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Trauma in Real Time: Talking and Avoiding Online Conversations

About the Death of Princess Diana

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Abstract

Research on talking about trauma as a means of coping typically relies on retrospective self reports. The present study analyzed Internet chat room conversations about the death of Princess Diana for four weeks after her death to begin to map the ways people naturally talk about shared disasters and to seek evidence of social stages of coping. In the first hours and days, people exhibited high levels of personal and emotional responses to the loss of Diana. Linguistic analyses revealed strong evidence of collective shared grief in the first week, with a shift from greater levels of collective language to individual language after the first week. Ratings of the chat room transcripts by judges revealed a shift from largely compassionate to largely hostile comments over the four-week period. Advantages and complications of internet chat rooms as a data source are considered.

## Trauma in Real Time: Talk and Avoiding Online Conversations

### About the Death of Princess Diana

When a community experiences a shared traumatic experience such as an industrial accident, a natural disaster, or the death of an important person, individuals typically talk with each other about the collective traumatic event. The presence of others who have experienced the same event can provide an automatic support group of people with whom to share thoughts and feelings. In a study of witnesses and survivors of an explosion of a Danish supertanker in 1994, Elklit (1997) found that spending time with coworkers was a primary coping strategy among survivors. The shared experience can even provide a temporary release from social norms that suppress spontaneous talking with strangers. People who survived the Loma Prieta earthquake in San Francisco in October 1989 reported that the experience “brought the city together,” whereas people in Dallas were observed talking to complete strangers about the Persian Gulf War (Pennebaker & Harber, 1993).

Researchers have investigated reasons people discuss upsetting experiences, including expressing emotions (Rimé, 1995), reducing anxiety (Festinger, 1954), and seeking support (Davison, Pennebaker, & Dickerson, 2000). The temporal element of talking about trauma has also been explored. For example, although some people continue to talk about traumatic events years after their occurrence (Lehman, Wortman, & Williams, 1987), most sharing occurs in the period immediately following the event (Rimé, Mesquita, Philippot, & Boca, 1991). Although social sharing is prevalent after a traumatic experience, there is compelling evidence that this pattern is short-lived. San Franciscans reported that they talked about the Loma Prieta earthquake at very high levels in the first two weeks following the disaster; however, from two to six weeks after the earthquake, frequency of talking about the event dropped dramatically. Telephone

interviews suggested that people began to actively discourage others from talking about their experiences and inhibiting their own conversations, even though they reported a continuing desire to discuss their own experiences (Pennebaker & Harber, 1993).

Noting similar patterns in talking after the Loma Prieta earthquake and the Persian Gulf War, Pennebaker and Harber (1993) developed a social stage model of coping with widespread disaster. In the first of three stages, known as the emergency phase, people think and talk about the traumatic event at very high levels. Approximately two weeks after the event, the inhibition phase emerges, during which people continue to think about the event but stop talking about it. Physical and social problems, such as upsetting dreams or social conflicts, surface at this time. By six to twelve weeks after the event, most individuals generally adjust to the situation and no longer experience heightened rumination about the event. This final stage is known as the adaptation phase.

The intense levels of talking about the traumatic event serve useful psychological purposes. When people have the opportunity to discuss their feelings about an upsetting experience, they are more likely to experience fewer negative feelings if they encounter the upsetting event a second time (Mendolia & Kleck, 1993), decreased painfulness of thoughts surrounding traumatic experiences (Murray & Segal, 1994), and improved physical and mental health (Pennebaker, 1997; Smyth, 1998). On the other hand, listening to the problems of others is an emotionally arousing event (Christophe & Rimé, 1997), causing people already burdened with their own emotional responses to avoid reminders of the event. The dilemma posed by these conflicting needs of talking and avoiding talking leads people to use methods of social constraint to inhibit personal disclosure by others. Individuals may attempt to stop the unwelcome disclosure by direct means, such as making explicit requests to stop talking about the painful

subject or by changing the subject, or through such indirect means as giving awkward or ineffective responses (Lehman & Hemphill, 1990; Helmuth & Steinitz, 1978), ignoring or avoiding the speaker, or minimizing the problems (Lepore, Silver, Wortman and Wayment, 1996).

Research on coping with trauma, whether large-scale and community wide, or small-scale and individual in scope, typically relies on self-reports to assess the types of coping or the responses of others that have occurred in the past. The problems inherent in self-reports are well established, and include the sometimes-mistaken assumptions that people know what they feel or believe and are able to accurately remember and report their thoughts or actions. Very little research has examined the ongoing process of coping with a traumatic event as it is unfolding.

One of the primary purposes of this project was to map the ways in which individuals talk about collective trauma as it is being experienced. The emergence of on-line Internet chat rooms as a forum for social conversation provides an opportunity to unobtrusively observe and analyze the ways people talk about crisis situations, such as severe illness (Davison, Pennebaker & Dickerson, 2000); personal identity issues, such as publicly revealing a stigmatized identity (McKenna & Bargh, 1998); or collective traumatic loss such as the recent death of Princess Diana. With more than 100 million Internet users worldwide in 1998 and more than 100 countries connected to the global network, chat rooms on the Internet offer opportunities for people to communicate with others around the world. Most online services such as America Online (AOL) offer easy to use chat room features. Technically a communication channel, the chat room allows computer users to communicate with each other in real time. Users enter text by typing on the keyboard, and the text appears on the computer monitors of all users who are in the "room" (Mecklermedia Corporation, 1998), allowing an ongoing conversation to take place.

According to their 1999 Online Annual Report, AOL, one of the world's largest Internet online services, had a membership of 17.6 million as of June 30, 1999, with members averaging more than 52 minutes per day online with AOL (AOL Corporation, 1999). Both membership and time spent online has increased dramatically since AOL's 1998 Annual Report; at that time, members spent 40 minutes per day online, and membership on September 30, 1998 was a mere 13.5 million. Another measure of usage examines the number of users online simultaneously. During the peak first quarter of 1998, AOL reported a record 789,000 simultaneous users, compared to 462,000 simultaneous users in the first quarter of 1997 (AOL Corporation, 1998).

In a recent report on the Internet and society, 24% of Internet visitors reported using the Internet for the purpose of talking in chat rooms (Nie & Erbring, 2000). This suggests that approximately 4.25 million AOL members use the chat room feature of their Internet service. Commercial online services like America Online offer open-topic chat rooms such as "Town Square," subject-specific chat rooms, such as "News and Politics," as well as country-specific rooms. These narrower options allow users to enter rooms in which the discussions are likely to match their conversational interests. In the days following the death of Princess Diana, people from North America and Europe joined the "UK Experience" chat room at a higher-than-usual rate to talk with others about the event, as well as about unrelated topics. By examining conversations that took place in these chat rooms after the death of Princess Diana, we intended to evaluate the conflicting processes of social support and social constraint evident in ongoing online conversations about the unexpected death of Princess Diana.

When Princess Diana, her companion Dodi Fayed, and their driver were killed in an automobile accident in Paris on August 30, 1997, the worldwide reaction was immediate and emotional. Heartfelt messages of sadness and condolence were expressed by world leaders and

citizens<sup>1</sup> (Boshoff & Dutter, 1997). The magnitude of the outpouring of emotion was unexpected; in response to the hours-long wait to sign one of the five books of condolence at St. James' Palace in London, an additional 10 books were made available (Slackman, 1997). A two million dollar increase in flower shipments to Britain occurred because mourners placed hundreds of thousands of flowers at Buckingham Palace and at Diana's home at Kensington Palace as a memorial ("Running on Flowers," 1997). Even the World Wide Web was burdened by an overload of visitors to sites relating to Princess Diana. Pre-existing sites for the British monarchy and Princess Diana were jammed and, in some cases, shut down due to the increased volume of hits (Serju-Harris, 1997).

We had two purposes for the present study. First, we sought to track and map naturally occurring discourse over time. By examining transcripts of chat sessions and submitting them to linguistic analysis, we hoped to discover how people actually talk in the first hours, days and weeks following a traumatic event. This type of analysis can provide insight into the human perspective: To what degree do people express their sorrow or shock, seek to blame, address the consequences of the event, or help one another? Is there a temporal element to the frequency of these conversations? Answering these questions will allow us to begin to map the ways in which individuals actually talk about collective trauma without relying on their self-reported memories.

Our second purpose was to uncover additional evidence of social stages of coping. Based on research by Pennebaker and Harber (1993), we would anticipate an emergency phase of approximately two weeks, during which people would be talking at high levels about Princess Diana and her unexpected death. However, because of the occurrence of her funeral one week following her death and the closure provided by that ceremony, we suspected that the emergency stage would be slightly shortened.

## Method

### Participants and Data Source

From August 30, 1997, approximately one hour after the announcement of the death of Princess Diana, to September 26, 1997, transcripts from chat sessions in “The UK Experience” chat room on AOL were downloaded in 5 to 10 minute segments, several times per day. This chat room was chosen because we believed that members who specifically wanted to talk about this event might choose this particular chat room, rather than an open-topic room. Over the 28-day period, 121 session files were downloaded and saved as separate text files. Approximately 3,139 participants were involved in ongoing conversations in “The UK Experience” chat rooms on AOL during this four-week period. Conversations were not disturbed or entered. The number of participants in each group ranged from 4 to 128, with an average group size of 29.9 individuals.<sup>2</sup> Although AOL places a limit of 23 participants in a chat room at any given time, participants leaving the room can be replaced by others entering it. Groups with large numbers of participants were experiencing rapid turnover. Because participants in chat rooms select unique pseudonyms, it was assumed that each pseudonym represented one person. Some participants ( $n = 324$ ) were present in multiple sessions. No personal information was collected from the participants.

For the purpose of comparing word usage, a control group of daily posts was collected. Conversations from the same chat room were downloaded in 10-minute segments, approximately 5 times per day for 17 consecutive days beginning December 29, 1999 and ending January 14, 2000, resulting in 77 text files. During this 17-day period, 1,046 participants were involved in ongoing conversations in “The UK Experience” chat rooms on AOL. The number of participants in each group ranged from 6 to 35, with an average group size of 17.3 individuals. This period

was selected because of the general anxiety and worldwide focus on the passing of the millennium, thus providing a significantly newsworthy event that had the potential to produce a similar pattern of response over time. The 69 control chat files were analyzed together to serve as a general baseline by which to evaluate the Princess Diana discussions. For both the experimental and control sessions, a minimum of 35 words was required to be included in the analyses. Eight control and nine Diana sessions were dropped because they contained fewer than 35 words, resulting in a final count of 112 Diana sessions and 69 control sessions.

### Analysis Strategy

Linguistic analysis. To assess the linguistic dimensions of the text, the files were submitted to analysis by LIWC, the computer-based text analysis program (for a more complete description, see Pennebaker & Francis, 1999). LIWC analyzes text probabilistically by comparing text on a word-by-word basis to an internal dictionary of 2,290 words and word stems. The results of these analyses are expressed as the percentage of total words for each text file along more than 70 dimensions, including linguistic dimensions, psychological processes, relativity, personal concerns, and user-defined categories. Rather than present data from all categories, only those dimensions that have been discussed elsewhere (e.g., Berry, Pennebaker, Mueller, & Hiller, 1997; Pennebaker, Mayne, & Francis, 1997; Pennebaker & King, 1998) are included here. In addition to the original categories, two additional categories were created that were composed of words directly related to Diana and the royal family (e.g., Diana, princess, royal, Charles) and of words directly related to the car accident itself (e.g., wreck, Dodi, tunnel, paparazzi). Two independent judges evaluated the words for the two categories and only those words that both judges agreed upon were included in the Diana and Wreck categories.

Judges' ratings. In addition to the computerized language analyses, the Diana transcripts were also rated by three trained judges. Across the 112 sessions, 21,167 entries were made by the AOL users, with each entry represented as a separate line of text. The lines of text were first rated as either relevant or not relevant to Diana. All Diana-relevant comments were further coded along 6 dimensions: hostile to Diana, hostile to others in Diana's world, hostile to other writers in the chat session, compassionate to Diana, compassionate to others in Diana's world, and compassionate to other writers in the chat session. Comments were defined as hostile if they expressed direct attacks, vicious humor, or insult towards a target. Compassionate comments were those that indicated sympathy, understanding, or positive emotions towards a target. Inter-rater reliabilities (Cohen's kappa) were good on the first five dimensions (.74, .80, .71, .80, and .76 respectively) but poor on the last dimension, compassionate to others in the chat session (.25). Because there were so few items coded into the last category and inter-rater reliability was so poor, that category (compassionate to other writers in the chat session) was not included in the analyses. Each comment was coded into as many categories as was appropriate, if the sentence contained multiple points. For example, the statement "Poor Diana, she just broke out and was living her life, but the stupid royals couldn't handle it" was coded both as compassionate to Diana and hostile to others in her world. For items on which two of three judges agreed, the agreed-upon rating was assigned to the comment. If all three judges rated the item differently, the judges discussed the item until agreement was reached by at least two, and that rating was assigned.

The Diana-relevant comments that did not fall into one of the judge-rated categories were typically questions (e.g., "Does anyone know where the funeral will be held?"), answers to queries (e.g., "I just heard the funeral will be held on Saturday"), or provision of information that

the writer assumed might be of interest to members of the chat room (e.g., “If you want to sign the online book of condolences, the web site address is <http://www.royal.gov.uk/vbk/>”). This type of post occurred in the days between Diana’s death and the funeral.

## Results

Two general analysis strategies were adopted. The first examined the simple word usage from the LIWC program. The LIWC analyses allowed us to examine general patterns of speaking across the 4-week period following the death as well as how this talking compared to control discussions. The second group of analyses is based on judges' ratings of the Diana posts. Unlike information provided by simple word counts, the judges' ratings gave us the opportunity to examine the deeper meaning of conversations over time.

### LIWC Analyses

Initially, to get a general idea of the degree to which individuals wrote about Diana and about the accident itself, the LIWC categories of Diana and Wreck were computed for each day. There was a steep drop in percentage of Diana and Wreck words from the first days following the death announcement to the end of the study. Indeed, in the first two days, the mean number of Diana and Wreck words was 1.83 and 0.61 percent of the total words used, respectively. During the second week after the death, percentage of Diana and Wreck words dropped precipitously to 0.47 and .09 percent. During the last two weeks of the experiment, the words from both categories were nonexistent on all but two days, and they were only mentioned in one failed attempt at conversation both days. Not surprisingly, simple correlations between the number of days after the death and percentage of words for Diana,  $r(110) = -.61$ , and the accident,  $r(110) = -.49$ , were highly significant ( $ps < .001$ ; note that Diana and wreck words were positively correlated,  $r[110] = .61$ ,  $p < .001$ ). As predicted, this pattern of talking about the

topic maps with the social stages model wherein talking rates are remarkably high in the first 2-3 weeks and then drop to almost nothing.

Of central interest to the current investigation are the types of words people used in their discussions in the days and weeks following the accident. Based on the pattern of AOL chatting about Diana, the word categories were combined into three time periods: chat samples during the first week ( $n = 46$  samples), the second week ( $n = 26$ ), and weeks three and four ( $n = 40$ ) following the death. Although LIWC provides data from more than 70 categories, we narrowed our focus in the analyses to three comparisons. First, we examined differences in use of the words “I” and “we” between the Diana and control groups. These words were selected to give insight into the degree to which participants were using inclusive language and to examine shifts in perspective between individual and collective self. Second, we considered differences in the use of positive and negative emotion words between the Diana and control groups, and over time within the Diana group. Finally, we examined causal and insight words to explore differences in the cognitive processes reflected by use of these words. Intercorrelations among these variables are presented in Table 1.

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 Insert Table 1 about here  
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As depicted in Table 2, the LIWC variables of interest were submitted to separate one-way analyses of variance (ANOVAs) with a priori orthogonal contrasts. The orthogonal effects compared the control files with the average of the Diana files, the linear change within the Diana files (week 1 vs week 3/4), and the quadratic effect within the Diana files (week 2 vs the average of weeks 1 and week 3/4).

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 Insert Table 2 about here  
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As can be seen in Table 2, the ways people use language change dramatically in the weeks following the death of Diana. Further, these patterns are strikingly different from more standard chat room language. As seen in Figures 1 and 2, compared to discussions in the control chat rooms, people focusing on Diana tended to be more collective in their orientation (i.e., greater use of 1<sup>st</sup> person plural and less use of 1<sup>st</sup> person singular pronouns) with a greater focus on the interpersonal topic of discussion. Ironically, people writing in the weeks after Diana's death tend to use more positive emotion words than controls. During the first week after her death, fewer positive emotion words were used relative to the control chat room. By the end of the study period, however, more positive emotion words were used in the Diana chat rooms. There were no differences between the two groups in use of causal and insight language, although there was a decreasing use of insight language in the Diana chat rooms, resulting in a significant linear effect.

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 Insert Figure 1 about here  
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 Insert Figure 2 about here  
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Recall that all of the linear effects depicted in Table 2 refer to simple comparisons between the LIWC categories during Week 1 after the death of Diana with Weeks 3 and 4. In

most cases, Diana's death provoked a large increase (or decrease) in the use of the various language dimensions that, over time, returned to levels comparable to those in the control rooms. That is, in the week following the death, there was a brief but dramatic elevation in Diana- and wreck-related words, articles, past tense, future tense, and death words. These patterns reflect the fact that people were recounting the details of the car accident and speculating about the upcoming funeral and the future of the members of the royal family. At the same time, the accident temporarily suppressed positive emotions and, marginally, the use of 1<sup>st</sup> person singular self-references. Finally, it should be noted that all of the quadratic effects that were significant are due to the relative changes in Week 1 rather than the uniqueness of Week 2. Indeed, contrasts comparing Week 2 with Weeks 3/4 produced no significant differences on any of the variables listed in Table 2 (all  $ps > .10$ ).

Summary of LIWC findings. The LIWC data revealed three striking effects in the ways people wrote and thought about Diana's death. First, the degree to which people were consumed with the topic of Diana and the car accident was remarkably high during the first week following the death and decreased in a negatively accelerating fashion, such that by the third week only a small percentage of references to the death were evident. This pattern of writing is congruent with the social stage model of talking about upsetting experiences. Second, the nature of self-other definitions briefly changed during the first week following the death. People spoke less about themselves as individuals and were more likely to become collective in their language. Using the language markers as evidence, the death brought people together -- people referred to themselves as part of a shared experience (we, our, us). Only by the second week did this collective self return to a point where people were again distinguishing between the individual self (I, me) and specific others (you). Third, the degree to which emotions were expressed over

the four weeks was somewhat unexpected. Compared to the control writing samples, use of positive emotion words was suppressed in the initial week following Diana's death. Over the next three weeks, however, positive emotion word use rose steadily to very high levels. The use of negative emotion words remained relatively constant over the four weeks of the study. After an initial elevation of negative emotion words in the first week after Diana's death, these words moderated to control levels by the last weeks of the study. Finally, there were no differences between groups in the use of causative or insight words.

#### Judges' Ratings of the Conversations

The LIWC analyses paint a statistical picture of language use following the death of Diana but fail to portray the human shock and pain of people in the first hours and days following the announcement. In the first five days after Diana's death, people talked at very high levels about her and expressed great sorrow. People wrote about her role ("She was the world's fairy tale princess"), the circumstances of her life ("We all felt for her putting up with her in-laws") and her death ("She put up with the press most of her life --- now they've caused her death"), and their shock and sadness ("I feel as though I have lost a member of my family, a friend. It took me five hours to believe the news."). Many of the entries were somewhat melodramatic, with statements such as "the ultimate love story," and "Long Live The Legacy of Love The princess left to this world, who is often too blind to see." They also took grand perspectives in expressing their appreciation and condolences: "Condolences UK from NJ" and "Thank you UK for the memories and a good hearted woman." A brief excerpt from the transcripts is included in the Appendix.

The judges' ratings of the transcripts revealed that 11.1% of the 21,167 total comments in all chat sessions concerned Princess Diana or some feature of her life or death (e.g., the royal

family, the funeral, her husband or his lover, her children, Dodi Fayed). As seen in Figure 3, the pattern of conversation as rated by the judges mirrored that found in the linguistic analysis, moving from high levels of talking in the first days to a complete absence in the final days of sampling. On the first full day following announcement of her death, 48.5% of all conversation in the chat room focused on Princess Diana, the accident, and her life. By the sixth day (September 4), the topic represented only 5.6% of the total. The last four days of sampling (September 22-25) revealed no comments about Princess Diana or the accident.

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Insert Figure 3 about here

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To detect evidence of changes over time in discourse, the 5 judge-coded categories were aggregated into the same three time blocks used for the LIWC analyses and subjected to one-way analyses of variance (ANOVAs) with a priori orthogonal contrasts. Mean percentages in each category are illustrated in Figure 4.

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Insert Figure 4 about here

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As shown in Table 3, the orthogonal effects compared linear (week 1 vs week 3/4) and quadratic changes (week 2 vs the average of weeks 1 and week 3/4) within the Diana files. The nature of Diana-relevant conversation changed dramatically in the weeks following the death of Diana. In the first week, writers were largely compassionate to Diana and others in her world. The hostility that was expressed in that week was typically directed at those in Diana's world who were believed to have caused Diana pain or difficulty.

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Insert Table 3 about here  
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All the linear effects depicted in Table 3 refer to simple comparisons between the judge-rated categories during Week 1 after the death of Diana with Weeks 3 and 4. Similar to the LIWC data, all of the quadratic effects that were significant are due to the relative changes in Week 1 rather than the uniqueness of Week 2. Indeed, contrasts comparing Week 2 with Weeks 3/4 produced no significant differences on any of the variables listed in Table 3 (all  $p$ s > 0.6).

### Discussion

Our primary purpose for undertaking this project was to evaluate the shape and texture of naturally-occurring conversation about a traumatic event. People described very personal and emotional reactions to the loss of Princess Diana. The topics of conversation mirrored the unfolding events; after the funeral, for example, people no longer discussed the details of the car wreck or the specifics of the funeral plans. Conversations were focused on understanding the causes and immediate effects of the tragic accident, and gave people opportunities to express their emotions and convey their sorrow. Many writers took the opportunity to place themselves in a larger context with statements such as “New Jersey sends its condolences to the people of Britain.” Just as the Loma Prieta earthquake “brought the city together” (Pennebaker & Harber, 1993), the death of Princess Diana seemed to bring a global community together. People came to the chat rooms from many countries to share their sorrow, to share information as it was unfolding, and to help each other. Seekers of information were helped by large numbers of chat room participants. For example, a request for the royal email address for condolences brought forth a volley of informational responses. In the first days after the death, dissenters and critics

were tolerated and gently rebuked. After one writer criticized Diana for dating after her divorce from Prince Charles, another writer admonished her by saying that “Diana deserved those weeks of happiness.”

Another purpose of this study was to examine the course of relevant conversation for evidence of social stages of coping. Based on similar research on talking about collective trauma (Pennebaker & Harber, 1993), we anticipated and found high levels of talking in the first week followed by a dramatic drop-off in talking about the event. By the end of the study period, sessions would contain one or two relevant comments that were not followed up by anyone else in the room, suggesting that people were no longer interested in pursuing a conversation on the topic. Unlike a natural or industrial disaster that may continue to have an effect on people in their daily lives, the unexpected loss of a well-known person generates an immediate emotional response but does not typically impact personal circumstances in an on-going manner. Although the comments about Princess Diana and her tragic death were often epic in scale and sometimes approached a melodramatic tone, they were short-lived. By the sixth day following the accident, conversation about the topic had dropped to a mere 5.6% of all conversation in the chat room, from a high of 48.5% five days earlier, and one-third of all variables analyzed showed a significant decrease after the first week. By the end of the four-week period, conversation about Princess Diana was nonexistent.

This pattern provides additional support for the marked transition from the emergency phase to the inhibition phase in the social stage model of collective coping. Examination of Figure 4 reveals the shift between stages evidenced by the dramatic decrease in conversations during the first week followed by a gradual decline in frequency of pertinent conversation from the end of the first week to the end of the project period. Researchers who study coping with

traumatic events should be aware of the striking reduction in talking about the event after one to two weeks. When combined with the inaccuracies and distortions of memory, implications for psychologists who are attempting to understand the dynamics of dealing with disaster by asking people to reflect on a stressful experience in their past and report memories of their reactions may be serious.

### Data Source Considerations

Analyzing conversations in Internet chat rooms provides an intriguing method for unobtrusively observing the ways people actually talk with each other. Although this technique is subject to some of the same criticisms found in survey research, such as self-selection by participants, we feel that it offers many benefits unavailable in survey research, such as a release from the problems of social desirability of responses and inaccurate memory for what was said in the past. Many of the comments made by writers in our sample would be considered socially unacceptable comments to make in normal conversational situations. Because participants were entirely anonymous by virtue of their screen names, and were unaware that their comments were being downloaded, we believe their comments were not constrained by any of the typical psychosocial factors that are problematic for other methods of acquiring this kind of information. When linguistic analysis is combined with judges ratings of the contextual features of natural conversation, a detailed snapshot of on-going coping is revealed.

Although it is true that participants were not constrained by social desirability issues, the other side of that issue concerns the release from standard conversational constraints provided by anonymity. Although participants were sometimes acquainted with each other, and were familiar with frequent visitors to the chat rooms, the relationships did not appear to extend beyond the boundaries of an electronic conversation. Real names were not used and were likely not known.

Of 4,000 respondents to an internet survey conducted by the Stanford Institute for the Quantitative Study of Society, 25% claim to use chat rooms, and further report that their “chat room interaction is with anonymous others whose identities remain unknown” (Stanford Institute for the Quantitative Study of Society, 2000, p. 3). This relative anonymity allows participants to make statements that would be considered far outside the bounds of acceptable face-to-face conversation, with little or no consequence. After making comments that members of the chat room consider unacceptable, the offending writer can simply exit the room and enter another if he or she desires. Screen names are easily changed, allowing the same individual to reenter a room to observe the fallout of offensive comments and take any position on the conversation. These possibilities make chat room conversations very different from traditional social interaction, and must be considered when planning a study using chat rooms.

Absence of verifiable personal information about participants is another consideration of this data source. It is possible to obtain large-scale demographic information about Internet use, but the information provided by the users themselves in online profiles is untrustworthy. Members sometimes volunteer personal information during a chat, such as age and sex, or location, but this information may or may not be true. Additionally, the particular focus of chat rooms does not guarantee accurate personal information. Participants in the “Over 40s” chat room may or may not be over the age of 40; participants in the “UK Experience” chat room may live in England, or they may simply hope to speak to someone living in England. For studies in which accurate information about participants is necessary, using existing chat rooms on the Internet is probably a poor choice. For research in which verifiable information on participants is required, it is a relatively simple matter to set up local intranet chat rooms on institutional servers.

Conducting research on Internet chat rooms also presents some statistical difficulties. For instance, individuals typically speak multiple times per session, and often reappear in multiple sessions. This can produce dependencies that might need to be taken into account. For the present study, this was not an issue because we were examining the flow of conversation, and speakers' words were related to the topic of conversation rather than as an individual difference-type variable. Additionally, because the session was the unit of analysis, and the number of repeat participants across sessions was a small fraction of the data, multiple participation within a session is not a problem for the analyses. A potentially serious problem, however, may be the small effect sizes obtained, as noted in the present study. To counter this problem, very large samples must be obtained; fortunately, however, this is simple to remedy on this type of research platform. We were interested in mapping the ways in which individuals use language after a shared traumatic experience, so the effect sizes we obtained were not as troublesome for this project as they may be for others.

The limitations are more than offset, however, by the real-life laboratory that chat rooms provide, in which researchers can easily and unobtrusively observe people in a wide variety of situations. Because any given chat room has its share of lurkers, or members who observe and do not join the conversation, the presence of a silent researcher downloading transcripts goes unnoticed. These conversations provide a fascinating window on small group dynamics, with participants often forming alliances in the course of a long conversation, or trying to make romantic connections with one another. The fluid nature of the group allows the observation of several lines of discussion simultaneously. Although it may be difficult to separate and follow the lines because they are overlapping with one another, a single chat room transcript provides a rich source of language and dialogue. It is possible to follow a single topic, a single individual, or

the relationships of members as a conversation unfolds. A long-term study of a single chat room would be fascinating, as regular members become well-known to each other and create a virtual social world. There were many regulars in these chat rooms, and they greeted each other as old friends, or old enemies. Some regulars were apparently well-known troublemakers, with their arrival in the room being a source of rapid communication to warn other members to ignore the troublemaker. There were also regular members to whom others frequently referred for reliable information.

For the present study, the chat room transcripts provided us an opportunity to observe people from across the world involved in sharing their thoughts and feelings about a worldwide event. We were able to track the lifespan of the topic, to observe the variety of reactions to shared grief, and to determine the kinds of comments people made as the events unfolded. It is undoubtedly true that the chat rooms were only one outlet for people who wanted to share their emotions and thoughts about Princess Diana. The writers likely voiced their thoughts to people in their daily worlds as well. However, the escalating use of the Internet in general, and chat rooms specifically, makes this an important data source, particularly because there is new evidence that people spend more time on the Internet and less with others in their social worlds (Stanford Institute for the Quantitative Study of Society, 2000). Given that we are in the early stages of this shift in social communication, research on the ways in which people talk in chat rooms, and the ways in which people talk when they are anonymous gains importance. Because people need to talk about their emotional experiences in order to cope successfully with upsetting events (e.g., Pennebaker & Harber, 1993, Davison & Pennebaker, 1997, Rimé, 1995), they can quickly and easily turn to chat rooms to share their experiences. It is a 24-hour a day world in the Internet chat rooms, so people can always log on and find someone with whom to talk. Because

there is a release from social norms induced by anonymity, those chat room participants who may feel burdened by having to hear another's problems (Christophe & Rimé, 1997) can simply switch to a different chat room. Of course, it is also possible that those burdened by hearing another's problems may be uninhibited by their anonymity and attack the individual hoping to talk. The dynamics of chat room conversation are fascinating and represent a relatively untapped social world, with new rules and etiquette. The current project represents an initial foray into this social world.

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Appendix

Excerpt from Chat room Transcript August 30, 1997

(approximately 1 hour after Princess Diana's death was announced)

Mnkamm: PRINCESS DIANA IS DEAD

CT2255: Did you guys hear that Princess Diana Died

M1taz: It's on BBC TV

Lik1wmn: have you noticed that they have not said much about Dodi?

BambiBlake: but Diana is an icon, or rather she was

Cuftag: I think she still is, Bambi.

BambiBlake: such sad news.

Cuftag: she always will be.

lazydingo: CNN just said there is no confirmation on why the roof of the car was so badly damaged.

TRX200: I agree, She was so well loved worldwide

MrE25267: I don't have much time for the royals but this is different.

lazydingo: god I just still think something else happened. foul play

Cuftag: yes mr. she was different

lazydingo: don't suppose this was the work of the British Secret Service.

Arturix: we all felt for her putting up with her in-laws

Killer Keb: she put up with the press most of her life – now they've caused her death

Mnkamm: BBC World Service, James Whittaker just finished blaming the driver.

Footnotes

<sup>1</sup>Not all comments were so favorable. In reporting her death on government-run TV in Iran, the announcer called her “one of the elements of moral disgrace.” The news agency in Libya alluded to a conspiracy by the British government to murder Diana because of her relationship with Dodi Fayed, who was an Arab.

<sup>2</sup>Number of participants in a group refers to the number of participants who made at least one comment, not to the total number of people actually in the room. In each chat session, there were people who “listened” but did not speak. These people were not included.

Table 1

Intercorrelations Among LIWC Variables and Judges' Rating Categories<sup>1</sup>

Diana Control	1	2	3	4	5	6	7	8	9	10	11
1. I	1.00	-.21*	.16	-.02	-.03	.04					
2. We	-.06	1.00	-.08	.18	-.06	.15					
3. Pos. Emotion	-.02	-.01	1.00	-.05	-.04	-.08					
4. Neg. Emotion	.01	.11	.01	1.00	.15	.24*					
5. Causality	.17	.03	-.13	.22	1.00	.26**					
6. Insight	-.01	.32**	-.22	-.02	-.05	1.00					
7. Hostile to Diana							1.00	.39**	.60**	.37**	.24*
8. Hostile to Others								1.00	.39**	.71**	.67**
9. Hostile Other Writers									1.00	.45**	.50**
10. Compassionate Diana										1.00	.73**
11. Compassionate Others											1.00

<sup>1</sup>Data were averaged for each variable within a session.

\* $p < .05$ , \*\* $p < .01$

Table 2

Effects of Study and Time on LIWC Dimensions

Dimension	effect	df	F	p	$\eta^2$
Pronoun: 1 <sup>st</sup> person singular (I)	L	111	5.89	.02	.05
Pronoun: 1 <sup>st</sup> person plural (We)	S	180	17.89	<.01	.09
	L	111	2.96	.09	.03
	Q	111	5.27	.02	.04
Positive emotions	L	111	20.15	<.01	.16
Negative emotions	S	180	4.65	.03	.03
Causation	--	--	--	<u>ns</u>	--
Insight	L	111	6.39	.01	.06
Diana	S	180	36.15	<.01	.17
	L	111	66.12	<.01	.34
	Q	111	15.82	<.01	.08
Car wreck	S	180	20.84	<.01	.10
	L	111	29.47	<.01	.21
	Q	111	4.32	.04	.03

Note. Effects refer to significant orthogonal comparisons, where S = study differences (control vs. Diana weeks 1 through 4); L = linear effects (Diana sample Week 1 vs. Weeks 3/4); and Q = quadratic effects (Diana sample Week 2 vs. average of Week 1 and Weeks 3/4).

Table 3

Effects of Time in Judge-Rated Categories: Diana-Relevant Comments Only

Category	Example	Effect	F	p	$\zeta^2$
Hostile to Diana	"Lady Di was a welfare recipient, at least the Chauffeur worked for his money."	L	12.96	<.01	.10
Hostile to Others in Diana's world	"Charles is the asshole— why couldn't it have been Camilla?"	L	48.89	<.01	.29
Hostile to Other Writers in the Chat Session	"How judgmental. If you have no sin you can cast the first stone."	Q	9.67	<.01	.06
Compassionate to Diana	"She had just broke out, and begun to really enjoy life"	L	10.24	<.01	.08
Compassionate to Others in Diana's World	"Such a young age to lose a parent, and they've been through so much already."	L	49.45	<.01	.30
		Q	10.11	<.01	.06
		L	27.99	<.01	.20
		Q	4.45	.04	.03

Note. Effects refer to significant orthogonal comparisons, where L = linear effects (Diana sample Week 1 vs. Weeks 3/4); and Q = quadratic effects (Diana sample Week 2 vs. average of Week 1 and Weeks 3/4). In all cases, the degrees of freedom = 111.

Figure Captions

Figure 1. Mean number of “I” and “we” words between groups and across Diana sample.

Figure 2. Mean number of negative and positive emotion words between groups and across Diana sample.

Figure 3. Percentage of judge-rated comments relating to Princess Diana and the fatal accident, across days.

Figure 4. Mean percentages in judge-rated categories: Diana-relevant comments only







