Sandman, P. 2009. "Dr. Peter M. Sandman: Biography," updated July 2009. Posted online at http://www.petersandmand.com. Accessed January 3, 2010.

Sturges, D.L. 1994. "Communicating Through Crisis: A strategy for Organizational Survival." *Management Communication Quarterly* 7(3):297–316.

U.S. Department of Health and Human Services. 2006. "Communicating in a Crisis: Risk Communication Guidelines for Public Officials." Washington, D.C.

U.S. Environmental Protection Agency. "William D. Ruckelshaus: First Term." Posted online at http://www.epa.gov/history/admin/agency/ruckelshaus.htm. Accessed on December 28, 2009.

3

COMMUNICATION FUNDAMENTALS AND THEORETICAL FOUNDATIONS

This chapter will provide a substantial expansion of some of the basic concepts introduced in Chapter 2. The beginning portion of the chapter will consider the audience factors that can assist in the success of the risk or crisis communication effort and the latter will provide detailed examinations of several of the significant and widely accepted theoretical foundations for risk and crisis communications theories.

AUDIENCE PERCEPTIONS OF THE COMMUNICATOR

The success (or failure) of any risk or crisis communications event is considered to be closely linked in part with the audience's perception of the communicator. Nearly all practitioners and researchers in the field of risk and crisis communications view two key variables as fundamental factors—trust and credibility. The terms overlap in some respects but are very different in others. Understanding how messages are impacted by the levels of an audience as a group as well as by individual audience members is thought by many to be a key to a successful communications event.

Results from early social science research can be used to evaluate some risk and crisis communication efforts, particularly with regard to trust. George Cvetkovich and

Tim Earle have conducted studies that look closely at variables of trust as they relate to the establishment of trust by a communicator with an audience. The asymmetry principle suggests that creating trust in an audience by an organization is a difficult task, but once it has been created, positive information about the organization will tend to strongly reinforce an audience's level of trust. Furthermore, reducing or negating the previously established level of trust does not easily occur, even in the face of information to the contrary or if an organization errs in some obvious and public manner. On the other hand, if there is no previously established level of trust or if the level is weak, negative information can easily serve to create and reinforce a level of mistrust about the organization. This audience perception holds true even in the face of contradicting positive information (Cvetkovich *et al.* 2002). Cvetkovich and Winter have also demonstrated that when an audience has limited or no personal control over the specific risk, trust in the organization is a major factor in the audience's acceptance of the risk communications event (Cvetkovich and Winter 2001). [See also Covello's risk perception model (Fig. 3.1).]

Several theories propose and have been tested that tie the audience's acceptance of the message to whether or not the communicator can be trusted to provide accurate information (Peters *et al.* 1997; Renn and Levin 1991). Kasperson has also looked more specifically at the perception of trust, which is a result of the audience's understating of the competence of the communicator, the absence of bias, and of caring and commitment (Kasperson *et al.* 1992; Kasperson 1986). Relevant to the discussion from Chapter 2, the interactive process between the communicator and the audience is a

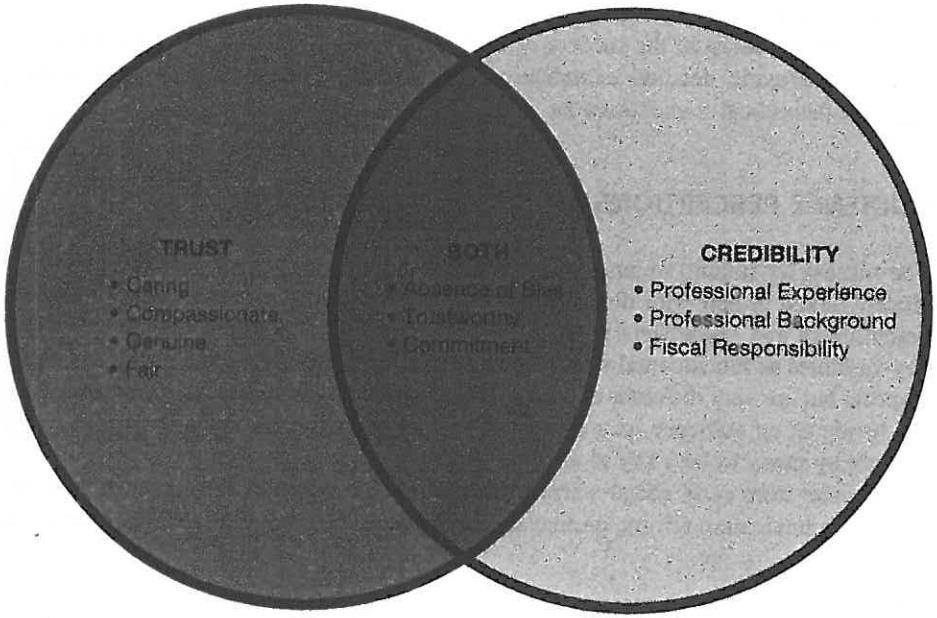

Fig. 3.1. Trust and Credibility Factors in Organizations

fundamental part of risk communications, a process that takes time to develop and mature. On occasion, trust (or perhaps more accurately mistrust) can come from the communicator's representative organization. Certain organizations are viewed by the audience in general to be more trustworthy (religious groups) and other less trustworthy (government groups and politicians).

A second crucial characteristic of the communicator cited regularly in the literature is whether or not the communicator is credible and has the necessary background and experience to know and understand the information conveyed in the message, thereby making the message believable (Peters *et al.* 1997; Renn and Levin 1991). Credibility is somewhat akin to trust, but the difference lies within the audience belief that the communicator is knowledgeable enough about the topic to understand the content.

In addition to the view of the credibility of the communicator, the term can also be viewed as organizational credibility, which is further differentiated by Coombs (1999) into initial credibility, derived credibility, and terminal credibility.

Some organizations, by virtue of their standing in the community or among a particular audience, have a certain amount of positive initial credibility before they even broadcast the first risk or crisis communication message. In addition, by extension, individual communicators as representatives of such organizations assume the same level of positive initial credibility. It should also be noted that the converse is also true with regard to organizations that have negative credibility; their representative communicators will also have negative initial credibility. As has been noted previously, attempting to develop a level of credibility with the audience at the height of a crisis through crisis communications is a difficult task at best.

Once an organization begins to deliver messages, its credibility is derived through the content of the message and the delivery. Overcoming negative credibility and/or developing positive credibility when none previously existed are the main goals of early risk and crisis communication efforts. These efforts require a defined set of goals and objectives as well as effective presentation of well-crafted messages.

Terminal credibility is the credibility that comes after the message(s) are delivered and represents the result of both initial and derived credibility so that the combination of the two variables results in a multitude of outcomes. Positive initial credibility and positive derived credibility result in the strongest level of positive terminal credibility. Positive initial credibility and negative derived credibility results in negative terminal credibility, but of varying strengths. Negative initial credibility and positive derived credibility result in positive terminal credibility, also of varying strengths. And finally, negative initial credibility and negative derived credibility results in strong negative terminal credibility (see Fig. 3.2).

TRUST AND CREDIBILITY

In 1997, Peters, Covello, and McCallum tried to answer the question of what factors could reliably be used to predict an audience's perception of trust and credibility (Peters *et al.* 1997). Although the theories that trust and credibility were significant had been circulating in the literature for some time, they had not yet been empirically tested, and

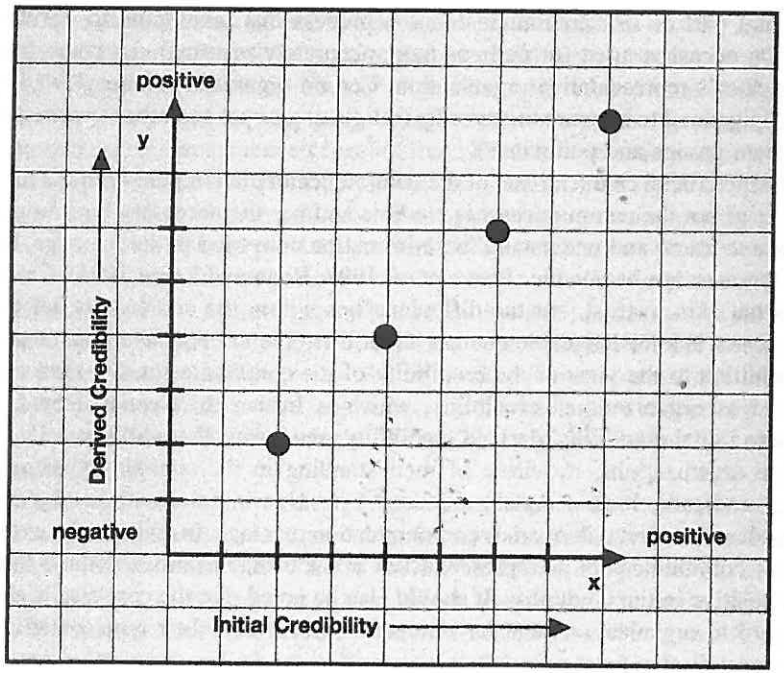

Fig. 3.2. Terminal Credibility

ıe variables had not yet been evaluated to determine their real-life applicability for risk ıd crisis communicators. The study's authors believed the details of how to establish .e partnership between the communicating organization and different audiences would ad to an increase in the success of the communication event. In other words, if it could ɜ determined *what* increased the audience's level of trust and credibility of the orga- zation, messages and activities could be more specifically targeted toward those goals.

Six unique hypotheses were tested in the study; the primary one dealt with percep- ɔns of trust and credibility and suggested that they were dependent upon three factors:) perceptions of knowledge and expertise, (2) perceptions of openness and honesty, ıd (3) perceptions of concern and care.

The study's methods included telephone surveys of members of the general public lected by random-digit dialing and using a four-point, Likert-type scale. The focus the study was on risk communication events involving hazardous materials incidents. espondents were specifically selected from communities where a significant industrial esence existed related to the storage or production of hazardous materials, the exis- nce of a Superfund site, the existence of an active environmental group, and prior nission problems or enforcement activities. Due to the limitations of the populations ırveyed, the study's authors were careful to indicate that the results could not be ımpletely extrapolated to all risk communication events but more to those communi- ɜs with comparable events. Regardless of the study's limitations, however, most risk ıd crisis communication experts point to it as a landmark event in the understanding the importance of the two variables and have used the study's main

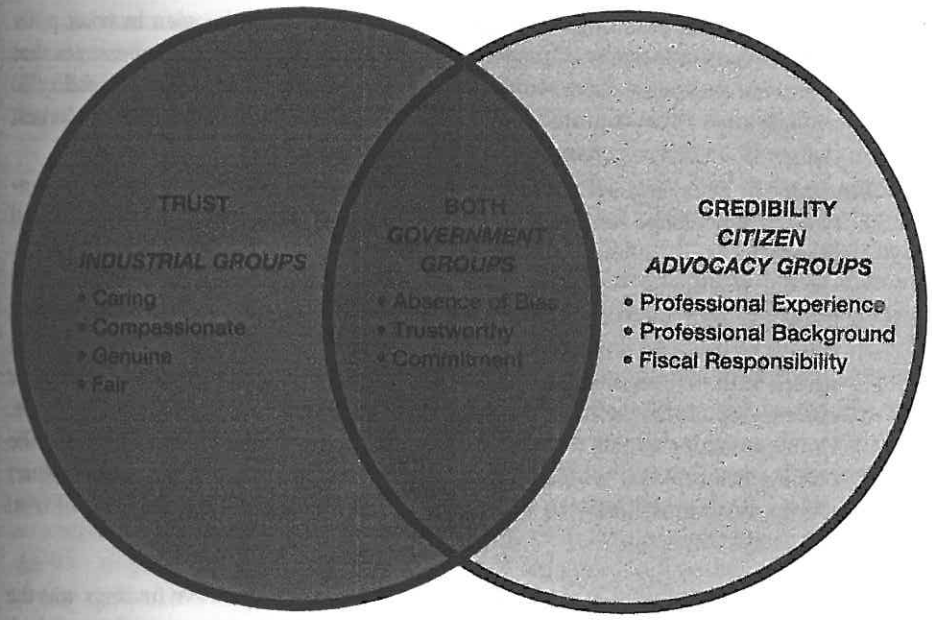

Fig. 3.3. Trust and Credibility in Various Organizations

buttress their arguments about the risk and crisis communications process and the craft- ing of effective messages.

The findings of the study were differentiated into three organizational groupings (the industrial sector, the government sector, and citizen advocacy groups) as some of the data showed differences in implementation among the three groups. Below are three key findings from the study (see also Fig. 3.3):

Finding #1. In the ***industrial sector***, an increase in the audience's ***perceptions of concern and care*** provides for the largest increase in trust and credibility by the public of the organization. A common stereotype of many industries is the perception that the organization is more concerned about profits rather than people. Therefore an industrial organization that can use risk communication events to develop or increase the audience's level of perception that the orga- nization also cares about what happens in the community is likely to be more successful.

Finding #2. In the ***government sector***, an increase in audience's ***perceptions of commitment*** provides for the largest increase in trust and credibility. The common stereotype about governmental organizations is that they lack stability, that the political party in power determines the goals and efforts of the organiza- tion, which may not always be what is best for the audience. And when election results change those in control of the organization, the commitment to previous causes or efforts may be moved to a much lower level of priority or even

themselves and their ongoing electability is one that can be seen in voter polls and "letters to the editors," among other similar venues. Crafting messages that overcome this perception of the audience and demonstrate a sincere ability to commit to an effort or project over the long haul are likely to generate the largest change in audience perceptions of trust and credibility.

Finding #3. In dealing with ***citizen advocacy groups***, an increase in ***public perceptions of knowledge and expertise*** provides for the largest increase in trust and credibility. This finding is intuitive as most members of citizen advisory groups are not traditionally professionals in the field. They tend to be community leaders or individual community members who have a particular passion for a subject or issue, so their commitment is generally accepted even if not everyone agrees with their opinion. And even if members of the audience hold diverse or contrary opinions, the audience tends to accept their level of concern and care. Communication events that are designed to demonstrate to an audience that the communicators who have a firm grasp of the technicalities of the various issues are the ones most likely to succeed at increasing the audience's level of trust and credibility.

According to the study's authors, the common theme in the above findings was the perceived stereotypes about each type of organization by the study's respondents, which provides a glimpse into some specific and pragmatic tasks and activities that can be undertaken to increase the success of any risk communication effort by any one of the three groups. In general, the study's authors argue that defying negative stereotypes can be significant and necessary if the audience's existing perceptions of trust and credibility are to be overcome so that the risk communications messages are heard, understood, generally agreed to, and, if necessary, acted upon.

The concept of defying stereotypes is one also supported by Sandman in many of his writings as well as those of Fearn-Banks. In her analysis, Fearn-Banks (2007) considers the actions of Johnson & Johnson following the tampering of its Tylenol pain reliever to be a "textbook" case of successful crisis communications. At the beginning of the crisis, Johnson & Johnson enjoyed a positive relationship with consumers who purchased their products, as well as with their employees and the media, three different but critical audiences for the delivery of crisis messages. Despite having never dealt with a similar situation with which it could have prepared a crisis communications plan in advance (in fact, no major consumer product manufacturer had ever dealt with a similar situation that Johnson & Johnson might have learned from or used as a prodrome), the company reacted swiftly and decisively to recall the product and demonstrate ***caring and concern*** for its consumers well above the financial losses to the company—people over profits, as opposed to what would typically have been expected by the audience. Only when incontrovertible evidence surfaced that the tampering was done by an outsider did Johnson & Johnson attempt to shift the responsibility for the event externally, while still taking critical steps to protect consumers. In the end, while the crisis cost the company over $100 million in sales and other losses, it was able to quickly regain its entire market share in a fairly short period of time. To this day Tylenol remains a highly popular and profitable product.

Sandman also uses the Tylenol tampering scandal of 1992 as the classic example of an organization successfully combating the negative stereotype of profits over people. His thoughts about defying stereotypes appear in numerous articles and website columns. One particular article that addresses this concept, along with the addition of the audience's perception of caring and concern, is titled "Empathy in Risk Communication" (Sandman 2007a). In it Sandman suggests that showing empathy often involves acting in a "profoundly" counterintuitive manner. The concepts and methods of implementation presented in this article focus more heavily on crisis communications, but they can also be applied when the audience is highly upset or overly concerned about a hazard that is relatively low risk. More about the latter concept appears in Chapter 5.

Sandman's writings on this topic postulate that reassuring the audience is a fundamental part of any crisis communication message as well as many risk communication messages. Part of the reassurance involves first acknowledging the audience's fears, worries, and concerns, and communicating that the emotions are shared if the situation calls for it. He references the now-famous quoted answer by Mayor Rudolph Giuliani to a reporter's question about the number of casualties expected in the early hours of the 9/11 tragedy. Giuliani said, "The number of casualties will be more than any of us can bear ultimately" (Giuliani 2001). While many suggest that it was Giuliani's assertive leadership that was essential to dealing with the tragedy in the first hours, weeks, and months, Sandman insists that much of it would not have been possible if Giuliani had not first established the fundamental connection between himself as a fellow human being grappling with the same feelings of anguish, fear, and anxiety as his audience. Sandman strongly cautions crisis managers who believe that crisis communications are most effective when audiences are told not to worry and that the organization has everything under control when he says: "Crisis managers who imagine that showing empathy means over-reassuring people, 'emphasizing the positive' or 'calming them down,' are way off the mark" (Sandman 2007a).

Sandman also addresses what to do if, as a communicator, empathy is not an intuitive behavior. This may occur because of the personality of the communicator and may need to be developed through time, practice, and even "faking it" for a time. In addition, it is sometimes the result of simply not understanding the feelings of the audience, despite a desire to do so. He suggests adopting the attitude of trying to understand, allowing the basic level of caring and concern to come through in the messages, helping to audience to realize that the communicator is making a sincere effort, even if the ability to understand the feelings of the audience isn't there at the moment. When all else fails, finding a different communicator is essential if the communication events are to be successful.

FOUR THEORETICAL MODELS

Covello and his colleagues at The Center for Risk Communication have published their thoughts on how risk information is processed, how perceptions are formed, and how decisions are made by members of the audience. The four models described below

provide a working foundation to enable risk communicators to successfully craft messages (Covello 2007). These models can apply in risk communication events that are more long term and involve processes between communicators and audiences as well as those crisis communication events that often have to be developed and delivered in fairly short periods of time. As has been discussed earlier in this chapter, understanding audience perceptions are fundamental to successful message delivery.

One additional comment prior to describing the four models is to note that concepts of one model may overlap between models. It should be noted that a full understanding of the theoretical foundations of risk and crisis communications, at least from Covello's perspective, is that there is no one simple and straightforward theory to encompass all situations and that communicators should provide a clear analysis of each and every audience. The usefulness of the models below is that they provide a variety of theories and ideas that can be applied as needed, depending upon the presenting risk or crisis event.

The Risk Perception Model

This model identifies factors that influence an audience's perception of risk and provides for an analysis of the magnitude of the perception by the organization doing an audience profile. Covello and colleagues use this model to elucidate 15 of the factors they believe most important in the analysis of an audience due to the critical role they play in analyzing audience levels of concern and other strong emotions such as fear, worry, hostility, and outrage. Understanding these factors and using them to then profile an audience helps to craft messages more likely to achieve their stated purpose and objectives by changing attitudes and behavior. (The latter factors are reflected further in discussions below with regard to Sandman's paradigm.)

Table 3.1 discusses these factors in a positive vein; it is critical to note that the opposite of each also holds true. Several additional key points are also necessary for understanding these factors. The first is that each unique risk or crisis situation will produce its own unique combination of the 15 factors so that an inestimable variation is possible. Some factors will be more prominent in the analysis, some less so, and some will not apply at all. In a similar vein, the intensity of each factor will vary for each situation so that some factors may figure significantly in the analysis and others may have limited or no applicability. In addition, a comprehensive audience analysis may also identify subgroups whose perceptions of the factors will vary so that it may be complicated to develop one unique audience picture. And finally, as a crisis develops, the audience's perceptions of key factors may change, significantly at times, rendering the earlier analysis inappropriate for the current situation.

It might seem as though the large number of factors may make an audience analysis difficult and time consuming at best and at worst nearly impossible. However, the reader is cautioned to utilize the factors as a guide and a reference point, allowing for fluctuations due to the changing nature of both the event and the audience.

Later chapters will delve more deeply into utilizing the above factors to craft and deliver risk and crisis messages; however, one obvious implication of the use of these

TABLE 3.1. Covello's 15 Risk Perception Factors[a]

Risk Factor	Applicability
Voluntariness	If the audience members perceive the risk to be voluntary, they are more likely to accept it because they understand their role in experiencing the implications of the risk.
Controllability	If the audience members perceive that they have control over the risk, they are more likely to accept the implications of it.
Familiarity	If the audience members have some previous knowledge of the risk or experience with it, they are more likely to accept the implications of it because of the increased level of knowing what might or might not happen.
Equity	If the audience members perceive the implications and consequences of the risk to be equally shared among audience members, they are more likely to accept the implications of it.
Benefits	If the audience members perceive the ultimate benefits of the risk to be positive, they are more likely to accept the potential negative implications of experiencing it.
Understanding	If the audience members possess a basic understanding of the risk, they are more likely to accept the implications of it. The greater the level of understanding, the higher the acceptance.
Uncertainty	If the audience members perceive the risks have a degree of certainty in various dimensions and in the scientific information available about it, they are more likely to accept the implications of it.
Dread	If the audience members' emotions with regard to a risk are less intense and fearful, the more likely they are to accept the implications of it.
Trust in institutions	If the audience members perceive the institutions more significantly involved in the risk as trustworthy and credible, the more likely they are to accept the implications of it.
Reversibility	If the audience members perceive the risk to have reversible adverse effects, they are more likely to accept the implications of it.
Personal stake	If the audience members perceive the risk to be limited in its personal implications and consequences, the more likely they are to accept the implications of the risk.
Ethical/moral nature	If the audience members perceive the risk to be morally or ethically acceptable, they are more likely to accept the implications of it.
Human vs. natural origin	If the audience members perceive that the origin of the risk is naturally occurring, they are more likely to accept the implications of it.
Catastrophic Potential	If the audience members perceive that the amount of fatalities, injuries, and illnesses from a risk are minimal, they are more likely to accept the implications of it.

[a]Covello *et al.* 2001

essages can be uniquely crafted. Some audiences naturally segregate themselves such workforce and the surrounding community, but within each of the major groups may : many subgroups for which different messages may need to be created to achieve ɔtimum results.

he Mental Noise Model

ny risk or crisis situation produces stress in an audience. The 15 factors noted above ɹn help calibrate that stress level within an audience and between audience groups, ɪt a certain amount of baseline stress is to be expected within the audience when ɪgaging in risk and crisis communication events. Stress produces what Covello and s colleagues call "mental noise": the higher the level of stress and anxiety, the higher e amount of mental noise. Consequently, events that produce a higher level of mental ɔise within an audience reduce its ability to process information and messages.

The level of mental noise exists on a continuum and is generated from a variety factors. Covello suggests that the following factors, some of which appear above in e risk perception model, cause the highest levels of fear and worry (Covello 2007):

- The level of ***control*** of the audience over the outcome and whether or not the audience trusts the other parties and sources of information who may have some or all of the control if the audience does not
- Whether or not the crisis situation is ***voluntary*** and/or ***escapable***
- Whether or not the crisis is ***man-made*** or a natural disaster
- Whether or not the crisis is not ***familiar*** to the audience or extremely unusual so that the audience may not have had any experience in the past with which to calibrate its response
- The threat of an illness or injury from the crisis that typically produces ***dread*** in the audience (e.g., cancer)
- If there is significant ***uncertainty*** about the situation, its development, and/or outcomes
- If the most likely ***victims*** of the crisis are seen as helpless, such as children, pregnant women, or the elderly.

Risk and crisis communications need to be able to get beyond (or under or around through) the mental noise being experienced by the audience if the messages being ɪlivered are to be heard, understood, accepted, and acted upon.

ɪe Negative Dominance Model

any risk or crisis event, an audience is required to process both positive and negative essages containing information vital both to how they perceive the situation and how ey act upon it. This model postulates that situations producing risks and subsequent notions of fear, anxiety, dread, hostility, or outrage create an environment where an ɪdience is more likely to actually hear and integrate negative messages. This is in part

because the negative messages support an audience's "negative" emotions and also because psychological theory would suggest that people are often more focused on negative outcomes rather than positive ones—the classic "grass is greener" concept.

This model further identifies two practical implications for crafting messages: one is that an audience is more likely to hear positive messages if they "overbalance" the negative ones or occur at a greater frequency. Positive messages are those that either assist the audience in moderating the danger or implications to themselves, or provide an action that the audience can take to increase their perception of some of the factors noted above, such as controllability, voluntariness, and benefits. The second is that messages containing negative words such a "never," "no," "not," "nothing," and "none" are more likely to be remembered by the audience and for longer periods of time. They also may create a greater impact than positive messages, which should focus on what is being done to mitigate the event and protect the audience. Risk and crisis communicators may need to practice removing such negative terms from their vocabulary when engaged in message communication events.

The Trust Determination Model

The criticality of establishing and maintaining trust between the communicator and audience has been elaborated upon above and will also provide a central theme throughout this text. This model addresses this concept and summarizes the results of the research study discussed above.

Fundamental to the establishment of trust is an understanding of the time commitment on the part of the communicator. Actions that are taken in the immediacy of a crisis are not likely to build trust while the crisis occurs, although they may create a level of trust after the event has resolved itself, when the audience is secure and able to take a more distant view of the event. Communicators should accept that they need to identify risks to an audience and begin to build trust through their actions as well as build consensus on both the level of risk and mitigation strategies. This process takes time, requiring actions that demonstrate reliability, credibility, good listening, and good communication skills. As noted above, the trust determination factors that play the greatest role in this model include caring and empathy, competence and expertise, and honesty and openness.

This model further encompasses the concepts of the communicator being a member of a trusted or reliable group as opposed to one generally perceived to be untrustworthy. Trusted groups typically include religious organizations and advocacy groups (when the audience member is a member or supporter of that advocacy group). Groups that generate less trust among the general populations include political groups, government bureaucracies, and large corporations. A communicator who is member of a trusted group possesses an advantage when communication barriers exist or when the audience's emotions are running high. Communicators from traditionally untrustworthy groups have that initial barrier to overcome before the message will be heard, believed, and acted upon.

Finally this model addresses risk and crisis events when more than one communicator is involved. It suggests that disagreements among the various communicators will

increase the level of mistrust as will lack of coordination among organizations tasked with managing the risk. An example of this type of scenario can be seen in a reflective view of the crisis communication efforts during Hurricane Katrina in August 2005. As the storm approached the Gulf Coast, it provided the potential to be one of the most serious storms to hit the area in many years (a potential that was sadly realized). The dangerous conditions that resulted from Hurricane Katrina coming ashore in New Orleans and the surrounding communities in August 2005 were substantial, but the lack of coordination among governmental authorities and other relief organizations has provided a more lasting image with regard to trust and credibility as time goes on. In televised news footage and press conferences, interviews with victims of the disaster, and in print reports, viewers observed citizens whose lives were in danger seemingly unable to be rescued, along with critical shortages of water, food, and medicine. News accounts of people perishing as a result were devastating to the observing audience.

RISK = HAZARD + OUTRAGE

Peter Sandman is just one of many risk and crisis communications experts; however, his writings and teachings have dominated the practice since his initial experience at the nuclear power generator plant incident at Three Mile Island in March 1979 (Sandman 2009). From his body of work, the most quoted concept is the paradigm "Risk = Hazard + Outrage," which connects the two variables of hazard and outrage to assist risk and crisis communicators in understanding their audiences as well as the hazards they face. This understanding assists with crafting messages that are more likely to be successful. Both variables exist on a continuum, and determining where they lie in a given situation is the fundamental key to knowing how the audience is feeling and what types of messages will cause perception changes or actions sought by the communicator.

Risk, in this paradigm, is viewed more as a personal perception and not necessarily in the technical quantification methods of risk assessment. While many methods of quantifying risk exist and performing standard risk assessment activities should not be set aside when crafting risk and crisis communication messages to determine actions to take in a crisis event, the messages delivered to audiences need to be based upon the audience's personal perceptions of the situation, not necessarily on a risk assessor's data points. This concept is supported by Covello's risk perception model above and requires a view of risk and crisis communications that is more fluid and based upon what the audience *believes* to be true, even in the face of clear evidence to the contrary.

Sandman (2003) has this to say about the two variables:

> In a nutshell, "hazard" is the technical component of risk, the product of probability and magnitude. "Outrage" is the nontechnical component, an amalgam of voluntariness, control, responsiveness, trust, dread, etc. They are connected by the fact that outrage is the principal determinant of perceived hazard. When people are upset, they tend to think they are endangered; when they're not upset, they tend to think they're not endangered.

TABLE 3.2. Sandman's Four Kinds of Risk Communications[a]

Scenario Variables	Key Concept	Key Phrase
High hazard Low outrage	Precaution advocacy	"Watch out!"
Low hazard High outrage	Outrage management	"Calm down!"
High hazard High outrage	Crisis communications	"We'll get through this together."
Medium hazard Medium outrage	Stakeholder relations	Varies

[a]Sandman (2003)

From these two variables, Sandman has postulated four kids of risk communications, as summarized in Table 3.2.

High Hazard/Low Outrage ("Watch out!")

Sandman calls activities that fall under this scenario "precaution advocacy" (Sandman 2007b). This situation features a serious hazard but an apathetic audience. In these types of situations an audience does not often object to the message and is mostly receptive to the content. The apathy of the audience increases the likelihood that they will listen to most communicators and messages without reservations or objections. However, even with a skilled communicator and message, *changing* the audience's perception of the risk or *moving* them to a desired action or behavior change can be difficult. And in the case of precaution advocacy, the objective is often to have the audience's perception of the hazard match the actual hazard or at least move it further in that direction.

The unfortunate tendency for many communicators in this situation is to exaggerate the hazard scenario in order to "scare" the audience into action. Sometimes this can be effective, but it can also be risky and cause an overreaction by the audience, followed by mistrust when the true nature of the hazard is discovered. (A more detailed discussion and recommended approach to this situation, "worst-case scenarios," is addressed in Chapter 9.)

The task for the risk and crisis communicator is to find the means to convey the message that will predispose the audience toward desired goals. Messages should be short and aimed at increasing the audience's outrage so that it is more in line with the actual hazard and so that it provokes action or at least attention. An example of this type of scenario can be seen by reviewing the Hurricane Katrina crisis. Although many residents heeded the calls to evacuate (the message), certain groups were unwilling do so. Some of those who stayed, not because they couldn't leave but because they chose

not to, lost their lives because their outrage level was not sufficiently moved to a desired action (evacuation) (Sandman 2005).

Medium Hazard/Medium Outrage (Stakeholder Relations)

This is the easiest communication environment, and the task is to simply provide an open and honest dialogue that explains the situation and allows sufficient opportunity for audience response and questioning. It is likely that the audience will also heed the request for action.

These types of scenarios lend themselves to lengthier processes of dialogue and consensus decision making between the communicator and stakeholders and have been discussed in other sections of the text as risk communications rather than crisis communications. The processes of community engagement stipulated in the Superfund program work well here because the hazard is not immediately life threatening and allows the time necessary to develop a consensus on site hazard and remediation decisions. Further, the audience is easier to engage because the hazards often affect their homes and families (U.S. EPA 2005).

Low Hazard/High Outrage ("Calm down!")

This is the most difficult scenario for a risk communicator, as the audience is often operating on a high level of mistrust of both the organization and the individual communicator. This latter critical factor, which has been discussed above, must be addressed before any message is to be believed by the audience and acted upon. Further complicating this scenario is that audiences are sometimes controlled by a small group of "fanatics" who purposely exaggerate the situation for varying motives. These subgroups may also truly believe that situation is dire when the facts say otherwise or at least suggest that the situation is not nearly as serious as some might believe.

The tasks for the communicator in this scenario are to reduce the outrage by sincere listening, acknowledging, and even apologizing, if that will move the audience to a more realistic view of the seriousness of the hazard. The advantage here is that due to the high level of outrage the communicator does have the audience's attention, and with skillful messages, movement in a desired direction is possible.

An example of this type of scenario occurred just months after the Exxon Valdez disaster in Alaska in 1989 when a BP oil tanker spilled a much smaller amount of oil off the coast of California. Realizing that Exxon erred by not quickly providing timely information to the public about the spill, BP averted a similar public relations nightmare by providing immediate, regular, and timely communications about the spill, the effects, and the clean-up efforts. Even though the spill was substantially smaller than the Valdez incident (low hazard), the outrage level of the residents of California initially began as high due to the events in Alaska. The perception on the part of the audience was that of being lied to and kept in the dark about the realities of the situation by the oil companies. In a relatively short period of time, through skillful messages that demonstrated concern and action on the part of BP, the audience outrage level was successfully moved closer toward the actual hazard level (Fearn-Banks 2007). (As will be further discussed in Chapter 10, the irony is that BP's actions in California in 1989 were not sufficiently repeated during the Deepwater Horizon oil rig explosion and spill in the Gulf of Mexico in 2010.)

High Hazard/High Outrage ("We'll get through this together.")

Sandman suggests that this scenario is relatively rare but cites the September 11, 2001, terrorism attack in New York City as an excellent example. The audiences in these types of situations are not nearly as angry as they are fearful and scared, and because the hazard is serious, their position may be valid. (However, it should be noted, as was experienced in the 9/11 attack, that once the terror fades and immediacy of the danger passes, anger may be the next emotion an audience generates.) Without skillful management by the communicator, the outrage can easily slip into terror or depression, both of which are of limited use in moving the audience to take the desired action.

The communicator in this situation must tread carefully, allowing for the audience's legitimate fears, while remaining human and empathetic but still rational, and demonstrating true leadership. The advantage for the communicator is that the outrage is not typically directed at them, at least until after the crisis is past.

As a follow-up to the example presented above regarding the days just before Hurricane Katrina struck, the situation quickly deteriorated into an example of this scenario. Media reports showing desperate and dying citizens of a major United States metropolitan city created incredulous emotional states across the country (exceedingly high outrage). Compounding the problem was that early efforts by government officials to rescue those in need and alleviate suffering proved unsuccessful; it was difficult for the audience to understand why the situation was occurring. Fortunately, the appointment of Lt. Gen. Russel Honoré to lead the Joint Task Force and his communication events were exactly the type of crisis communications that were needed at the time. Honoré was often praised for his brash leadership skills, clearly communicating the gravity of the situation and the need for swift action, all the while demonstrating empathy for the citizens of New Orleans (Duke 2005).

MENTAL MODELS

Like Covello at The Center for Risk Communication and Sandman at Rutgers University, a large body of work has been developed by M. Granger Morgan and his colleagues at Carnegie Mellon University (Morgan *et al.* 2002). The mental models approach is a method of developing risk communications that is based upon sound research and practice with a number of different hazards including radon in homes, climate change, HIV/AIDS, and power-frequency fields.

Morgan describes the mental models theory as intellectual in its approach rather than "do it yourself" and suggests that this more complicated method, which relies heavily on natural science and expert reviews of messages that are tested and retested prior to being delivered in a variety of formats, assures greater success in message acceptance and audience action. The message creation process is long and somewhat

luous, not to mention expensive as compared to many other methods of developing k and crisis messages, but Morgan argues that this method is not only more likely succeed because of the lengthy discernment process, but also focuses heavily on dience understanding and acceptance of why a particular action ought to be taken or t taken. He asserts that without understanding why an audience comprehends and sponds to certain risks first, messages are more likely to be hit or miss.

In the text supporting and explaining this theory and approach, Morgan *et al.* 002) suggests that simple and obvious risk messages (such as not smoking in bed) e essentially successful because they rely on audience intuition and logic. However, e seemingly underwhelming success of the simple message "Just Say No" from its st usage in the days of former First Lady Nancy Reagan until the present time speaks a more complicated problem in message crafting and delivery.

Morgan asserts that the mental models approach draws its strengths from sound ychological theories of human behavior and understanding along fundamental con- pts related to economics, natural sciences, engineering, and public policy. He sum- arizes mental models in his preface:

> At its heart are commitments to the scientific facts of risk, the empirical understanding of human behavior, and the need for openness in communication about risk. We sought an approach that would treat diverse problems with a common set of methods and theories, as well as one that would be readily usable by the professionals entrusted with communicating about risks.

The process of developing communication messages through the mental models pproach involves five steps (Morgan, *et al.* 2002):

1. **Create an expert model.** A review of current scientific literature is a necessary first step to comprehend the nature and magnitude of the risk. Through the use of an influence diagram, a network of known information is connected and involves information from a variety of diverse experts. This model is reviewed by technical experts in the area of the hazard to develop consensus, continuity, and authoritativeness of the content.
2. **Conduct metal models interviews.** Through the use of open-ended interviews, audience perceptions of the hazard are solicited. Interviews are structured to follow the influence diagrams. The use of open-ended questions ensures that the responses will be narrative and in the audience's own words, even if the responses are factually incorrect; possibly it is more important to the process that they are. The responses undergo an intense analysis to link them to the influence diagram and elicit areas of fact that are not clear for the identified audience.
3. **Conduct structured initial interviews.** Confirmatory questionnaires are developed that capture the responses expressed in the open-ended interviews as well as the influence diagram. These interviews are then conducted among a larger group than that of Step 2 and focus heavily on the eventual intended audience. The goal is to identify and quantify the prevalence of certain beliefs among the intended audience.
4. **Draft risk communications.** The information gained from both the interviews and questionnaires is utilized to craft risk communication messages designed to inform by filling knowledge gaps and to correct audience misperceptions. The strength of the audience's misperceptions comes from the earlier steps and is the focus of much of the message content. The drafts are reviewed by the experts to assure accuracy.
5. **Evaluate communications.** Target population interviews occur to test the messages, which are then further refined before widespread delivery. One-on-one interviews, focus groups, and questionnaires are the methods used to test and refine the messages.

Due to the length of time required to work through the five steps, as well as the time and resources required, this model's applicability as presented may be more limited to certain risk communication situations or crisis communications situations when the threat is not imminent but the ability to predict its eventual occurrence is sound. However, attempts will be made through the remaining chapters of this text to flesh out certain portions of the process and describe the applicability in situations that are more typical and not reliant upon grants and other major sources of funding, as the mental models approach tends to be.

FUNCTIONAL LINES OF COMMUNICATION

Regina Lundgren and Andrea McMakin address the various forms of risk and crisis communications, and their approach is helpful in laying out various communications situations and clarifying the types of messages and objectives of each. The functional lines they describe include care communications, consensus communications, and crisis communications (Lundgren and McMakin 2004). These functional lines have obvious overlap as is described below, but the unique characteristics of their applications require risk and crisis communicators to utilize differing tactics and communication methods.

Care Communications

These types of communication lines are best used when the hazard is well characterized and accepted by the audience. This is similar to Sandman's stakeholder relations concept; however, Lundgren and McMakin do not address the seriousness of the hazard in this functional line of communication. The situation could very well pose a significant hazard, but as long as the audience is in agreement with the assessment and the associated dangers, the messages are delivered and generally well accepted. Communicators in these lines of communication include those charged with informing the audience about health hazards, such as the American Heart Association, local public

health departments, and televised public service announcements warning about the dangers of smoking.

Care communications also involve the work of many safety professionals when they engage in risk communications through standard safety training activities, including traditional training classes as well as the briefer tool box talk and tailgate meeting format. Messages in this line of communication also include safety posters, newsletters, and other forms of written communication designed to educate and advise about workplace risks and appropriate action to minimize them.

In terms of the previous discussions of trust and credibility, as well as the development of ongoing relationships with the audience, the acceptability of this type of communication is due in part to the audience's reception of the communicator because of the development of trust and credibility. These relationships have taken time to develop and often consist of meaningful two-way communication efforts.

Consensus Communications

This functional line of communication describes the efforts to get meaningful cooperation and consensus from differing audience groups, who may or may not be in agreement. It enjoins those with a stake in the management of the risk to get engaged in the process and help to shape the actions that are derived from the groups' efforts. Lundgren and McMakin also use the terms "public engagement," public involvement," and "public participation" to describe this process.

The Superfund program's community involvement efforts (mentioned earlier) are a good example of this type of process (U.S. EPA 2005). In the beginning there may be substantial differences among the various groups regarding the hazard and the level of risk it presents, but the purpose of the process of consensus communication is to bring differing groups together to jointly develop agreement about the hazard and then to come to a consensus about the best ways to mitigate and remediate the hazard. As with care communication, this is a long-term process that succeeds when the audience can develop trust and credibility in the communicators. Until that occurs, consensus on actions is often difficult to achieve.

In addition to developing consensual strategies among the stakeholders in this process, consensus communication can also serve the purpose of conflict resolution and negotiation when disagreement develops or is present from the beginning of the process.

Crisis Communications

The definition for this line of communication is similar to previous discussions regarding definitions in Chapter 2 in that it occurs in the face of danger that is often sudden, even if predictable. Differences of opinion on the hazard level rarely exist or are so minimal that they do not need addressed in most of the messages that are delivered.

Communicators may or may not have developed previous relationships with the audience and those relationships may or may not be positive, but the time for developing messages is short. Therefore, as has been noted above, the level of trust and credibility of the communicator is the predominant factor as to whether or not the messages

will be believed and acted upon. Natural disasters, industrial accidents, and widespread outbreaks of disease are example of situations when crisis communications occur. Planning for such types of emergencies and the associated communication efforts would be considered either care or consensus communications, depending upon the situation and the level of audience involvement in the process.

THE EXCELLENCE THEORY

In her book, *Crisis Communications: A Casebook Approach*, Kathleen Fearn-Banks delves into the development of modern-day crisis communications theory. She traces its genesis to theories proposed in the 1980s regarding public relations excellence. Risk and crisis communications messages are developed using similar methods as those used by public relations professionals to influence key publics and stakeholders (Fearn-Banks 2007).

The excellence theory was first developed by Grunig and Hunt in the mid-1980s to address public relations models and how organizations could achieve the type of publicity they desired through four different models that existed along a continuum of the level involvements of the audience. These models influence the development of the message, provide some framework to help understand audiences, and use those understandings to develop and deliver messages (Grunig and Hunt 1984; Grunig 1992). The excellence theory postulates that most traditional approaches to public relations would suggest that all publicity is good publicity, while the less traditional approaches embrace two-way communications and mutual understanding to negotiate, compromise, engage, and create a dialogue with audiences. The relationship of the excellence theory to the above discussions of risk communications, particularly Lundgren and McMakin's consensus communications, is obvious.

Marra expounded on the work of Grunig and his colleagues by peering more closely at the field of crisis public relations and looked for models that would allow for a better understanding of the variables that create effective crisis communications plans. Marra focused his work on the importance of strong relationships with key audiences, which are developed before a crisis occurs and how those relationships are a clear indicator of how an organization can mitigate its financial, emotional, and perceptual damage following the crisis. His writings expound on Grunig's by aligning strong positive relationships between communicators and their audiences with two-way communications rather than asymmetrical ones, which supports earlier discussions in this and previous chapters regarding the need for ongoing dialogue when trying to develop sound risk communications (Marra 1992).

Fearn-Banks utilizes all of the above theoretical foundations and adds to the theory by suggesting that organizations that utilize thorough crisis inventories to anticipate and plan for crises suffer less financial emotional and perceptual damage. Lastly, she postulates that organizations demonstrating a sound level of openness and honesty in their communications suffer less financial, emotional, and perceptual damage than those who do not. The ideas of openness and honesty are recurring themes in this chapter.

THE "STICKINESS" OF MESSAGES

In his widely popular book *The Tipping Point*, Malcolm Gladwell discusses his beliefs about agents of change in society. His discourse in this context relates to the spread of what he terms "social" epidemics of style, jargon, and television shows. He postulates that there are three factors that determine whether or not a social epidemic will "tip": the law of the few, the "stickiness" factor, and the power of context. Of the three, the stickiness factor relates directly to the ability of a message to be retained by an audience. He further argues that the ability to craft "contagious" messages will increase the chances of them being heard through the barrage of messages our current society produces and has interesting implications for risk and crisis communications (Gladwell 2002).

According to Gladwell, crafting a more memorable (contagious) message can be simply a matter of changing the presentation and structuring of the information. In doing so, a communicator can substantially affect the message's impact. As it relates to risk and crisis communications, a message that has significant impact on the audience increases the likelihood that the audience will be motivated to either change their attitudes about the risk or crisis or be moved to act in a desired manner.

In an example to describe this process, Gladwell discusses a battle between two unlikely competitors for the marketing account of a large record company, one a well-funded public relations organization with large client accounts. This organization's reputation hung on its sophisticated advertisements. The other competitor was the record company's longstanding vendor, a much smaller company with fewer resources and experience with large companies. The smaller company proposed that the two marketers be able to develop an advertising campaign that would run for a period of time and that the results of customer reactions to the campaign would be the deciding factor as to who retained the record company's account. In this classic "David vs. Goliath" endeavor, the smaller company succeeded with a series of low-budget commercials that ran on late night television broadcasts featuring a "gold sticker" that customers could look for in a print advertisement, which they could then use to get a free record with their paid order. Gladwell suggests that the smaller company's advertisements were simple but effective because they provided an incentive to the audience to perform an action, thereby making the message stick. In other words, what made the message effective and memorable was that it encouraged and succeeded in making the audience participants in the process; a common theme in discussions from Chapter 2 about risk communications and the importance of a two-way process directly involving the audience. Using Gladwell's terminology, what can make a message "stick" out from all of the other messages audiences receive each day are those that directly involve them in some action or activity for which they receive a benefit.

REFERENCES

Coombs, W.T. 1999. *Ongoing Crisis Communications: Planning, Managing, and Responding.*

Covello, V. 2007. "Effective Risk and Crisis Communication During Water Security Emergencies." U.S. Environmental Protection Agency; EPA 600-R07-027.

Covello, V., R. Peters, J. Wojtecki, and R. Hyde. 2001. "Risk Communication, the West Nile Virus Epidemic, and Bioterrorism: Responding to the Communication Challenges Posed by the Intentional or Unintentional Release of a Pathogen in an Urban Setting." *Journal of Urban Health* 78(2):382–391.

Cvetkovich, G., M. Siegrist, R. Murray, and S. Tragesser. 2002. "New Information and Social Trust Asymmetry and Perseverance of Attributions About Hazard Managers." *Risk Analysis* 22(2):359–367.

Cvetkovich, G. and P.L. Winter. 2001. "Social Trust and the Management of Risks to Threatened Endangered Species." Presented at the Annual Meeting of the Society of Risk Analysis, Seattle, Washington, December 2–5.

Duke, L. 2005. "The Category 5 General." *The Washington Post*, September 12.

Fearn-Banks, K. 2007. *Crisis Communications: A Casebook Approach*, 3rd ed. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Gladwell, M. 2002. *The Tipping Point*. New York: Little, Brown and Company.

Giuliani, R. Quote transcribed from a press conference held on September 11, 2001 with Rudolph Giuliani, Mayor of New York City, and George Pataki, Governor of the State of New York. Posted online at http://transcripts.cnn.com/TRANSCRIPTS/0109/11/bn.42.html Accessed on January 11, 2010.

Grunig, J.E., ed. 1992. *Excellence in Public Relations and Communications Management*. New York: Routledge.

Grunig, J.E. and T. Hunt. 1984. *Managing Public Relations*. New York: Holt, Rinehart and Winston.

Kasperson, R.E. 1986. "Six Propositions on Public Participation and Their Relevance for Risk Communication." *Risk Analysis* 6(3):275–281.

Kasperson, R.E., D. Golding, and S. Tuler. 1992. "Social Distrust as a Factor in Sitting Hazardous Facilities and Communicating Risks." *Journal of Social Issues* 48(4):161–187.

Lundgren, R.E. and A.H. McMakin, A.H. 2004. *Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*, 3rd ed. Columbus, OH: Battelle Press.

Marra, F.J. "Crisis Public Relations: A Theoretical Model." PhD dissertation, University of Maryland, College Park, 1992 (unpublished).

Morgan, M.G., B. Fishhoff, A. Bostrom, and C.J. Atman. 2002. *Risk Communication: A Mental Models Approach*. New York: Cambridge University Press.

Peters, R.G., V.T. Covello, and D.B. McCallum. 1997. "The Determinants of Trust and Credibility in Environmental Risk Communication: An Empirical Study." *Risk Analysis* 17(1):43–54.

Renn, O. and D. Levin. 1991. "Credibility and Trust in Risk Communication." In *Communicating Risks to the Public*, edited by R.E. Kasperson and P.J.M. Stallen. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Sandman, P. 2003. "Four Kinds of Risk Communication." Posted online at http://www.petersandman.com/col/4kind-1.htm on April 11, 2003. Accessed on January 4, 2010.

Sandman, P. 2005. "Katrina: Hurricanes, Catastrophes, and Risk Communications." Posted online at http://www.petersandman.com/col/katrina.htm on September 8, 2005. Accessed on January 29, 2010.