an influential social media creator or journalist. Crisis experts have encouraged researchers to focus on multiple actors engaged in a crisis response rather than focusing on how single organizations communicate (Heath, 2010; Waymer & Heath, 2007). *Information form* is whether the crisis information is transmitted via traditional media, social media, and/or offline word-of-mouth communication, which has been ignored by dominant crisis communication theories, but recently is gaining attention from crisis communication scholars (e.g., Jin & Liu, 2010; Schultz et al., 2011; Spence, Lachlan, & Westerman, 2009). Therefore, we ask:

RQ3: How does the source and form of crisis information audiences are exposed to affect their information seeking behavior?

Method

This study included in person in-depth interviews with 22 college students and an online experiment with 162 college students; although audiences of all demographics are increasing in their social media use, college students and young adults are the most avid social media users and their use often sets trends for technological use and emergence (ECAR, 2008; Lenhart et al., 2010). Based off the interview insights, the experiment tested two social-mediated crisis communication phenomena of particular interest that emerged from the interviews.

Study 1: Interviews

Process. Participants were recruited through convenient and purposive means at a large East Coast university. Following the principle of maximum variation (Creswell, 2007), researchers invited individuals with varying degrees of media consumption habits, as identified through a screening, questionnaire to participate in open-ended, in-person interviews. Researchers stopped conducting interviews when the major categories identified in the propositions displayed depth and variations (Corbin & Strauss, 2008). Interviews lasted on average 26 minutes, ranging from 15 to 45

minutes, and were audio-taped and transcribed verbatim. Participants received extra credit for participating in the interviews.

Interview guide. The interview guide asked eight open-ended questions with additional probes related to the research questions. For example, participants who stated they had used social media during a crisis were asked: "For what reasons do you use social media in a crisis?" Because the research questions address how audiences use social media in times of organizational crises, participants were asked about issues with which they self-identified as being involved. Participants were asked to describe recent crises they had encountered, how they first heard about the crisis, and any actions they took after learning about the crisis, such as additional information seeking.

Analysis. Analysis occurred during and after data collection. During data collection, two researchers transcribed interviews while sharing transcripts, observer comments, and memos with the research team. This co-current data collection and analysis process allowed the researchers to capture early themes, ensure consistency in collection, and identify needs for shifting questions or approach. The researchers systematically analyzed the transcripts through Miles and Huberman's (1994) data-analysis procedures: data reduction, data display, and conclusion drawing/verification. Interview transcripts were coded using Atlas.ti during the data-reduction phase. During data display, the researchers merged related codes into common themes using Atlas.ti and exported the data into checklist matrices. Lastly, during conclusion drawing/verification, researchers reviewed the matrices to identify the multiple meanings that emerged from the data, noting commonalities as well as discrepancies in interpretation.

Study 2: Experiment

Participants. A sample of college students ($N = 162$) from a large East Coast university participated in the experiment via a participant pool system. Students who had participated in the interviews were blocked from participating. Each participant completed the experiment protocol individually and received extra credit.

Experiment design. The experiment employed a 3×2 within-subjects design to examine the effects of crisis information form—word-of-mouth communication (WOM), social media (SM), or traditional media (TM)—by crisis information source (third-party or organization). Each participant received each of the three conditions for each of the two independent variables, controlling for individual differences and increasing the sensitivity of the measurements. Crisis situation stimuli were presented in six different orders using counterbalance to randomly distribute variables. Participants were randomly assigned to one of the orders. The dependent variable assessed reported information seeking behaviors.

Based on the types of crises with which students identified during the interviews, the research team wrote six different fictitious crisis scenarios for the experiment, each related to the university (see Table 1). A pre-test of 128 college students ensured

Table 1 Experimental scenarios

Scenario	Source condition	Form conditions
Bomb threat (TM + Third Party)	Journalist (third party)	Campus newspaper (TM)
Riots (SM + Third Party)	Friend (third party)	Facebook post (SM)
Blizzard (WOM + Third Party)	Roommate (third party)	Face-to-face communication (WOM)
Disease outbreak (SM + Organization)	University (organization)	Facebook post (SM)
Embezzlement (WOM + Organization)	University (organization)	Town hall meeting at the University (WOM)
Excessive partying (TM + Organization)	University (organization)	Campus newspaper (TM)

that the scenarios were clearly written and successfully induced experimental conditions.

Procedure. The experiment stimuli were administered online and took 41 minutes on average to complete. Following each crisis stimulus, participants were asked to indicate their agreement with statements about what, if anything, they would do to seek more information after reading a given crisis scenario. The statements included looking for more information (1) from traditional news media (e.g., newspaper, TV news, etc.); (2) from online videos (e.g., YouTube videos); (3) on Facebook from friends' updates; (4) on Facebook from fan page updates; (5) from Twitter; (6) from others' blogs; and (7) by talking to people they know (e.g., face-to-face, texting, phone, email, etc.). Dependent variable measures were on a scale of 1 to 7, with 1 being "Strongly Disagree" and 7 being "Strongly Agree."

Manipulation Checks and Order Effects

Between stimuli, participants were asked to indicate how they perceived the form and source of the crisis situation for the purpose of a manipulation check. To ascertain whether the experimental manipulations were effective, one-way ANOVAs were performed using the Scheffé procedure. For crisis information form, participants were asked to respond to "In this scenario, the information about what happened was delivered by/came from . . .," selecting the number that best indicated their agreement with each of the three listed items (i.e., word-of-mouth communication, Facebook, and online news), with 1 = strongly disagree, 7 = strongly agree. A MANOVA found significant differences between every pair of the three crisis information forms (WOM condition: WOM 5.50, SM 4.77, TM 4.39, $F[2, 959] = 26.63$, $p < .001$, par. $\eta^2 = .053$; SM condition: WOM 3.88, SM 5.62, TM 3.95, $F[2, 959] = 78.44$, $p < .001$, par. $\eta^2 = .141$; TM condition: WOM 3.89, SM 3.99, TM 5.39, $F[2, 959] = 54.03$, $p < .001$, par. $\eta^2 = .101$). For crisis information source, participants were asked to respond to "In this scenario, the information about what happened was delivered by/came from the University" (as opposed to a non-university source), selecting the number that best indicated their agreement with 1 = strongly disagree, 7 = strongly

agree. An ANOVA found a significant difference between the third-party source and university source in the tests (third party condition: third party 4.01, organization 5.42, $F[1, 964] = 127.413$, $p < .001$, par. $\eta^2 = .117$).

A series of *t*-test statistics were also run to determine if there were any problematic order effects on the dependent measures and manipulation check measures. Significant differences were found in only 35 instances, in spite of the likelihood of more instances due to *listwise* error when 390 *t*-tests were done.

Results

Study 1: Interviews

Media use before crises. We first addressed why participants use social and traditional media regularly to compare to use during crises, and found four main reasons: *entertainment, relationship maintenance, networking*, and *education*. In addition, participants used traditional media on a daily basis for *education* and *entertainment*.

All participants emphasized that they used social media for entertainment and relationship maintenance purposes. For example, a participant noted, "For social media, my main purpose for using it is to stay in contact with people," and another observed, "Entertainment value is really the root reason I use social media." Related to relationship maintenance, five participants also mentioned using social media for professional networking. For example, one participant stated: "I will look at their Twitter feeds because a lot of times they will put up postings, such as 'If you're interested in this, contact this person,' and that's kind of a good way to start networking." Seven participants also mentioned using social media for educational purposes. For example, a participant stated: "Sometimes Facebook is the quickest news source because everybody's posting about the most recent thing that's important to everyone, so sometimes I'll find out about it there and then go read the story on a news website."

Participants primarily used traditional media for education. For example, one participant said: "The newspapers and stuff are just for educational [*purposes*] and so I know what's going on in the world so I'm not just living in a bubble." Several participants mentioned using traditional media for entertainment. For example, one participant noted: "There's usually a section in the *Washington Post* about travel or something, and I go to D.C. a lot, so sometimes I look in there for good places to go. Also I look in the movie section just to see the reviews."

> *RQ1: Why, if at all, do audiences seek out social or traditional media for crisis information?*

Participants discussed their communicative behaviors during crises, while researchers probed for their media use. The participants discussed 17 different crises with riots after a recent major athletic victory and the H1N1 flu outbreak discussed most frequently. For the majority of the crises discussed, the participants remembered first hearing about them through in-person word-of-mouth communication ($n = 11$),

followed by TV news ($n = 9$), directly experiencing the crisis ($n = 9$), and Facebook ($n = 7$). Less common media for first finding out about crises were text messages ($n = 4$), email ($n = 2$), radio, blogs, and news magazines ($n = 1$ each).

For all crises, the participants first looked for information about why and how the crisis occurred, followed by accountability. However, when participants were highly involved in crises they also wanted to know what response steps to take. In other words, participants stating that crises personally affected them wanted to know information such as where to get an H1N1 flu shot, how to repair their recalled Toyota, and how to prepare for the blizzard. For example, one participant said, "I just wanted to know basically how many people had it [H1N1] and then what to do. I knew that some of my friends had it, and I was just like 'stay away.'"

Through discussing various crises, two themes emerged explaining why participants primarily used social media during crises: *insider information* and *checking in with family/friends*. In addition, one theme—*education*—emerged explaining why participants use traditional media during crises. Almost all participants mentioned using social media during crises to obtain insider information. For example, talking about riots after a major athletic victory, one participant said, "So when I went up to my room, obviously it wouldn't be in the news yet because it was just happening so I went on Facebook, and I noticed there were some people that had Facebook statuses about it and about police being too brutal or something." Most participants used social media during crises to check up on friends/family. As a participant said, "For the earthquake in Chile, I had a friend who is Chilean. So, I talked with him on Facebook for a little longer than I usually do." Finally, a majority of participants used traditional media during crises for educational purposes. For example, one participant noted, "Well, for example, during 9–11 I started watching TV more for the news . . . So if something dramatic and ongoing is happening, I will turn on the news to at least know what is going on and how dramatic it is."

RQ2: What factors affect whether audiences seek social or traditional media for crisis information?

Participants identified factors shared for social and traditional media as: *convenience, involvement, personal recommendation, and information overload*. For social media, two additional factors emerged: *humor appeal* and the *perceived function* of social media. For traditional media, one additional factor emerged: *credibility*.

Almost all participants reported that *convenience* initially was a driving force behind the media they used during crises. Participants mentioned convenience in terms of Facebook, email, and headlines on email pages. For example, one participant said, "I think I found out a lot of my information about Haiti just through random news articles that would just pop up through like the Yahoo opening page." Those that actively searched for information typically relied on search engines rather than specific sources. As one participant stated, "I just did some Google searches [*after hearing about the Toyota recall in the news*] and that led me to various websites." Most strikingly, only four participants mentioned actively seeking out websites of

organizations experiencing crises. For example, one participant said: "I did go to the Red Cross because I just wanted to get the number I could text and send that money to them [after the Haiti earthquake]."

Involvement was another theme for media use in crisis. If participants personally experienced a crisis or had a close friend or family member experience the crisis, they were more likely to consume media. For example, one participant said: "It [*riots after major athletic victory*] was right here in our own environment . . . So I was more likely to find out more information on it. I knew everyone was going to be talking about it the next day."

Receiving a *personal recommendation* was a theme mentioned by most participants to explain crisis media consumption. Recommendations came from friends, parents, and professors. As a participant said, "There were different groups on Facebook. Someone invited me to a group that said for every one million people that join, I'll donate this amount of money to Haiti. So, I joined the group and read more about Haiti." Finally, participants mentioned *information overload* to explain why they did not consume media during crises. For example, a participant said: "I'm not going to lie. I probably ignored almost all of those emails because by the time the University starting doing things I was so H1N1'd-out."

For social media only, several participants mentioned *humor appeal* as a reason for using media during crises. As one participant stated, "There was a video that was making a fun of [H1N1] because it's called the swine flu and it's not from pigs actually. So I learned what it was actually about from the video." As a participant mentioned, however, lack of humor appeal was a reason for not using social media in the event of crises: "If I really just want to watch something that is silly, funny, I'm not going to like search Haiti videos on YouTube—that seems a little depressing."

Participants explained not using social media during crises because the *perceived function* of social media is not crisis communication. As a participant said, "I don't think I've seen that many people on Facebook pay attention. So, I don't even see that much about those types of crises on Facebook." Participants mentioned using social media because traditional media had not yet covered the crisis, as was the case with the athletic riots. Finally, all participants agreed that traditional media generally are more *credible* than social media for crisis information. As a participant noted, "You probably would want to go somewhere that is known for being reliable for that, not just someone writing willy-nilly about something like swine flu."

Study 2: Experiment

Similar to the interviews, participants were also asked in the experiment about their regular information seeking behaviors. Most participants reported using Facebook ($M = 4.94$, $SD = 1.83$) more than other forms of social media such as blogs ($M = 2.79$, $SD = 2.00$) or Twitter ($M = 2.09$, $SD = 1.86$), which was used the least. Use of text messaging ($M = 5.00$, $SD = 2.00$) and phone calls ($M = 4.96$, $SD = 1.81$) was also similar to that of Facebook for information seeking. Traditional media such

as television ($M = 5.19$, $SD = 1.53$) was used slightly more for information seeking than was Facebook; however, newspapers ($M = 4.08$, $SD = 1.71$) were used less than Facebook. Interestingly, most participants reported face-to-face communication ($M = 5.76$, $SD = 1.35$) as a source of information seeking.

Additional experiment results reveal how participants used media specifically for crisis information. RQ3 asked how audiences seek out different media (word-of-mouth communication, social media, and traditional media) for crisis information as a function of the form and source of crisis information. First, significant interaction effects of crisis information form and source were evident in the likelihood of participants to continue seeking crisis information from traditional media ($F[2, 316] = 33.72$, $p < .001$, par. $\eta^2 = .18$). Participants were most likely to use traditional media ($M = 5.96$, $SE = .12$) as a source of more information after hearing crisis information from traditional media when the crisis information was sent from a third party source (see Figure 2).

Second, significant interaction effects of crisis information form and source were evident in the likelihood of participants to seek information from online videos about crises ($F[2, 318] = 22.67$, $p < .001$, par. $\eta^2 = .16$). Participants were most likely to seek online videos ($M = 5.39$, $SE = .15$) for more information after hearing crisis information from social media when the crisis information was sent from third party source (see Figure 3). Interestingly, participants were least likely to use online videos when the crisis news came from the organization via social media.

Third, significant main effects of both crisis information form ($F[1, 314] = 4.30$, $p < .05$, par. $\eta^2 = .03$) and source ($F[1, 157] = 27.67$, $p < .001$, par. $\eta^2 = .15$) were

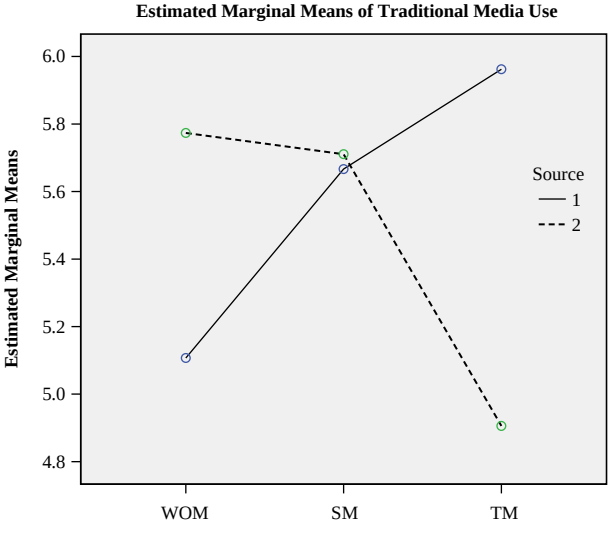

Figure 2. Traditional media information seeking. Note: 1, third party; 2, organization.

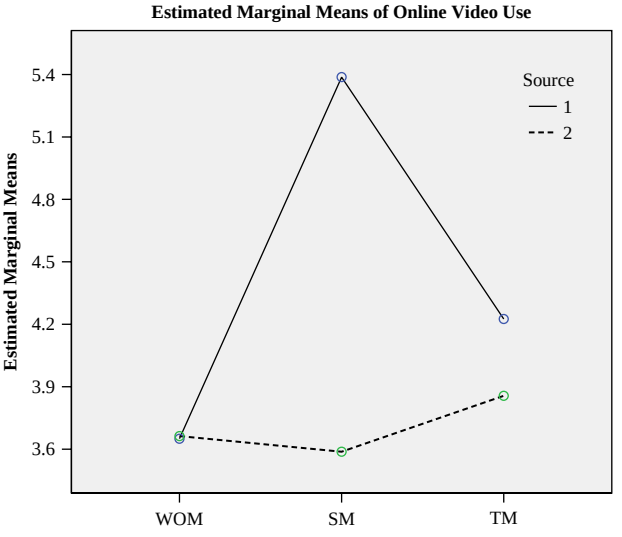

Figure 3. Online videos information seeking. Note: 1, third party; 2, organization.

evident in the likelihood of participants to seek information from friends' Facebook page updates about the crisis. On one hand, participants were more likely to seek information from friends' Facebook pages after hearing the crisis information from social media ($M = 4.96$, $SE = .13$) than from traditional media ($M = 4.61$, $SE = .14$) ($p < .05$). On the other hand, they were most likely to use friends' Facebook updates for more information when crisis information was sent from a third party source ($M = 5.05$, $SE = .12$) than from the organization ($M = 4.48$, $SE = .13$) ($p < .001$).

Fourth, significant interaction effects of crisis information form and source were evident in the likelihood of participants to seek information from Facebook fan page updates about the crisis ($F[2, 316] = 4.06$, $p < .05$, par. $\eta^2 = .03$). Participants were most likely to seek Facebook fan page updates ($M = 4.72$, $SE = .18$) for more information after hearing crisis information from social media when the crisis information was sent from a third party source (see Figure 4).

Fifth, significant main effects of crisis information form ($F[2, 314] = 4.24$, $p < .05$, par. $\eta^2 = .03$) and source ($F[1, 157] = 8.73$, $p < .01$, par. $\eta^2 = .05$) were evident in the likelihood of audiences to seek information via interpersonal channels about the crisis. Participants were more likely to seek information from interpersonal channels after hearing the crisis information from social media ($M = 6.00$, $SE = .11$) than from traditional media ($M = 5.73$, $SE = .12$) ($p < .05$). They were also most likely to use interpersonal communication channels for more information when the crisis information was sent from a third party source ($M = 5.94$, $SE = .11$) rather than from the organization ($M = 5.72$, $SE = .11$) ($p < .01$). Finally, there were no significant effects of crisis information form or source on audiences' use of Twitter and blogs for further crisis information seeking.

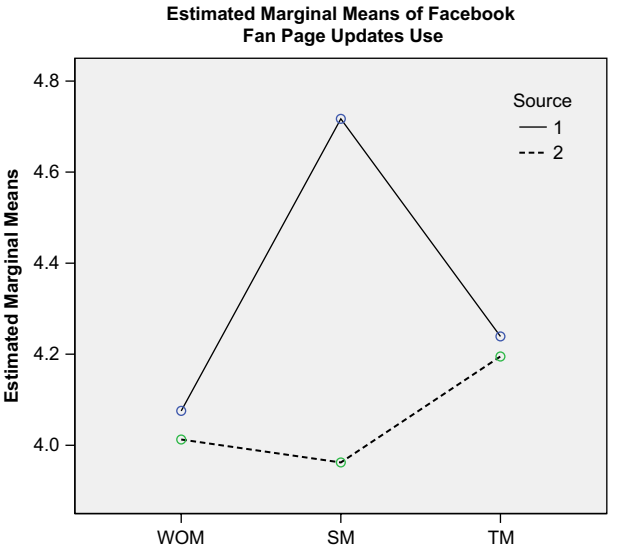

Figure 4. Facebook fan page updates information seeking. Note: 1, third party; 2, organization.

Discussion

Informational and Emotional Needs as Primary Motivations for Social Media Use

The SMCC model states that influential social media creators affect blog followers by providing issue-fit opinion leadership to address followers' motivations for informational and emotional needs related to the crisis or issue (Jin & Liu, 2010; Liu et al., in press). Data answering RQ1 and RQ2 provided insights about why audiences seek different forms of information and what factors affect this behavior, and informed RQ3—how source and form of crisis information affect information seeking behaviors. The most obvious finding about crisis information forms is that audiences in our study do not actively use blogs or Twitter during crises. However, participants still use forms of social media such as Facebook and text messages during crises to share or obtain insider information and to check in with family and friends, as supported by prior research (ECAR, 2008). This finding regarding insider information also mirrors findings from Sutton, Palen, and Shklovski (2008) that audiences used social media to gain "backchannel" information in a wildfire crisis. These results indicate that utilitarian knowledge functions contribute to publics becoming *influential social media creators*, whereas the desire to obtain insider information contributes to publics becoming *social media followers* (Behairy, Mukherjee, Ertimur, & Venkatesh, 2006; Phillips, 2008).

Traditional media primarily were used for information needs because participants perceived traditional media—especially broadcast news and newspapers—to be more credible than social media. This finding matches prior research stating that some social media is seen as less credible and sought out less frequently by publics during

crises. This finding, however, conflicts with other research suggesting social media is perceived as more credible during crises, especially for heavy users of social media (Bates & Callison, 2008). Findings from this study suggest that perceived credibility of the information form trumps publics' regular media consumption habits before crises occur.

Indirect Influence of Media

Participants frequently mentioned passively receiving information about crises through logging onto Facebook and email. If friends posted links to crisis coverage, participants were more likely to read these links via Facebook than going to the original news sources for information. However, there appears to be a tipping point—once participants notice a discussion trend in social media networks, they are more likely to seek out traditional media coverage of these crises. Most interview participants only read blogs during crises if another news source linked to a blog or through passive Web searching, rather than through noticing trends in their friends' blog reading or posting.

Effects of Crisis Information Source and Form on Information Seeking

The results of this study's experiment show that the source and form of crisis information affect audiences' information seeking behaviors. When hearing about crises through a third party via social media, research participants were more likely to seek social media sources and even interpersonal communication. When participants heard about crises through traditional media via a third party, they were most likely to seek information via traditional media. Participants were most likely to use the same type of media in which they heard about the crisis to seek information, except in the case of interpersonal communication where participants mostly first heard about crises via social media. These findings extend channel complementarity theory, which suggests individuals are more likely to choose media serving the functions most relevant to them (Dutta-Bergman, 2006). Channel complementarity may also be fostered by how individuals first learn about a crisis in addition to their need to consume channels with similar functions. Further, the source of the original crisis information may affect which information channels individuals consume.

Interestingly, when the crisis information came from the organization, participants were not as likely to look for more information. In all significant cases, participants were more likely to seek information through all types of media when initial information came from a third party and not from the organization.

Practical Applications

So what do these findings mean for crisis communication research? While organizations are investing more resources into social media sites and campaigns, participants in our study are not necessarily seeking crisis information via these sites.

Participants were most likely to seek further crisis information via social media when information came from a third party through social media, and interview findings stressed the importance of personal recommendations and influence. Third-party influence—such as trusted online journalists, friends, and acquaintances—prompted individuals to visit social media and use offline word-of-mouth communication (i.e., texting, phone conversations, and face-to-face conversations) for more information. These findings support previous research on uses and gratifications theory that indicated individuals use media that meet a larger number of their needs (e.g., information-seeking, socialization, and emotional support), and that individuals use social media as a way to have a more immediate personal connection to other individuals (Urista, Qingwen, & Day, 2009).

Face-to-face communication was the most reported form of crisis communication for participants, followed by television, text messaging, phone calls, and Facebook. Twitter was used the least, followed by blogs. Although Twitter may seem like a timely, accessible venue for crisis information, Twitter is not appropriate for communicating with all audiences. For young adults in our study, blogs and Twitter were not popular sources of crisis information. Findings suggest professionals should be careful and deliberate use of social media, while not neglecting traditional media in crisis responses. In other words, social media should complement traditional media during crises (Jin & Liu, 2010; Palen et al., 2010). Further, organizations need to thoughtfully incorporate social media into crisis communication plans; a recent study in *PRWeek* shows that worldwide, only 20% of organizations have incorporated social media into crisis communication planning (Maul, 2010).

Also, key influencers need to be identified for key stakeholders during crises, especially those that engage in word-of-mouth communication. As Palen (2008a) and Palen et al. (2010) suggested, the sharing of user-generated content, particularly in disasters or emergencies situations, may help to spread information the organization wishes to share. Organizations should consider creation of mechanisms to support spread of information by stakeholders and identify key influencers in advance.

Finally, as highlighted earlier, participants were more likely to seek additional information about crises through other forms of media when they heard about crises through a third party. Thus, organizations need to ensure that crisis communication information comes from other trusted sources of information, in addition to coming from the organization.

Limitations and Future Research

This study is limited by several factors that impact applying the results to practice. The study included only one audience: college students at a single university. While this audience was chosen purposively to explore young adults' media usage and to tailor crisis scenarios towards one audience, the findings are not generalizable to other populations. Also, instead of hypothetical crisis scenarios, real crisis situations directly affecting audiences would provide further information on the validity and reliability of the study's results. In addition, our study did not segment audiences by

involvement with a given crisis situation, which would enhance the specificity of experimental design.

Additional experiments with a national random sample are encouraged for further analysis into audiences' information seeking, as are surveys with organizations frequently experiencing crises to provide insight into real-world crisis information-seeking behaviors. Future research should also examine the content sharing relationship between social and traditional media and the effect on audiences' issue awareness.

To guide strategic crisis management, crisis managers need communication theory that incorporates crisis information and source as well as the spectrum of crisis communication phases, rather than just the response phase; additional research is needed to explore crisis information seeking behaviors after crises occur and in the recovery stage of crises. Further, reversed effects (i.e., how crisis information seeking affects the optimal combination of crisis information form and source) would also be an interesting topic for researchers to further explore. Finally, additional research needs to examine SMCC factors beyond crisis information form and source that affect publics' communicative behaviors before, during, and after crises, including crisis origin, crisis type, organizational infrastructure, and message strategy.

Conclusion

In sum, this study provides a unique look into social media use for crisis communication by examining how audiences use varying forms of media for information seeking. As previous research has focused more on how professionals use social media to provide crisis information, this study provides valuable insight on audiences' behaviors. Findings from this study suggest that crisis information form and source affect audiences' information seeking behaviors and are an important addition to crisis communication theory. Without theory that accurately reflects the current media landscape, communicators will be at a disadvantage for proactively managing crises using evidence-based approaches.

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