

Crisis Decision Theory: Decisions in the Face of Negative Events

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How do people respond to negative life events? *Crisis decision theory* combines the strengths of coping theories with research on decision making to predict the responses people choose under negative circumstances. The theory integrates literatures on coping, health behavior, and decision making, among others, into 3 stages that describe the process of responding to negative events: (a) assessing the severity of the negative event, (b) determining response options, and (c) evaluating response options. The author reviews and organizes the relevant research on factors that shape information processing at each stage and that ultimately predict decisions in the face of negative events. Finally, the author presents a critique of crisis decision theory and discusses areas for future research.

Keywords: coping, negative events, decision making

Imagine a woman who awakens in the middle of the night to the smell of smoke. She quickly assesses the situation and considers her options: Should she ignore the smell and go back to sleep? Should she call 911? After evaluating her options, the woman decides to gather a few belongings and exit the house before calling for help. Likewise, imagine an elderly man who receives a diagnosis of prostate cancer. He investigates his condition and considers his options: Should he pursue aggressive treatment or choose a wait-and-see response? After evaluating his options, the man decides to monitor the progress of his condition rather than seek treatment at that time. Although these scenarios differ in domain, both depict the process by which people choose a response to negative life events. People who face negative events often must choose from a variety of response options, and the best response to these events is often unclear. The purpose of this article is to present *crisis decision theory*, which provides a critical link between theories of stress and coping and decision-making research. This article organizes many relevant but diverse psychological literatures and can prompt future programs of research based on the theory.

Crisis Decision Theory

Although the term *crisis* often refers to events of extreme significance, crisis decision theory predicts responses to events of all levels of severity. For my purposes, a crisis is simply a negative event that commands a person's attention. For example, both losing one's wallet and losing one's job may be perceived as crises

to the people who experience these events. Some crises have more severe consequences than others, but crisis decision theory recognizes that even relatively inconsequential negative events may require considerable attention at the time they occur.

Crisis decision theory addresses two questions regarding responses to negative events: First, what are the decision processes that occur when people respond to a negative event? Second, what are the factors that predict response choices? To answer these questions, crisis decision theory includes a three-stage process that people go through when facing a negative life event. At the first stage of the process, people assess the severity of the negative event using many types of information, including information about causes, comparative information, and information about consequences. Second, people determine their response options, which are limited by the controllability of the event and by the feasibility of various responses. Third, people evaluate their response options. At this stage people determine the pros and cons of the options they generated at the second stage. People then select a response that reflects the outcomes of each stage in crisis decision theory (see Figure 1). In addition, social context, personal motivations, and automatic processing can influence decision processes in crisis decision theory.

It is worth mentioning at this point that people may not proceed through the three stages in exactly the order I describe. People may get "stuck" at a particular stage (e.g., by giving up or becoming overwhelmed), or they may revisit earlier stages after proceeding through later stages. For example, people may reevaluate the severity of their situation throughout the process of evaluating and choosing a response. Moreover, the processes of determining and evaluating response options are often intertwined. People may evaluate each possible response before considering other responses, and as a result they may choose a response before considering all available responses. I suggest, though, that the process described by crisis decision theory characterizes the steps in the response selection sequence as people normally proceed through them in many situations.

In many ways, both the purpose and structure of crisis decision theory are similar to those of coping theories, particularly Laza-

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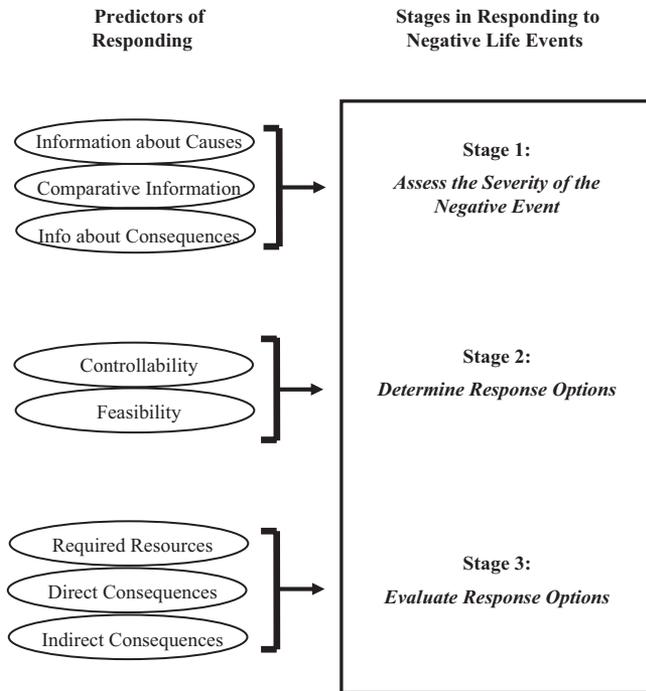


Figure 1. Crisis Decision Theory.

rus's transactional model of stress and coping (Lazarus & Folkman, 1984) and Leventhal's self-regulation model of illness (Leventhal, Nerenz, & Steele, 1984). Although crisis decision theory draws on coping theory, it is different in several critical ways. First, and most important, crisis decision theory joins the coping literature with research on decision making to provide a more complete picture of the process by which people select responses to negative events. Alone, coping theory and decision-making research fall short in making specific predictions about response choices to negative life events. The literature on coping, though useful for many purposes, has fallen short of identifying the critical variables that predict coping choices across situations. As such, decision-making research can contribute its strengths to help in understanding the coping process. In contrast, research on decision making does not typically focus on processes specific to dealing with negative life events, and as such coping theory can extend the applications of decision-making research. Thus, the literature on stress and coping provides a useful but incomplete description of the process of responding to negative events, and crisis decision theory attempts to complete the picture by incorporating the contributions of the literature on decision making.

It is also noteworthy that crisis decision theory focuses on discrete, tangible responses to negative events rather than on the amorphous, fluid coping responses that are the focus of coping theories (e.g., Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Coping theories address a broad set of responses, including both problem-focused and emotion-focused coping, that can take place simultaneously and be in constant flux (Carver, Scheier, & Weintraub, 1989; Folkman & Lazarus, 1980; Folkman et al., 1986). Although these categories of responding can be useful for making general predictions about response types, they do not

allow for predictions about which response people will choose in specific situations. Furthermore, the coping literature presents a messy and somewhat atheoretical depiction of coping behavior, and studies of coping behavior are inconsistent about the types of coping they measure (e.g., Aldwin & Revenson, 1987; Carver et al., 1989; Parkes, 1984; Scheier, Weintraub, & Carver, 1986). Crisis decision theory simplifies and clarifies this matter by making predictions about the actions people take (or choose not to take) in response to negative life events. Crisis decision theory does not exclude the possibility that people also engage in emotion-focused coping, but these behaviors are outside the scope of the theory.

The goals of crisis decision theory also differ from the goals of theories addressing preventative behavior (e.g., health belief model: Becker, 1974; Janz & Becker, 1984; Kirscht, 1988; protection motivation theory: Floyd, Prentice-Dunn, & Rogers, 2000; Maddux & Rogers, 1983; Rogers, 1983; proactive coping model: Aspinwall & Taylor, 1997). Although crisis decision theory includes some of the same predictors of behavior as prevention-focused theories do, it addresses *responses* to negative events that have already occurred and not proactive attempts to prevent the occurrence of negative events. In addition, crisis decision theory is not a prescriptive or evaluative theory. This article is not primarily concerned with establishing how people *should* assess and respond to negative events or with determining how people can improve their assessments and responses. Although these functions may be secondary applications of the theory, the primary function of crisis decision theory is to describe the processes involved in responding to negative events and to predict response choices.

Stage 1: Assessing the Severity of the Negative Event

When people face a negative event, they must determine how the event will affect their lives. The first stage in crisis decision theory is assessing the severity of the negative event. At this stage people seek information in an attempt to understand the threat they face. Although the first stage in crisis decision theory incorporates many predictors not addressed in the coping literature, at its heart this stage is similar to the stage of primary appraisal in traditional coping theories. During primary appraisal, people assess the potential harm or benefit of a stressor and determine whether anything of value is at risk (Folkman et al., 1986; Lazarus & Folkman, 1984). The first stage in crisis decision theory is also similar to the process of developing cognitive representations of illness in Leventhal's self-regulation model, in which people consider past experience, causes, and consequences, among other things, to develop a sense of the illness they face (Leventhal et al., 1984). Likewise, the first stage in crisis decision theory involves an assessment of the potential harm of a negative event, or the severity of the event, using types of information similar to those discussed in Leventhal's model.

Both the degree of threat people perceive and the specific information they gain at the first stage in crisis decision theory influence responding to the negative event. For example, more threatening situations likely promote a greater investment of time and energy into the consideration of response options and the choice of a response. Along these lines, studies have found that people engage in more effortful, time-consuming, and complex decision-making strategies when they perceive a situation to be

highly important (Kunda, 1990; McAllister, Mitchell, & Beach, 1979, Experiment 3). People facing relatively nonthreatening negative situations may simply choose the response they think of first or the least effortful response.

Moreover, people must make particular judgments in the first stage to proceed through the subsequent stages. Specifically, people must judge the event to be sufficiently threatening to warrant further consideration and, consequently, further progress through the stages in crisis decision theory. Of course, extremely intense threats may overwhelm people and paralyze their progress through the subsequent two stages, particularly when people feel that negative outcomes of the event are uncontrollable (Hovland, Janis, & Kelley, 1953; Leventhal, 1970; Witte & Allen, 2000). Coping research has suggested that people may withdraw or reduce problem-focused efforts in response to overwhelming, uncontrollable events in favor of coping responses that manage emotions (e.g., Folkman & Lazarus, 1980). Most likely, the relationship between perceived severity and further progress through the stages in crisis decision theory is an inverted-U-shaped relationship. In other words, extremely benign events are not likely to prompt further attention or evaluation of possible responses. On the other hand, extremely severe events might lead to an inability or unwillingness to further consider the implications of the event. Thus, events that are perceived to be of moderate severity are those that will prompt further progress through the stages in crisis decision theory.

People can use three categories of information in the process of assessing the severity of a negative event: (a) information about the cause of the event, (b) comparative information, and (c) information about potential consequences of the event. Not every type of information is available or applicable in a given situation, and in this section I discuss some factors that might predict the use of each type of information.

Information About Causes

People face a variety of negative events. Two broad categories of negative events are (a) events caused by one's own behavior and (b) events caused by an external agent. Crisis decision theory addresses many if not all types of negative events, and the type of event people face influences how people assess the severity of the negative event. People who blame themselves for the occurrence of a negative event may see the event differently than do people who attribute the cause of the event to someone or something else. Research has suggested that a greater sense of responsibility for an event intensifies perceptions of the severity of negative consequences (Schlenker, 1980, 1997; Schlenker, Weigold, & Doherty, 1991).

Of course, the categories of self-caused events and externally caused events are not entirely distinct. Many illnesses are the result of both lifestyle choices (e.g., diet, exercise, etc.) and external agents (e.g., genetics, environmental agents, contagions, etc.). Even events that are more clearly caused by one's own actions, such as being fired from a job, can be partly the result of circumstances out of the individual's control (e.g., downsizing, change of management, etc.). Similarly, some researchers have suggested that events can have both proximal and distal causes, and one study found that people attributed responsibility for an event on the basis of its distal cause more than on its proximal cause (Brickman,

Ryan, & Wortman, 1975). For example, a student who fails a test because he or she did not study hard enough (an internal, proximal cause) might not take responsibility for the outcome if he or she could not study because of a family emergency (an external, distal cause). In addition, people can feel responsibility for causing the problem and/or for finding a solution. Research has suggested that people are most likely to make active attempts to respond to a negative event when they feel a sense of responsibility for both the problem and the solution (Brickman et al., 1982).

For assessing severity, the important cause is the one the individual perceives. People assess negative events according to their own perception of the situation, including who or what they believe caused the situation to arise (Lazarus, 1993; Roesch & Weiner, 2001). People's perceptions are beliefs about causes, which may vary in accuracy and may not represent actual causes of negative events. For example, people may diminish their responsibility for a negative event if they are concerned about their public image. In contrast, people may sometimes inflate their personal responsibility for a negative event. For instance, people may hope to secure their belief in a just world by exaggerating their personal responsibility for bad events (i.e., "bad things happened to me because I did something bad"), or they may exaggerate their personal responsibility in an effort to maintain a sense of control over their outcomes (i.e., "I could prevent this event from happening again"). Crisis decision theory concerns the bases on which people make decisions in response to negative events, and as such the theory is concerned only with "actual" causes to the extent that they influence people's perceptions of causes. In other words, people may wrongly interpret an event, but their wrong interpretation nonetheless guides their assessment of the event and, ultimately, their response to the event.

People's perceptions about the cause of a negative event can directly affect not only their evaluations of severity but also their response choices. Research has suggested that events perceived to be caused by one's own actions may be more likely than externally caused events to prompt active attempts to remedy the situation and prevent the negative event from recurring (Schlenker, 1987). In other words, people may be more willing to invest in a solution when they feel a sense of responsibility for the negative event. For example, a teaching assistant is probably more likely to work late nights to resolve a self-caused mistake than to resolve a mistake caused by the professor. Of course, a sense of responsibility can also paralyze people into inaction or prompt ineffective responses. For example, research on victims of sexual assault has found that women who blame themselves for the assault are more likely to engage in avoidant coping strategies, whereas women who do not blame themselves are more likely to engage in productive, active coping strategies (Littleton & Breitkopf, 2006). Furthermore, research on the elderly has found that older people may reduce their sense of responsibility for the very purpose of reducing distress and, thus, mobilizing action (Aldwin, 1991).

Future research can reconcile this potential contradiction regarding the relationship between responsibility and responses to negative events, but it seems that people would be most likely to take action in response to an event for which they feel moderate responsibility. That is, like the broader relationship between severity and further attention to an event, the relationship between perceived responsibility for negative events and the likelihood of active responding may be an inverted-U-shaped relationship. Peo-

ple who feel little responsibility for an event and its solution or for whom the responsibility holds few negative personal implications may be unmotivated to take action to remedy the situation. On the other hand, people who feel overwhelmed by the personal implications of their responsibility may be unable to take productive action due to denial or avoidance.

In sum, people feel responsible for negative events when they perceive responsibility for the distal or original cause of the event and when they feel responsible for both the cause of the event and for finding a solution. In turn, people who perceive responsibility for negative events are more likely to judge the event to be severe and, unless the sense of responsibility is overwhelming, are more likely to take action to address the situation.

Comparative Information

People do not evaluate negative events in a vacuum. Instead, people make comparisons with meaningful, familiar targets that provide information about their present reality (Kahneman & Miller, 1986; Kahneman & Tversky, 1982). Many negative events present novel experiences, and people use comparisons to place events in a recognizable context. Comparisons do not always lead to accurate assessments, and people are often biased in their choice of comparison targets (Pyszczynski, Greenberg, & LaPrelle, 1985; Taylor & Lobel, 1989). However, comparative information is better than no information in assessing the severity of a negative event. This section discusses comparisons in broad terms, including comparisons with schemas, comparisons with alternative outcomes, and social comparisons. Each of these comparisons can provide information about the severity of a negative event by allowing people to put the event in context.

Comparisons with schemas. People rely on mental shortcuts in making judgments about the world (Kahneman, Slovic, & Tversky, 1982). Regarding the assessment of negative events, people may compare their situations to available mental representations in an attempt to fit the situation into a known schema. Schemas are a collection of related beliefs or ideas that people use to organize their knowledge about the world. More important to the topic at hand, people can compare negative events to known schemas to gain information about the severity of the event (Aspinwall & Taylor, 1997). For example, people may have a "cancer schema" that specifies whether a diagnosis of cancer is a death sentence or a treatable situation.

Past experiences play an important role in the development and use of schemas (Markus, 1977), and people can use past experiences to extend their understanding of the severity of a negative event (Leventhal & Cameron, 1987). In regard to crisis decision theory, a negative event will seem more severe to the extent that people recall similar events that were negative and severe. For example, a woman who has her heart broken for the first time has little personal experience from which to learn. However, a woman who experiences the end of a relationship for the second or third time will assess her situation in part based on her schemas about relationship break-ups developed during her previous experiences. If she experienced few negative outcomes and quickly rebounded from her first break-up, she will likely assume that the later break-ups will be equally easy to handle. However, if she experienced a great deal of pain and suffering the first time around, her assessment of her current situation will likely be dire as well. On

the other hand, research has shown that people who have past experience with a disease rate the disease as less severe (Jemcott, Croyle, & Ditto, 1988), suggesting that schemas for previously experienced negative events often indicate low severity. Finally, people can also compare their current situation to situations they observed in the past, such as a close friend or family member's situation (Walter & Emery, 2006). The woman diagnosed with breast cancer for the first time may remember a friend's experience with cancer and use that information to assess the severity of her diagnosis.

Thus, crisis decision theory suggests that people can compare negative events to existing event schemas when assessing the severity of the event. The event will seem more severe to the extent that the event is similar to other severe events, to the extent that people do not have prior experience with the negative event, and to the extent that relevant past experiences were more severe.

Comparisons with alternative outcomes. After experiencing a negative event, people often imagine how the situation might have turned out differently (Roese, 1997). Imagining alternative scenarios gives people a sense of what "could have," "might have," or "should have" occurred, in contrast to the reality they face. A second source of comparative information for assessing severity is comparison with these imagined alternative scenarios. Although people tend to generate upward comparisons (i.e., comparisons with better possible alternatives) in response to negative events (Roese & Olson, 1997; White & Lehman, 2005), aspects of the event can influence the types of counterfactual alternatives people generate. For example, events that people perceive as controllable lead to more upward comparisons, whereas events that people perceive as uncontrollable lead to more downward comparisons (i.e., comparisons with worse possible alternatives; Mandel, 2003; Roese & Olson, 1995a). In addition, events that might recur in the future tend to prompt upward comparisons, as these comparisons allow people to learn how to improve the situation in the future (Markman, Gavanski, Sherman, & McMullen, 1993).

People imagine alternative scenarios not only in response to a negative event; they also compare their outcomes to scenarios they expected or desired prior to the negative event. People experience a range of negative emotions in response to a negative event (sadness, anger, grief, etc.), but disappointment is specific to the experience of outcomes falling short of expectations (van Dijk, Zeelenberg, & van der Pligt, 1999; Zeelenberg, van Dijk, Mandst, & van der Pligt, 2000). People feel disappointed about shattered hopes or expectations, not simply about negative outcomes. The intensity of disappointment depends primarily on how people's outcomes compare with their expectations. The more expectations exceed outcomes, the more intense the disappointment (Mellers, Schwartz, Ho, & Ritov, 1997; van Dijk & van der Pligt, 1997). For example, a "C" on an exam feels worse for a student who expected an "A" than for a student who expected to receive a "C."

People who imagine better alternative outcomes or have higher expectations feel worse about the more dire reality they face (McMullen, 1997; Medvec, Madey, & Gilovich, 1995; Roese, 1994; Roese & Olson, 1995b; but see McMullen & Markman, 2000). Furthermore, people judge events to be more negative when they consider better alternatives. One study found that participants awarded more money to victims of a tragedy when they could easily imagine a scenario that avoided the tragedy (Miller &

McFarland, 1986). In other words, a negative event seems more severe when people can easily imagine a better, alternative scenario.

Thus, crisis decision theory suggests that negative events will seem more severe when people can easily imagine alternative, better outcomes. Specifically, people who experience controllable negative events, who expect that the event might reoccur, and who held overly high expectations prior to the event are more likely to judge the negative event as severe.

Social comparisons. More than 50 years of research has demonstrated that people use comparisons with others to gain information about themselves (e.g., Festinger, 1954; J. Wood, 1989). People often lack objective evaluations of their abilities, achievements, and circumstances, and social comparisons provide one standard by which to make evaluations. People use social comparisons to gain information about a negative event when experiencing uncertainty (Festinger, 1954; J. Wood, 1989).

How people feel as a result of social comparisons depends on characteristics of the comparison target and on the relations between the target and the self (J. Wood, 1989). On average, people feel worse about their own situation when they compare themselves with people who are better off, and they feel better when they compare themselves with people who are worse off (Collins, 1996; Gibbons & Gerrard, 1989; Taylor & Lobel, 1989; J. Wood, 1989).¹ Although people are generally more likely to compare themselves with others who are worse off after experiencing a negative life event (e.g., J. Wood, 1989), they may also utilize comparisons with others who are better off. Research on the social comparisons of breast cancer patients has suggested that people may look to better off others when such comparisons are likely to provide desirable information (e.g., the likelihood of recovery from cancer; Kruglanski & Maysel, 1990; Taylor & Lobel, 1989). More generally, people may rely on social comparisons with others who are better off when such comparisons can provide useful information about how they should respond to the event. Under many circumstances, though, people are likely to seek comparisons with others who are worse off in an effort to improve subjective well-being and mood and to promote positive coping (Gibbons & Gerrard, 1989; Mendes, Blascovich, Major, & Seery, 2001).

However, people do not always have the luxury of choosing a comparison target (J. Wood, 1989). For example, a losing football team that must face the winning team immediately following the game faces an unpleasant social comparison. A negative event will seem worse, or more severe, if an upward comparison target is available and salient and less severe if a downward social comparison target is available and salient.

People may also engage in “social” comparisons, defined broadly, by making temporal comparisons of their current situation to their own lives at a previous time (A. Wilson & Ross, 2000). Temporal comparisons function in a similar manner to traditional social comparisons. In general, people will feel better about a negative event if they compare it to a worse time in their own lives, and they will feel worse about the event if they compare it to a better time (Markman & McMullen, 2003). Of course, people do not always evaluate their past selves in a completely objective light. Research has suggested that people evaluate their past experiences in a manner that allows them to believe things have improved over time, even when objective evidence suggests that

no changes have occurred (A. Wilson & Ross, 2001). In any case, people will likely judge a negative event to be less severe to the extent that the event reflects improvement over time.

Thus, crisis decision theory suggests that negative events will feel worse, or more severe, to the extent that people compare themselves with others who are better off or to better times in their lives and less severe to the extent that people compare themselves with others who are worse off or to worse times in their lives. More specifically, people may perceive events to be severe when they expect that others who are better off can provide valuable information, when they have available only comparison targets who are better off, and when the event inarguably indicates deterioration over time.

Summary of comparative information. In sum, people use several types of comparative information to assess the severity of negative events. People compare their current situation to salient schemas, imagined alternative outcomes, and other people’s situations. Although the relationship between comparative information and perceptions of severity is somewhat complex, negative events generally will seem more severe to the extent that they match schemas for high severity events and to the extent that they yield unfavorable comparisons to imagined alternative outcomes and available social comparison targets.

Information About Consequences

People also use information about the potential consequences of the event (future-focused information) to assess severity. A negative event and its negative consequences differ in that an event may be negative in an immediate sense but have few long-term consequences, or an event may be relatively neutral in an immediate sense but have severe negative consequences in the future. For example, a student who receives a bad grade on an exam may feel terrible in the moment but realize that the consequences of the exam grade may not be particularly severe. In contrast, the student could instead feel relatively indifferent about receiving a poor exam grade but recognize that the consequences could prove to be severe in the long-run.

A number of factors influence the extent to which people perceive an event to be potentially consequential. First, events that are likely to result in negative consequences will seem more severe. To return to an earlier example, the severity assessment of the woman who awakens to the smell of smoke depends largely on how likely she believes it is that the smoke indicates fire. Second,

¹ It is important to note several exceptions to the typical effects of upward social comparisons. If people see themselves as very similar to someone who is better off, upward social comparison can lead to positive evaluations through a process of assimilation (Collins, 1996). Furthermore, people can “bask in the reflected glory” of close others who are better off (Tesser, 1988). People also seek upward social comparisons as inspiration to improve. When people believe that they can change their situation for the better, they prefer information about people who have already “made it” (Michinov & Monteil, 1997; Taylor & Lobel, 1989). Whereas downward social comparisons provide an emotional boost, upward social comparisons allow people to determine what it will take to improve their currently negative situation. Nonetheless, in judging a negative event people more typically feel worse about their situation if they engage in upward social comparison.

events that have the potential to bring about relatively serious consequences will also seem more severe. For example, news of cancer will seem more severe if the cancer is likely to get much worse in the future and lead to a significant decrease in quality of life.

The likelihood and seriousness of consequences are orthogonal dimensions, and both can weigh heavily in the assessment of a negative event. In other words, consequences may be very likely but relatively nonsevere, very likely and severe, relatively unlikely and nonsevere, or relatively unlikely but very severe. For example, a woman who loses her wallet may realize that identity theft is an unlikely possibility (unlikely consequences) but could cause major problems if it were to occur (serious consequences). She may also recognize that she will almost certainly have to face the hassle of canceling credit cards (likely consequences) but that this process will only involve minor inconvenience (nonserious consequences). In both cases the woman may assess the negative event (i.e., losing her wallet) as severe. Research on preventative health behavior and coping behavior has demonstrated that both the likelihood and the seriousness of negative consequences predict behavior in the face of a negative event (Aspinwall & Taylor, 1997; Lazarus & Folkman, 1984; Sweeny & Shepperd, 2007; Weinstein, 1993).

Third, evidence has suggested that people perceive events that are highly self-relevant as having more severe consequences. Several studies have demonstrated that people do not anticipate experiencing negative reactions to events that primarily affect someone else (Sweeny, Shepperd, & Carroll, 2007). For example, people will likely perceive the death of a relative with whom they had a close relationship as more significant than the death of a relative they met only a few times. Of course, people also consider the impact of negative events on others when assessing severity. Negative events that affect many people or that deeply affect a few people will likely seem more severe than events that touch few lives or make little impact. Moreover, people are more likely to consider the impact an event has on close others, such as family members and close friends, than they are to consider the impact an event has on strangers. For example, people with a personal connection to a tragedy like the terrorist attack on September 11, 2001 or Hurricane Katrina likely perceived the events to be more severe than did people who simply watched the tragedies unfold on television (e.g., Silver, 2004). In addition, people are more likely to anticipate negative reactions to events that affect close family members than strangers, and they even report anticipating equally strong negative reactions to events that affect a very close other (i.e., their child) as they do to events that affect themselves (Carroll, Shepperd, Sweeny, Carlson, & Benigno, in press).

Fourth, events that have the potential to cause more damage to a public image will seem more severe. Some negative events, such as the diagnosis of a sexually transmitted disease, being laid off, or failing a course, carry with them the possibility of damaging people's desired public images. In addition to more direct consequences of a negative event, such as health or professional consequences, evidence has suggested that social consequences also weigh into judgments of event severity. For example, patients report experiencing anxiety about the results of an HIV test due in part to concerns about the social implications of testing positive or even being tested at all (Worthington & Myers, 2003). A diagnosis of HIV is far more likely than a diagnosis of, for example, heart disease to generate image concerns, and image concerns increase

the perceived severity of a negative event. All other considerations being equal, events that carry public image concerns likely are perceived to be more serious than those that do not carry image concerns.²

Finally, events that will lead to immediate consequences may be assessed differently than events that will lead to consequences only in the distant future. Some consequences have an immediate impact, whereas other consequences are delayed. People do not view short- and long-term consequences in the same light, even when the impact of those consequences is objectively equivalent (Ainslie & Haslam, 1992; Loewenstein & Elster, 1992). For example, research has shown that people tend to value immediate gains more than distant gains (Ainslie & Haslam, 1992; Elster & Loewenstein, 1992). In addition, temporal construal theory (Liberman & Trope, 1998; Trope & Liberman, 2000, 2003) suggests that people primarily focus on detailed aspects of a particular outcome when it will occur in the near future and on more abstract, conceptual concerns when the outcome will occur in the distant future. For example, a student who fails an exam and is considering dropping the course might be more concerned with the time it takes to file the necessary paperwork (a detail-oriented concern) if the drop deadline is the next day (a near-future consequence). In contrast, the student might be more concerned with maintaining a good academic record (an abstract concern) if the drop deadline is weeks or months away (a distant-future consequence). Similarly, people may weigh potential consequences of negative events differently depending on the proximity of their effects. Concrete, detail-oriented consequences may be most important in assessing severity if the consequences will happen quickly, and abstract, intangible consequences may be most important in assessing severity if the consequences are far in the future.

In sum, crisis decision theory suggests that people use information about possible consequences to assess the severity of negative events. People consider both the immediate impact of a negative event and the potential future consequences of the event when assessing an event's severity. Regarding possible consequences, people perceive negative events to be more severe if they anticipate consequences that are more likely to occur, more severe, more self-relevant, and more damaging to public images. In addition, people weigh concrete, detailed consequences most heavily when those consequences will occur in the near future, and they weigh abstract, intangible consequences most heavily when they will occur in the distant future.

Stage 1: Summary and Conclusions

In sum, in the first stage in crisis decision theory people assess the severity of a negative event. People assess severity by seeking information about the negative event, including information about the cause of the event, comparative information, and information about the potential consequences of the event. The perceived severity of an event determines whether people proceed through the further stages in crisis decision theory, influences processing

² Of note, stigmatized individuals do not always experience more negative outcomes than nonstigmatized groups (Crocker & Major, 1989), but nonetheless the possibility of damaging one's public image is likely to be undesirable.

during the latter stages of the theory, and influences the responses people ultimately choose. Evidence has suggested that people who assess the negative event as severe are more willing to suffer greater costs and risk greater negative consequences in hopes of coping successfully with the event (Lazarus & Folkman, 1987). For example, studies of patients with obsessive-compulsive disorder, premenstrual symptoms, posttraumatic stress disorder, and chronic pain have found that patients with more severe symptoms are more likely to actively seek medical attention (Calhoun, Bosworth, Grambow, Dudley, & Beckham, 2002; Mayerovitch et al., 2003; Robinson & Swindle, 2000; Verhaak et al., 2000). Thus, the perceived severity of an event, along with the specific appraisals that contribute to perceptions of severity, plays an important role in predicting the types of responses people choose.

Stage 2: Determining Response Options

After people assess the severity of a negative event, they next consider how they could respond to the event. The second stage in crisis decision theory is determining available response options. At this stage people ask themselves, "What can I do about this problem?" This stage is similar to one aspect of secondary appraisal in traditional coping theories. During secondary appraisal, people evaluate their resources to determine their options for coping (Folkman et al., 1986; Lazarus & Folkman, 1984). The second stage in crisis decision theory is also related to the process of developing an action plan in Leventhal's self-regulation model of illness (Leventhal et al., 1984). Similarly, the second stage in crisis decision theory involves a determination of the available responses based on factors that might limit people's options.

Two factors limit the response options people consider: the controllability of outcomes and the feasibility of responses. First, people's perception of control over negative outcomes determines the availability of certain response options (Ajzen, 2002; Becker, 1974; Heijmans et al., 2004; Leventhal & Nerenz, 1985; Sweeny & Shepperd, 2007). If negative outcomes are avoidable, people are likely to consider active response options; if negative outcomes are unavoidable, people are likely to consider relatively passive response options (Aldwin, 1991; Carver et al., 1989; Folkman & Lazarus, 1980; Sweeny & Shepperd, 2007). Of course, uncontrollable situations may present active, albeit ineffective, response options. For example, people with "hopeless" cases of terminal cancer may pursue medical treatments that are almost certain to be ineffective.

Uncontrollable events may limit response options, but they do not eliminate the possibility of choosing between multiple responses. For example, people who lose a loved one must choose, among other things, whether to grieve in isolation or to gather with friends and family. Finally, people may perceive more or less control than actually exists. Some researchers have argued that illusions of control are inherent to healthy mental functioning (Taylor & Brown, 1988; but see Colvin & Block, 1994). Crisis decision theory does not discuss whether certain responses are better than others; rather, the focus in this stage is on how people determine their response options. Thus, people may consider active response options even when those responses are likely to prove ineffective, and they may perceive control when little or no control exists.

Second, limited resources restrict response options by rendering them unfeasible (Aspinwall & Taylor, 1997; Folkman & Lazarus, 1980, 1985; Hobfoll, 1989). Regardless of controllability, people may be unable to consider the most effective response because they do not have the time, money, social support, strength, or ability required to take the necessary actions. Once a negative event occurs, people may be unable to gather additional resources to cope with the event. However, research has suggested that people often anticipate in advance the possibility of a negative event, at which point they may proactively accumulate resources to cope (Aspinwall & Taylor, 1997). People who accurately anticipate a negative event and successfully accumulate resources to cope with it are less likely to find their response options limited by their resources. Of course, people are often poor predictors of the future (e.g., Dunning, Griffin, Milojkovic, & Ross, 1990; T. Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000), and an extensive outlay of resources toward one possible outcome may reduce the resources available to address the negative situation that actually arises.

In sum, the second stage in crisis decision theory identifies two limitations on the generation of response options: (a) controllability of negative outcomes and (b) feasibility of the response. People are most likely to generate active response options when the outcomes of the event are controllable and to generate response options that are feasible given available resources. As a reminder, people may reevaluate the severity of an event (i.e., return to the first stage) after they consider their response options. Specifically, people who are unable to generate viable response options may rationalize that the event is perhaps not so severe after all and therefore does not warrant further attention at that time.

The response options people generate at the second stage in crisis decision theory determine not only the responses they evaluate in the third stage, but they also can have direct effects on the responses people choose. For example, people with many response options will be more selective about the response they choose (Schwartz, 2000). A woman diagnosed with cancer may be more willing to undergo painful treatments if she perceives those treatments to be her only option than if she perceives other, less painful response options. As such, a greater number of response options may predict less willingness to pay high costs or risk negative consequences (Schwartz, 2000). In addition, people with many response options may find the choice overwhelming, which may affect decision-making processes. People presented with an overwhelming number of options experience greater fear of regret, decreased satisfaction with their choices, and more difficulty making decisions (Iyengar & Lepper, 2000; Schwartz, 2000, 2004). Thus, events that are controllable and that have many feasible response options based on available resources may prompt people to choose only extremely desirable responses at best and may paralyze people into indecision at worst. As such, the number of response options people generate at the second stage in crisis decision theory, in addition to the particular options they generate, can predict the responses people ultimately choose.

Stage 3: Evaluating Response Options

Once people assess the severity of the event and generate response options, they then begin the process of choosing the best response. The third stage in crisis decision theory is evaluating the

available response options. At this stage people weigh the pros and cons of each response option they generated in the previous stage. In both traditional coping theories and Leventhal's self-regulation model, the stage of evaluating coping options is combined with the stage of determining available options (Folkman et al., 1986; Lazarus & Folkman, 1984; Leventhal et al., 1984). Crisis decision theory acknowledges that, as discussed earlier, the process of evaluation may be intertwined with the process of determining response options or may stand alone as a separate, subsequent process. In other words, people may consider the pros and cons of each response option they generate before considering other options, or they may generate a number of response options before evaluating each in turn. For the sake of clarity, however, crisis decision theory discusses the factors involved in the evaluation of response options separately from the factors involved in the generation of response options.

In some cases, people will generate only one response option in the second stage in the theory. If only one response is available (or if people perceive only one available response), the process of response evaluation may not occur. For example, a man diagnosed with kidney failure may avoid thinking about the effort and cost involved in undergoing dialysis if he perceives dialysis as his only viable option. Of course, nonresponding is always an option, and people may compare the pros and cons of their one available response to the alternative of not responding at all.

Crisis decision theory suggests that people take three broad considerations into account when evaluating their response options: (a) the resources required to engage in a response, (b) direct consequences of the response, and (c) indirect consequences of the response. Direct consequences refer to any positive or negative effects a response has on the problem at hand. For example, the direct consequences of choosing chemotherapy might include eliminating cancer from the body and reducing the likelihood that cancerous cells will return. Indirect consequences refer to any positive or negative effects a response has on secondary concerns associated with the problem at hand. For example, indirect consequences of choosing chemotherapy might be losing one's hair, experiencing nausea, cognitive impairments, and so forth.

Required Resources

All else being equal, people are more likely to choose a response that requires few resources (e.g., Weinstein, 1993). One theory suggests that the very threat of losing resources is a primary contributor to stress (Hobfoll, 1989), suggesting that people should be highly motivated to conserve resources when possible. Resources not only limit the available responses in the second stage in crisis decision theory; they also influence people's evaluations of those response options in the third stage. The resources required for a response can include costs of money, time, energy, strength, emotional suffering, and general well-being. People with more resources may be less concerned with the cost involved in a particular response, but minimizing all types of required resources is an important consideration in choosing between response options (Becker, 1974; Edwards, 1954; Folkman & Lazarus, 1980; Rogers, 1983). Furthermore, the model of conservation of resources suggests that people will choose a coping response only if they believe that their investment will be worth their ultimate gains (Hobfoll, 1989). To return to the chemotherapy example, people

may choose not to undergo chemotherapy for certain types of cancer (e.g., late-life prostate cancer) because they believe that the financial cost it would entail and the physical and emotional suffering it would cause outweigh any potential positive consequences. Of course, nonresponding always requires the fewest resources, but the negative consequences of nonresponding often outweigh the benefits.

To clarify, information about required resources (the third stage) differs from information about response feasibility (the second stage). Information about feasibility indicates whether a response is *possible*, whereas information about required resources indicates whether a response is *desirable*. Responses that are unfeasible given available resources will not be considered at the third stage of crisis decision theory. To give an illustration, imagine that a patient is told that a particular treatment option costs \$10,000. If the patient does not have the money, he or she cannot further consider that response option (i.e., the response is unfeasible). However, even a patient with \$10,000 may decide that the treatment is too expensive (i.e., the resources required are deemed too great), and therefore that patient may choose a different a response.

Direct Consequences

Evaluating a response option also involves consideration of the potential consequences of the response. Direct consequences are outcomes that change the status of the negative event, for better or for worse. If the negative event is health-related, direct consequences of a response affect the patient's health status. If the negative event is professional, direct consequences of a response affect the employee's job status. A response can have both positive and negative consequences, and these consequences can be directly or indirectly related to the status of the negative event. In general, people are more concerned with avoiding negative consequences than they are with pursuing positive consequences (Kahneman & Tversky, 1984). Theorists believe that this phenomenon is due to loss aversion, or a desire to maintain one's present, tolerable situation rather than risking a decline into a worse, potentially unbearable situation (Kahneman & Tversky, 1984; Shelley, 1994; Shepperd, Findley-Klein, Kwavnick, Walker, & Perez, 2000; Simonson & Tversky, 1992). As such, people may weigh potential negative consequences more heavily than potential positive consequences when evaluating response options.

People ask three questions when evaluating the direct consequences of a response. First, what is the likelihood that this response will lead to positive change and avoid negative change? In other words, people evaluate the perceived efficacy of each response option (Becker, 1974; Rogers, 1983). For example, a study of cancer patients found that information about the likelihood of survival resulting from an unpleasant treatment option predicted whether patients engaged in the treatment (Brundage et al., 2001). Crisis decision theory suggests that a response will be more desirable to the extent that it is likely to have positive direct consequences and unlikely to have negative direct consequences.

Second, what is the magnitude of the potential effects of a given response? Some responses have the potential to completely eliminate the consequences of a negative event ("cures"); other responses have the potential only to improve the situation ("treatments"). On the negative side, some responses have the potential to severely worsen an already bad situation, whereas other re-

sponses can only help or, at worst, have no effect on the negative event. Likewise, the effects of some responses last for a long time, for better or worse, whereas the effects of other responses may have a short duration. When deciding between alternative responses, people weigh the potential positive and negative outcomes of each response to determine which response has the highest utility (Edwards, 1954; Ronis, 1992).

Third, are the effects of the response reversible? In other words, does choosing a given response eliminate the possibility of making a different choice later? Some responses leave open the possibility of “undoing” any negative outcomes, whereas other responses have more permanent effects. For example, a student who talks to his or her professor in response to a failed course leaves open the possibility of taking more drastic action if he or she decides the response was ineffective. In contrast, a student who drops out of school in response to the failing grade may be making an irreversible decision. All things being equal, people prefer to engage in reversible responses rather than irreversible responses (S. Wood, 2001).³

Indirect Consequences

A particular response can lead to changes not only in the status of the negative event but also in other aspects of people’s lives. Indirect consequences reflect the extensiveness or *breadth* of a response’s effects, as opposed to direct consequences that reflect the *depth* of a response’s effects on the problem at hand. Although people may consider infinite indirect consequences, four are (a) emotional consequences, (b) consequences for one’s public image, (c) consequences in other areas of one’s life, and (d) consequences for others. These categories of indirect consequences are listed in order of their likely importance, with emotional and image consequences of more central importance and consequences for other areas of life and for other people of less central importance. Crisis decision theory suggests that people are, for example, relatively unlikely to be concerned with how their actions affect others unless those effects have implications for their own life, their public images, or their emotional outcomes. It is also important to note that indirect consequences are not necessarily less significant than direct consequences. In fact, people may be more concerned with managing their emotions or protecting their image, for example, than with solving the problem at hand.

First, people may be concerned with the emotional consequences of responding to a negative event in a particular way. Although some emotional considerations are directly associated with solving the problem (e.g., managing anxiety in order to function during a crisis), most emotional consequences are secondary to the status of the negative event. People can experience the full range of emotions as a consequence of their response to a negative event, but much of the research in this area has focused on disappointment and regret. Disappointment occurs when negative consequences of a response are out of one’s control; regret occurs when the consequences of a response are directly the result of one’s actions or inactions (Zeelenberg, van Dijk, Manstead, & van der Pligt, 1998). People seek to avoid the experience of both disappointment and regret (Carroll, Sweeny, & Shepperd, 2006; Mellers et al., 1997; Zeelenberg et al., 1998), and they make decisions with this goal in mind (Bell, 1982, 1985; Loomes & Sugden, 1982, 1986; Simonson, 1992). Thus, people are unlikely

to choose responses that they believe will lead to regret or disappointment.

Of course, people are often poor judges of how they will feel in the future. To account for emotional reactions when evaluating response options, people must predict how they will feel as a result of a given response. Research has shown that people are biased in their predictions about future emotional states (T. Wilson & Gilbert, 2005). More specifically, people tend to overestimate the intensity and duration of the emotions they will experience in response to a positive or negative event. In light of these misperceptions, people are even more likely to take the potential for regret and disappointment into account when evaluating their response options.

Second, people consider the effect a response might have on their public images. Self-presentational motives are powerful in guiding behavior (see Schlenker, 1980, 2002, for a review), and people are likely to give strong consideration to the impression a particular response will make on others. In general, a response will seem desirable to the extent that it promotes desired impressions and avoids undesired impressions. For example, research has shown that people are less likely to pursue medical attention when doing so might be embarrassing (Grace & Shepperd, 2003; Orbell & Sheeran, 1993; Sansom, MacInerney, Oliver, & Wakefield, 1975). To illustrate in a different domain, a young man who finds himself in a confrontation might choose an aggressive response rather than a passive response to avoid the impression of weakness. Furthermore, the public images people pursue depend on the audience that is most salient (Tice, Butler, Muraven, & Stillwell, 1995). For example, the young man in the confrontation is more likely to choose an aggressive response if his male friends are present than if his parents are present. In addition to the influence of external audiences, people may hold values that can also influence their self-presentational concerns. For example, people who value self-sufficiency and see themselves as highly independent may be less likely to view seeking help from others as a desirable response option. Along these lines, one study found that people who viewed depression as having negative implications for their identity were less likely to seek counseling and other treatment for depression (Barney, Griffiths, Jorm, & Christensen, 2006).

Of course, some situations demand responses that are socially undesirable. People may not want to undergo embarrassing medical procedures or procedures that leave a scar, but presumably they are able to override self-presentational concerns to seek a solution to their problem. In general, though, people are unlikely to choose responses that they believe will pose a threat to their public images or personal values.

Third, people may consider how a response will affect other aspects of their lives. To illustrate, consider a young father who is diagnosed with cancer. Although chemotherapy and radiation may be the best responses in terms of dealing with the disease, the man may have to take time off work to pursue such aggressive treatment. The loss of income may therefore be a strong consideration when the man evaluates his options in response to the diagnosis. In

³ It is interesting that several studies have found that people are less satisfied with reversible decisions than with irreversible decisions (Gilbert & Ebert, 2002). However, these studies have suggested that people nonetheless prefer reversible over irreversible decisions.

the medical domain, the effect of a particular treatment on general quality of life influences whether patients choose the treatment (e.g., Irwin, Arnold, Whelan, Reyno, & Cranton, 1999). In other words, crisis decision theory suggests that people consider how a response might affect their life as a whole, not just the negative event at hand, when evaluating response options. As such, people will evaluate a response as less desirable to the extent that the responses might have negative effects on areas of their lives that are unrelated to the problem at hand.

Fourth, people may consider how engaging in a response might affect other people. As discussed earlier, people place more importance on self-relevant outcomes than on outcomes that primarily affect others (Carroll et al., in press; Sweeny et al., 2007). However, people may nonetheless weigh the effects a response may have on others into their evaluation of response options. To return to the example of the young father diagnosed with cancer, the man will likely consider how undergoing chemotherapy could affect his roles as husband and father and perhaps also his roles as employee, golf partner, carpool driver, and so forth. Research has shown that families can experience intense stress when one family member undergoes difficult treatment for a disease (Hilton, Crawford, & Tarko, 2000), and it is reasonable to assume that people consider such effects on close others when choosing responses to negative life events. That is, people will evaluate a response as less desirable to the extent that it might have negative consequences for others.

Stage 3: Summary and Conclusions

In sum, people evaluate the pros and cons of their response options in the third stage in crisis decision theory. People consider the resources required to engage in a response and the direct and indirect consequences of each response option to determine the best response. Direct consequences include the efficacy of a response for improving the problem at hand, the magnitude of the potential improvement, and the reversibility of the response's effects. Indirect consequences of a response include, from most important to least important, potential emotional consequences, self-presentational consequences, consequences for other areas of life, and consequences for others.

Once people evaluate their response options, they must select a response to the negative event by weighing the pros and cons of each response. In general, research has shown that people select responses that minimize cost and negative consequences and maximize benefit and positive consequences (e.g., Fishbein, 1967). However, the process of weighing specific costs and consequences differs widely between people and across situations. Crisis decision theory presents numerous factors that can predict the responses people choose, and these predictors influence people's response choices both directly, by affecting cost and consequence considerations, and indirectly, by affecting processing at intermediate stages in crisis decision theory.

Furthermore, people's past responses can directly influence future responses to negative events. In fact, research consistently has found that past behavior is the best predictor of future behavior (Fishbein & Ajzen, 1975; Ouellette & Wood, 1998). In crisis decision theory, past experience or behavior plays several roles in predicting response choices. As discussed earlier, past experience provides information about the severity of a negative event and the

possible costs and consequences of response options. In addition, past responses to negative events make similar future responses more likely when those responses become automatic through practice (Ouellette & Wood, 1998). Finally, people tend to persist with a particular response to an ongoing negative event, even if that response proves ineffective (Brockner & Rubin, 1985; Staw, 1981). For example, people may continue with a particular type of treatment even after receiving news that the diagnosis has worsened during the treatment.

In sum, crisis decision theory suggests that the responses people choose when facing negative events reflect an assessment of the event's severity, a determination of response options, and an evaluation of those response options. More specifically, the perceived severity of the event, the number of available response options, the pros and cons of those options, and past response habits combine to predict people's response choices.

Crisis Decision Theory: Summary, Critique, and Future Directions

Crisis decision theory represents an attempt to review and organize diverse literatures into a theory of responding to negative life events. The theory suggests that responding to negative events entails three stages of information processing: (a) assessing the severity of the negative event, (b) determining response options, and (c) evaluating response options. These stages reflect a wide array of psychological research, including research on coping, risk perceptions, health behavior, and judgment and decision making. Most importantly, crisis decision theory represents a marriage of coping theory and decision-making research that draws on the strengths of both literatures to allow nuanced prediction of people's responses to negative events.

Is Crisis Decision Theory a Rational, Deliberative Theory?

One criticism that has been levied against coping theories is that they are excessively cognitive and rational, giving too little attention to the ways in which people might act without intention or in response to "irrational" motivations. In some ways, crisis decision theory embodies this same weakness in its increased focus on relatively rational decision-making processes. However, crisis decision theory leaves ample room for nonrational and goal-oriented processes to influence each stage of responding to negative life events. Indeed, automatic processing, motivated reasoning, and social context can all influence the processes and outcomes of crisis decision theory.

Automaticity. Processing at each stage of crisis decision theory may be more or less automatic. Much of human experience is nonconscious (Bargh, 1994; Bargh & Chartrand, 1999), and conscious processing is often disadvantageous due to its depletion of mental and energy resources (Baumeister, 2002). In the case of responding to negative events, engaging in relatively automatic processing at each stage benefits people by reserving their resources for the final point of active responding. Thus, people may not be aware that they proceed through the theory's three stages of processing, or they may proceed quickly through the stages when processing is relatively automatic. The theory suggests that schema availability, past experience and behavior, and the availability of

outside opinions (the last of which we will address in more detail shortly) can make the processes of responding to a negative event quicker and more automatic. The extent to which these assumptions are correct and the presence of other factors that predict automaticity at each stage are areas for future research, but in general crisis decision theory does not insist that information processing at each stage be conscious or deliberative for the predictions of the theory to hold true.

Motivated reasoning. People are not always objective in their search for and use of information. Instead, people are often motivated to reach certain conclusions. People who are motivated to come to specific conclusions engage in biased information processing that allows them to confirm their desired beliefs (Klein & Buckingham, 2002; Kunda, 1990; Nickerson, 1998; Pyszczynski, Greenberg, & Solomon, 1997). Personal motivations and goals, whether conscious or not, can influence many if not all aspects of crisis decision theory. Prior even to the first stage of the theory, people may fail to detect that a negative event has occurred or fail to interpret an event as negative because they are motivated to avoid the awareness of a threat. For example, people may experience health symptoms but fail to notice that the symptoms indicate any change in their health, or people may notice signs of infidelity by their spouse but fail to acknowledge that infidelity has occurred. People may also actively avoid information that could reveal that a negative event has occurred. For example, one study found that people chose not to be tested for a severe disease when they believed the disease to be untreatable (Dawson, Savitsky, & Dunning, 2006). People who deny the occurrence of a negative event will not proceed through the stages of crisis decision theory in response to the event.

Once people acknowledge that a negative event has occurred, motivations can still intervene in the response process. At the first stage in crisis decision theory (assessing the severity of a negative event), evidence has suggested that people may want to believe that events are nonthreatening to avoid the behavior changes and emotional toll a threatening event would inevitably entail. Threat-reduction goals may then prompt people to assess the severity of an event as less than is warranted by objective information in an effort to protect themselves from realizing a frightening reality. For instance, participants in one study rated a disease as less serious when they believed their risk for the disease was high than when they believed their risk was low (Jemmott, Ditto, & Croyle, 1986).

On the other hand, people may be motivated to reach conclusions that best prepare them for the worst possible scenario (Carroll et al., 2006). Preparedness goals may then prompt people to assess the severity of an event as greater than is warranted by objective information in an effort to assure sufficient preparation for negative consequences (Carroll, 2007; Carroll et al., 2006; Sweeny, Carroll, & Shepperd, 2006). In addition, people may be motivated to play the “victim” role (Hamilton, Deemer, & Janata, 2003; Leary, 1995), which could also lead to an overemphasis of severity. Predicting when people are likely to engage a threat-avoidance motive and when people are likely to engage a preparedness motive is somewhat outside the scope of crisis decision theory, but the theory predicts that motives can guide assessments of severity and, consequently, responses to negative life events.

Finally, motivations and goals can influence evaluations of response options. Research has suggested that maintaining positive

movement toward valued life-goals is an important motivation in the coping process (Rasmussen, Wrosch, Scheier, & Carver, 2006; Stein, Folkman, Trabasso, & Richards, 1997), and people likely evaluate response options based in part on their compatibility with valued goals. For example, a person for whom the goal of being physically strong is important might be unwilling to undergo a debilitating medical procedure in response to a health threat, even if that procedure is otherwise appraised as the most effective response. In addition, goals can guide the information people use to appraise response options. For instance, a person for whom the goal of “being liked by others” is important is more likely to evaluate a potential response based on the effects the response would have on others, as compared with someone for whom the goal of “looking out for number one” is important. Of course, negative life events often call for a reevaluation of one’s goals, and research has suggested that disengagement from unattainable goals in the face of threat leads to positive outcomes (Carver & Scheier, 1990; Rasmussen et al., 2006; Wrosch, Scheier, Miller, Schulz, & Carver, 2003). Thus, both goal-pursuit and goal-disengagement can alter people’s evaluations of response options and, ultimately, their response selection.

Social context. Much has been said about the need for a greater emphasis on the social context in research on coping (e.g., Dunahoo, Hobfoll, Monnier, Hulsizer, & Johnson, 1998; Schreurs & de Ridder, 1997). The social context of negative life events affects processing throughout crisis decision theory.

People rarely face negative events alone, and outside parties can help people determine the best response to a negative event. “Outside parties” can be professionals, people who have experienced similar or identical situations, or people who are better able to objectively evaluate the negative event, such as parents or trusted friends. People often learn about a negative situation from an expert who can then help them deal with the event. For example, physicians provide news of illness, bosses give news of lay-offs, and professors give news of failing grades. An expert can provide information that makes the response process less effortful and less complicated for the recipient of the bad news (Steginga & Occhipinti, 2004). In other words, people who seek advice from an expert can gain valuable suggestions as to how they should interpret the event, what their response options include, and which response is best in the situation. In fact, research on medical decision making has suggested that under some circumstances, patients rely more on expert recommendations than on any other type of information when making treatment decisions (Davison, Degner, & Morgan, 1995; Gurmankin, Baron, Hershey, & Ubel, 2002; Holmboe & Concato, 2000). Of course, people do not have to accept the assessment of experts, even when expert opinions are available, and they may instead gather information to reach their own assessment of the situation. Thus, the opinions of outside parties can influence processing throughout the theory, although they do not always have a noticeable effect.

Crisis decision theory also makes unique predictions about how the presence of outside parties can influence processing at each stage of the theory. In the first stage (assessing the severity of a negative event), people may sidestep the information-gathering process if someone explicitly provides an expert assessment of the negative event. For example, physicians may provide an interpretation of severity when they give a diagnosis. Patients are often not expected to understand confusing medical terminology and instead

rely on trained experts to assess the severity of their condition. In addition, the social context can intervene at the first stage when the negative event is caused by someone else, thus involving at least one other party in the assessment of information about causes. Finally, as discussed earlier, outside parties can provide information about their past experiences that may guide the schemas people develop for negative events.

In the second stage (determining response options), as in the first stage, an expert can simplify processing by providing a list of response options or explicitly advocating a particular response. For example, physicians and nurses may provide several treatment options when giving a diagnosis, and they may tell patients which option they suggest. Of course, experts may be familiar with the circumstances of the negative event, but they may not be aware of other circumstances in people's lives that limit their ability to make certain responses (Schapira, 2005). For example, physicians may suggest treatment options that are beyond the patient's financial resources. In this case, people must consider response options other than those recommended by the expert. In addition, evidence has suggested that people differ in their desire to play an active role in determining and evaluating response options. A recent review of the research on medical decision making concluded that age, education, gender, previous experience with the negative event, and knowledge about the negative event predict who will take a more active role in treatment decisions and who will rely on physicians' opinions (Say, Murtagh, & Thompson, 2006).

Outside parties can also alter the circumstances surrounding the negative event to expand or limit response options. That is, outside parties may provide resources or skills that make certain response options feasible. For example, a family member may be willing to pay for an otherwise unaffordable medical procedure, and a physician can provide the expertise necessary to complete the procedure.

At the third stage of crisis decision theory (evaluating response options), outside parties can provide information about the pros and cons of a particular response, although people may once again choose to pursue response options other than those suggested by outside parties (Say et al., 2006). Furthermore, the social context comes into play when people consider how a response might affect others or other areas of their lives (i.e., as indirect consequences of responding). For example, a woman might be concerned that leaving an intolerable job could have a negative impact on her marriage or on her family members' well-being.

Finally, social context can play a role in the process of responding to the bad news through culture. People may process information differently or come to different conclusions about the best response based on their culture of origin or residence. Culture can influence the motivations that are most prevalent, such that people from Western cultures are most likely to be motivated by self-enhancement (i.e., the desire to hold a positive view of oneself), and people from Eastern cultures are most likely to be motivated by self-improvement (i.e., the desire to make oneself better; e.g., Heine et al., 2001). As discussed earlier, these motives can then influence processing at each stage in the theory.

Critique of Crisis Decision Theory

Crisis decision theory offers unique predictions above and beyond previous theories of coping behavior or decision making. The

theory contributes to the functionality of coping theory by incorporating decision-making principles that can predict people's specific responses to negative events. Likewise, crisis decision theory also extends the decision-making literature by distilling the research relevant to stress and coping into a predictive theory. More generally, no previous theory offers a systematic organization of the information people use when responding to a negative life event. The inclusion of so many previously unconnected literatures into one theory will allow researchers to form more comprehensive hypotheses of how people process and respond to negative life events. In addition, crisis decision theory has broad applications, and yet the theory can also predict how people choose between specific response options, not just broad categories of responses.

However, crisis decision theory has several limitations. The description of each stage is broad enough to apply to a variety of domains, but this generality prevents the theory from discussing domain-specific factors. For example, crisis decision theory suggests that people consider potential consequences of negative events when assessing severity, but the theory does not discuss specific consequences that may be of concern. Of course, the theory can easily be applied across domains once the concerns specific to the domain are identified.

In addition, although crisis decision theory is broad and thorough within the stages it includes, the theory stops short of discussing proactive coping attempts (prior to the first stage; see Aspinwall & Taylor, 1997) or execution and evaluation of responses (following the third stage). These aspects of the response process are important, but the goal of crisis decision theory is to address the question of how people select responses to negative events. As such, the theory begins with an assessment of the negative event and ends with the selection of a response. Of course, crisis decision theory provides a sense of the processes people may go through after selecting their initial response. If the circumstances of the situation have changed following the first response choice, people likely reevaluate the event by reinitiating the process described in crisis decision theory. If the situation is largely the same but the response is deemed ineffective, people likely proceed only through the processes of determining and evaluating response options or of evaluating previously determined options.

Directions for Future Research

A central goal of this article is to present a new theory that can direct future research to predict responses to negative life events. A great deal of research has examined specific aspects of crisis decision theory, but the theory's organization of this research brings new questions to light. First, where is the threshold of perceived severity at the first stage in the theory (assessing the severity of a negative event) that prompts people to proceed through the final two stages? Only some events are bad enough to warrant further attention, and people's perceptions of "sufficient" severity may differ based on personal and situational factors.

Second, which categories of information are most influential in determining the severity of a negative event? Nearly infinite sources of information are available, and people must prioritize the available information to efficiently assess the severity of a negative event. Crisis decision theory proposes a unique organization of the information people use to assess severity, and thus no existing

research has addressed the question of when and how people rely on each category of information.

Third, how do people weigh the pros and cons of various response options to make their final response choice? This issue is addressed in the discussion of the third stage in the theory, but one further issue deserves attention. That is, when are each of the three categories of considerations (i.e., required resources, direct consequences, and indirect consequences) most important? This question is particularly interesting when a response produces positive consequences in one category while producing negative consequences in another. For example, a victim in a disfiguring accident may have to choose between an expensive procedure (high cost) that minimizes embarrassing scars (few self-presentational consequences) and a low-cost procedure that leaves visible scars. Crisis decision theory provides some sense of how people make choices between responses, but research that is currently underway will attempt to more specifically describe this process.

Finally, how do people select a response when the consequences of that response are uncertain? People rarely know with certainty or precision the outcomes their behaviors will produce, so they must choose responses without this knowledge. A great deal of research has examined judgments in uncertain conditions (e.g., Kahneman & Tversky, 1982), but future research can specifically address the degree of certainty people require before choosing a response to a negative event. Likewise, future research can also examine the amount of information people need for assessing severity and evaluating response options before they are willing to select a response. Availability of cognitive resources, potential for the negative event to worsen, and accountability may affect the degree of uncertainty people are willing to tolerate.

Conclusions

People face negative events on a daily basis, and an understanding of the processes that follow these events is necessary for both prediction and improvement of people's responses. The present article represents an effort to predict responses to negative life events by consolidating and organizing a wide array of existing literatures into a theory that capitalizes on the strengths of coping theory and decision-making research. The usefulness of crisis decision theory will depend on the development of research programs testing the theory's predictions and utilizing the findings to predict and improve people's responses to negative life events.

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