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Can You Feel It? Negative Emotion, Risk, and Narrative in Health Communication

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Eliciting emotional responses to mass media messages can be an effective means of changing public health attitudes, intentions and behaviors. This conceptual paper proposes that emotional responses to such media messages can be message-referent, plot-referent, and/or self-referent. Self-referent emotional responses are expected to have a direct effect in motivating behavior change, particularly as they are likely to be associated with an increase in perceived personal risk. Message-referent and plot-referent emotional responses are proposed to have indirect effects on the individual, primarily by stimulating self-referent emotions, and prompting interpersonal discussion about the message. In this paper, it is argued that narrative is a particularly effective message format with which to elicit self-referent emotional responses.

> There can be no knowledge without emotion. We may be aware of a truth, yet until we have felt its force, it is not ours. To the cognition of the brain must be added the experience of the soul.
> Arnold Bennett (1867–1931)

Emotion has long been acknowledged as an essential ingredient in the recipe for persuasion. The study of persuasion has often examined the various influencing roles played by affect, or emotion (for reviews see Eagly &

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Chaiken, 1993; McGuire, 1969; Petty, DeSteno, & Rucker, 2001). Emotionally arousing persuasive messages tend to be better recalled, and perceived as more effective, than less emotional messages, both in the field of health communication (Biener, 2000; Biener et al., 2006; Dillard & Peck, 2000; Pechmann & Reibling, 2006), and in consumer marketing (Escalas, Moore, & Britton, 2004; Lang, Dhillon, & Dong, 1995). In this paper, we suggest that emotion plays an especially significant role in media-based health campaigns, and argue that emotionally evocative narratives—such as personal testimonials—are a particularly effective message format.

While there is increasing theory and evidence addressing the effects of different emotions on persuasive outcomes (e.g., Dillard & Nabi, 2006; Dillard & Peck, 2000; Lerner & Keltner, 2000; Nabi, 1999, 2002), this research primarily focuses on emotions that arise from the perception that a persuasive message is relevant to one's self. While we concur that these kinds of emotional responses are particularly important for persuasion, we recognize that emotions may arise not only in response to self-relevant thoughts elicited by the advertisement, but also in response to various features of a message. For example, a viewer might experience disgust in response to the images contained in a message, but this is very different to feeling disgust in response to message-stimulated thoughts about their own behavior. We argue that the latter will be most influential for behavior change, and it is thus helpful to consider different classes of emotion, defined by their referent, in order to better describe and predict the effects of emotionally arousing health communications.

In this paper, we present a new approach to understanding emotional reactions to public health advertisements, differentiating three broad classes of emotional responses to health messages, which in turn are expected to have differential impacts on subsequent outcomes. In the first part of the paper, we will present the proposed model describing the different classes of emotional responses and their relationship to one another. In the second part of the paper, we will discuss in more detail the type of emotional response proposed to directly influence individual behavior. We will present theoretical argument and empirical evidence suggesting that narrative is a message format that can best encourage this influential emotional response. The third part of this paper is centered on the interpersonal discussion that can be stimulated by a media message, and its importance for behavior change. Social psychological research that suggests emotionally arousing messages are likely to be talked about and circulated in social networks will be discussed. The fourth part of the paper presents some early preliminary findings from a research program that considers emotional responses to health communications. Finally, suggestions will be made for future research that would help us to further understand the roles of negative emotion, perceived risk, interpersonal discussion, and narrative in mass media health communication.

EMOTIONAL RESPONSE TYPES AND PUBLIC HEALTH CAMPAIGNS

In the present model, emotions refer to internal mental states representing evaluative, valenced reactions to events, agents, or objects (Forgas, 1995; Isen, 1984), accompanied by an experience of arousal. We take a discrete approach to emotion, in that distinct emotions involve unique motivational and phenomenological processes (e.g., Frijda, 1986; Lazarus, 1991). That is, the fundamental discrete emotions have different inner experiences and lead to different behavioral consequences (Izard, 1993). Though public health messages might sometimes elicit a positive emotional response, they do not have the same goal as consumer marketing campaigns in attaching positive feeling to a product. More commonly, they use negative emotions in the attempt to highlight the negative outcomes of risky behaviors. For this reason, this paper will focus, in particular, on discrete negative emotions. Past research exploring the role of negative emotion in health communication has primarily focused on anti-smoking advertising, due to the amount of funding that has permitted many different types of ads to be made in this area (e.g., Biener & Taylor, 2002; Hill, Chapman, & Donovan, 1998; Wakefield et al., 2003). Though the proposals made in this paper can be conceptually applied to many health behaviors, the examples from the literature used here will reflect this previous bias.

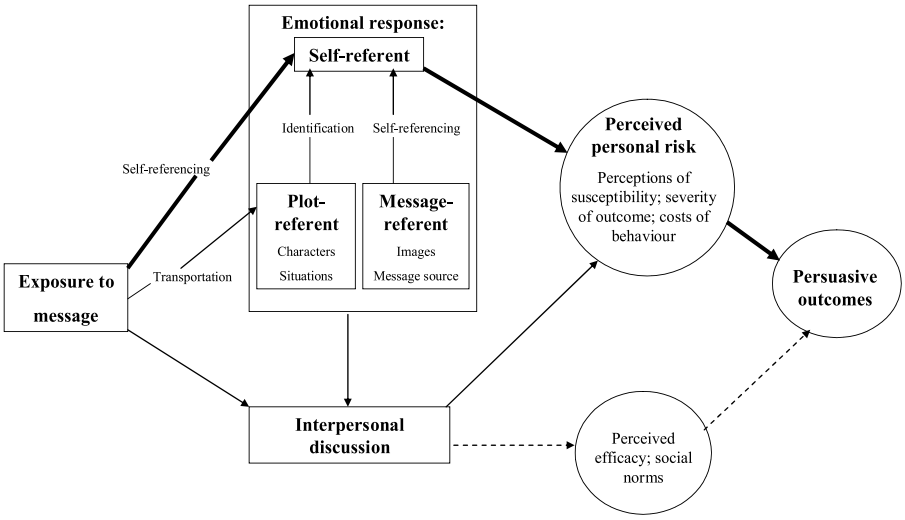
In contrast to moods, which have been conceptualized as a diffuse background affect with an uncertain cause, discrete emotions are focused and specific, with an identifiable cause (Clore, Schwarz, & Conway, 1994). Following this framework, the three classes of emotions proposed here are conceptually differentiated by the referent of the emotion-who or what the emotion is about, or refers to. The first proposed category of emotional response is the immediate response to the message itself, which we label the message-referent emotional response. This includes responses to the content of the message, such as information or images (construed as visual and/or auditory), as well as the source of the message. For example, in response to an advertisement that visually shows the tar that lines the lungs of a smoker, a viewer might have the message-referent response of disgust. That is, the disgust experienced is anchored in, or refers to, the images of the message. An experience of anger or irritation in response to being subjected to the anti-smoking message would also be construed as a message-referent emotion, as it is directed at the message itself, or at its source.

The second proposed class of responses are plot-referent responses. In response to an advertisement showing a young girl relaying the events of her day to her father who is hooked up to breathing machines in the hospital, we might feel sadness for one or both of the characters. This sadness is classified as plot-referent as the emotion occurs in response to, and about, the story of the girl and her father. We construe the category of plot-referent emotions to include emotions experienced in relation to a character or to a

situation. For example, a viewer might experience anger in response to an HIV prevention message depicting a situation in which one person's actions endangers another. This anger would be labeled as plot-referent as it arises in a response to the depicted situation.

The first and second classes of emotional response proposed here are similarly driven by stimuli that are a property of the ad—either the message itself or the plot. The third and final class of emotions are triggered not by a feature of the ad, but by thoughts about one's life and self that are stimulated by the ad. For example, in response to the advertisement showing the girl and her father described above, one might feel anxiety from imagining the future and the possibility of finding oneself in that father's situation. For this reason, we classify these emotional responses as self-referent emotions. The three classes of emotional response are not mutually exclusive, because a single message may elicit emotions from all three classes. Some discrete emotions, such as disgust, might be likely to occur across the different categories, while others, such as shame, would be more likely to occur only in one category, the self-referent category in this case.

These three classes of emotions are expected to have differential impact upon persuasive outcomes (see Figure 1 for the hypothesized model of effects). In the proposed model, self-referent emotions are important for media-based health campaigns because they are most likely to directly influence an individual's future behavior. This might come about because the transient emotional response to the message has an impact upon one's



Note: Solid lines indicate primary pathways explored in this paper, with thick lines indicating the direct influence of emotional responses, and narrow lines indicating indirect influence. Dotted lines indicate paths of influence suggested but not fully explored in this paper.

FIGURE 1 Hypothesised pathways of influence of emotional responses to health communications.

perception of future risk, a factor which affects health behavior according many key theories of health behavior change (e.g., Becker, 1974; Fishbein & Ajzen, 1975). Perceived future risk is construed here as beliefs and feelings about both the likelihood of the negative outcome and the magnitude of the consequences of that outcome (e.g., Weinstein, 2006; Witte, 1992). Perceptions of risk might therefore be increased because the self-referent emotional response influences the perceived costs of the behavior, or the severity of the negative outcome (Baumeister, Vohs, DeWall, & Zhang, 2007). As we will show later, there is strong evidence to suggest that emotions—especially self-referent emotions—play a pivotal role in people's assessments of their future personal risk, and their learning for future behavior.

Though message-referent and plot-referent emotions may be less likely than self-referent emotions to have direct effects on the individual, we propose that they can have an indirect effect, through two possible pathways. The framework presented here is, therefore, a mediation model, in that message- and plot-referent emotions may trigger self-referent emotions, or they might generate interpersonal discussion, which in turn will impact upon persuasive outcomes. First, we suggest that message- and plot-referent emotions can be translated into self-referent emotions, though this process is dependent upon the presence of a variety of moderators inherent in the message or in the individual. For example, a response of disgust in response to images of tar in a smoker's lung may lead to a self-referent emotional response of fear as one reflects on the possibility that those processes are happening within one's body. We argue that this conversion will only occur if the message stimulates the viewer to reflect upon their own life, body, or behavior in some way—known in consumer marketing as "self-referencing" (Burnkrant & Unnava, 1995). This might be achieved by the use of a simple tagline, such as "Think about what's happening in *your* lungs." Similarly, a response of sadness at the young girl's loss in the anti-smoking advertisement previously described might lead to self-referent guilt about the effect of one's behavior on one's family, but only if the viewer feels some connection, or identification (Cohen, 2001), with the characters.

We propose that emotions induced by a health promotion media message can have both a *direct effect* on the individual, as well as an *indirect effect* by prompting the individual to discuss the message with others (see Figure 1). Therefore, the second indirect process by which message- and plot-referent emotions might influence the viewer is by stimulating discussion about the message. We discuss both processes below.

SELF-REFERENT EMOTIONAL RESPONDING AND BEHAVIOR CHANGE

Self-referent negative emotions are a transient experience in that they arise in response to message-stimulated thoughts about the self and may subside

quickly once the message is finished. However, we propose that these emotions have an important influence on subsequent intentions and behavior. The primary pathway proposed in this model is that these emotions influence the viewer's perception of their future personal risk, and, in doing so, can increase their motivation to reduce that risk.

According to appraisal theories, a discrete emotion is experienced when we recognize or perceive a particular relationship between the environment and our self (e.g., Lazarus, 1991; Nabi, 1999). In the case of persuasive health messages, self-referent emotions will most often be triggered when the viewer recognizes that the risk depicted in the message is relevant to their self. That is, the emotion is triggered by recognition of one's perceived susceptibility to the threat. We thus differentiate between the transient recognition of risk that triggers the experience of the emotion, and the more enduring perception of future risk that we propose is influenced by that self-referent emotional experience. Below we review the evidence that points to the importance of such risk perceptions for behavior change, and the role of emotion in these perceptions of future personal risk.

From Risk Perception to Behavior Change

Typically, public health campaigns, as well as the theories of behavior and attitude change that inform them (e.g., The Health Belief Model: Becker, 1974; The Theory of Reasoned Action, Fishbein & Ajzen, 1975), have operated on the premise that the first step in behavior change is that the individual needs to be made to recognize the risk that exists to them. In this stage of behavior change, the audience needs to be made aware of the personal consequences of not following recommendations, and needs to believe that the risk of these consequences applies to them (Weinstein, 2001). Though there exist many different manners of identifying, quantifying, and assessing risk, the majority of the lay population continues to rely on intuitive risk judgments, what we call "risk perceptions" (Slovic, 1987). In this context, risk is conceptualized as the likelihood of the specific event—or disease—occurring, multiplied by the magnitude of the consequences of that event (Stephenson & Witte, 2001; Weinstein, 2006; Witte, 1992). These risk perceptions are conceptualized as comprising of both a cognitive and an affective component (e.g., Brewer et al., 2007). That is, they are comprised of beliefs and feelings about one's susceptibility to risk and the severity of the consequences of that risk.

In the public health domain, evidence suggests that perceptions of risk are associated with choices about health-related behaviors such as smoking. Surveys of smokers have consistently shown that smokers underestimate the risk from smoking: in a majority of studies, non-smokers and ex-smokers rated smoking as riskier than smokers, and smokers substantially underestimated their personal risk, reporting that their own risk is lower than the risk faced by other smokers (Weinstein, 2001). The same reluctance to acknowledge risk has also been found with other risky health behaviors, such as

AIDS-related sexual behavior (Edgar, Freimuth, & Hammond, 1988). It is possible that these observed associations between risky behavior and low perceived risk might be a consequence of cognitive dissonance reduction (Festinger, 1957), with smokers preferring to think of smoking as less risky (rather than smoking because they perceive low risk). However, it still holds that, if perceptions of risk are increased, then behavior change might follow. Indeed, in adult smokers, higher perceptions of risk from smoking have been associated with reduced cigarette consumption, increased intentions to quit, actual quit attempts (Romer & Jamieson, 2001), and making restrictions on household smoking (Hampson, Andrews, Barckley, Lichtenstein, & Lee, 2006).

Both theory and evidence suggest that changing perceptions of risk is necessary, but not sufficient, for behavior change. Changes in perceived risk need to be accompanied by changes in perceived efficacy (Rogers, 1975; Witte & Allen, 2000). That is, if a message increases the perceived risk of a behavior, it should also include information as to how to effectively reduce that risk, increasing perceptions of both response- and self-efficacy. This might be achieved with a simple tag-line to an advertisement (e.g., "If I can do it, you can too"), by demonstrating someone carrying out the behavior, or including hints and tips about how to change (e.g., "Call the Quitline now"). We also propose, and will discuss in section three of this paper, that, by encouraging discussions with others, messages can further influence perceived efficacy.

The Use of Emotion to Change Risk Perceptions

One way to alter people's perceptions of risk is to appeal to their feelings of risk or vulnerability—that is, the affective component of their risk perception. Many theorists have recognized the key role of affect in motivating behavior and behavior change (e.g., Baumeister et al., 2007; Cohen, 1990; Forgas, 1995; Hoffman, 1986; Isen, 1987; Tomkins, 1984; Zajonc, 1980). The way in which affect is posited to impact upon risk perceptions has been labelled the *affect heuristic*, as it is proposed to be an easy and efficient process (Finucane, Alhakami, Slovic, & Johnson, 2000). Empirical evidence suggests that perceptions of risk are strongly associated with the degree to which a hazard evokes feelings of dread (Fischhoff, Slovic, Lichtenstein, Read, & Combs, 1978), and that reports of naturally occurring emotions can reliably predict risk estimates for diverse events as much as 6–10 weeks later (Lerner, Gonzalez, Small, & Fischhoff, 2003). In fact, Slovic (2001) suggests that, when making judgements of risk, we not only rely on what we *think* about an activity but also on what we *feel* about it.

The neurologist Antonio Damasio (1994) was one of the first researchers to purport that affect is essential to rational action and decision making. Damasio observed patients with damage to the ventromedial frontal cortices of the brain, and found that, though their basic intelligence and capacity for

logical thought was left unaffected, their ability to "feel" had been erased, and with it, their ability to associate affective feelings and emotions with the anticipated consequences of their actions. In Damasio's model, thought is made up largely from images (broadly construed to include sounds, smells, real or imagined visual impressions, ideas and words) which become marked by positive and negative feelings according to our past experience. Therefore, images that are negatively tagged, when associated with a future behavior, act as an alarm.

The Direct Effect of the Media: Eliciting the Affect Heuristic Through Self-Referent Emotions

In the proposed model, we suggest that health promoting media messages that encourage a self-referent emotional response can influence the viewer directly by eliciting the affect heuristic. In so far as risk perceptions encompass the perceived severity of a negative outcome, a process by which self-referent emotional responses might influence the individual's perception of risk is by acting as feedback for future behavior. Baumeister and colleagues (2007) suggest that emotional experiences can encourage cognitive elaboration about the relationship between a particular behavior and the emotional outcome that it triggered. Importantly, Baumeister and colleagues (2007) acknowledge that this process can occur not only in response to emotions that arise from our own actions, but also to emotions elicited by other stimuli such as media. They suggest that an emotional response can encourage reflection upon the behavior that elicited the emotion, and counter-factual thinking about the outcomes of that behavior. In this way, the emotional experience highlights the cost of the behavior and the severity of the outcome, and, in doing so, can influence perceptions of risk and generate new rules for future behavior. By this theory, the emotional experience can also attach an affective residue to the behavior, thus guiding future behavioral choices in an automatic, non-conscious way (Baumeister et al., 2007).

We propose that a negative emotional response to a media message about a risky behavior can be tagged to that behavior, acting as an alarm for future behavior, but only if that emotional response is self-referent. While early research suggested that the media influenced judgements of risk only at the societal level (Tyler, 1980; Tyler & Cook, 1984), subsequent research has shown that the media has the power to influence perceptions of personal risk under certain conditions. These conditions include dramatizations (Snyder & Rouse, 1995), feelings of identification with the person portrayed in a media story (Basil & Brown, 1997), and messages which are vivid and self-relevant (Stapel & Velthuijsen, 1996). In combination, the evidence suggests that messages which elicit a personalized response can influence an individual's perception that they are at risk for a particular health issue. In social psychological research about the "self-as-doer," findings show that behavior

is best influenced when the individual is exposed to an appropriate message and links this with their self-concepts (Houser-Marko & Sheldon, 2006). Similarly, we suggest that health behavior is most effectively influenced when the individual experiences an emotional response that is linked to thoughts about their self and behavior. By this model, the experience of that transient emotion acts as feedback for assessments of future risk and for future behavior.

THE USE OF NARRATIVE TO ELICIT SELF-REFERENT EMOTION

Self-referent emotional responses are proposed to be unique in that they directly influence the individual, through increasing perceived risk and facilitating learning for future behavior. Narrative is proposed here to be a particularly effective means of triggering self-referent emotional responses. Narratives have the power to touch our emotions (Gerrig, 1993; Oatley, 1999); impact what we believe (Green & Brock, 2000); and teach us new behaviors (Diekman, McDonald, & Gardner, 2000). In important research into narrative persuasion, Green and Brock (2000) recognized that the traditional principles of persuasion were not relevant to the subjective experience of story consumers. They explored the idea that, when we become absorbed in a narrative, we can be "transported" and return changed by the experience. Transportation is classified as a distinct mental process in which mental capacities become focused on events occurring in the narrative, and it is accompanied by a psychological distancing from reality (Green & Brock, 2005).

Transportation is posited to increase both emotional responding to a message and increase connections with the characters of the story (Green, 2006). In the current model, we propose that this will result in plot-referent emotional responding. Some researchers have considered sympathy and empathy as emotional responses to narrative (e.g., Escalas & Stern, 2003; Slater, 2002). However, in the current model, we propose that the emotional responses to a narrative that are responsible for changes in the individual are more personal than this, when they become translated into self-referent emotions. Readers or viewers often comprehend story events by assuming the perspective of the character (Ozyurek & Trabasso, 1997; Rall & Harris, 2000), mentally representing the emotional states of fictional characters (Gernsbacher, Goldsmith, & Robertson, 1992). This mental simulation can lead to an experience of emotion in a manner congruent with the characters' situation, and equivalent to the emotional experiences encountered in the real world (Oatley, 1999).

By the current model, the effect of plot-referent emotional responses on self-referent emotions is proposed to be moderated by identification with one or more of the characters in the narrative. Identification has been

defined as feeling the positive or negative outcomes of another as our own (Cohen, 2001; McCauley, 2001). In an analysis of the potential impact of narratives for cancer communication, Green (2006) proposes that identifying with characters is the experience of relating to them, caring about them, and putting oneself in their place. This is in contrast to the sympathetic observer, who, though cognizant of the character's emotions, remains "outside" the narrative and does not re-experience the emotional state of the character (Cohen, 2001; Escalas & Stern, 2003). We suggest that, when identification occurs, the viewer is most likely to experience emotion as though the events in the narrative were happening to them—self-referent emotion. Identification might be increased through perceptions of similarity with the character or liking of the character (Cohen, 2001). Other research suggests that, in narrative processing, autobiographical memories that resonate with story themes might be activated (see Mar, 2004; Mar, Oatley, & Eng, 2003), and these "remindings" are influential in belief change (Strange & Leung, 1999). This process may also contribute to the experience of self-referent emotions in response to a narrative message.

In public health practice, the use of stories to systematically promote socially desirable behaviors is already evident in education-entertainment, or edutainment. These are television or radio programs which show characters confronted with health or social issues and the ways in which they resolve these issues. This technique originated in Latin America in the 1970s (Singhal & Rogers, 1999), and was informed by Bandura's social learning theory (1986), in which vicarious reinforcement is a means to instigate behavior change. Such programs have shown promising results. For example, in Mexico, *Acompaname (Come Along With Me)* was associated with a 32% increase in visits to state-run family planning clinics (reported in Slater, 2002). Slater and Rouner (2002), in a model of the impact of entertainment-education, highlight the importance of identification—believing that one is like the characters depicted—and emotional involvement with the characters in the process of behavior change. We suggest that brief narrative media messages might also have the potential to create such identification with characters, and therefore elicit the influential self-referent emotional responses.

In this section we have proposed that narrative has potential to elicit the self-referent emotional responses that we believe are necessary to directly influence perceptions of personal risk. Indeed, some evidence from anti-smoking advertising shows that personal testimonial advertisements—individuals telling stories of the negative consequence of the smoking—are among the most powerful messages for both adolescent and adult smokers (Biener et al., 2006; Terry-McElrath et al., 2005). This might be due to the fact that they transport the viewer, leading them to experience plot-referent emotions, and, especially if the viewer identifies with the character, these can generate self-referent emotions. This emotional response allows the viewer to feel the experiences of the narrator as their own, feeling

their own vulnerability and experiencing the potential negative emotional consequences of their behavior. Though emotional responses to personal testimonials are not proposed to be theoretically different from other narratives, this message format is particularly suited to advertising.

INTERPERSONAL DISCUSSION AND BEHAVIOR CHANGE

Communication scholars have long been interested in exploring the interplay between the influence of mass and interpersonal communication on individuals' attitudes and behaviors. In the following section we will first outline research that compares the influence of mass and interpersonal communication on decision-making and perceptions of risk. Secondly, we will consider the influence of interpersonal discussion about mass media-based public health campaigns on health behavior outcomes. Following this is an exploration of why emotionally evocative media messages might stimulate this kind of influential discussion.

Early research examined the relative weight of media influence compared to interpersonal influence on attitudes and behavioral choices. The evidence suggested that interpersonal communication was more influential in an individual's decision-making than mass communication. Both the diffusion of innovations theory (Ryan & Gross, 1943) and the two-step flow hypothesis (Lazarsfeld, Berelson, & Gaudet, 1948; Ryan & Gross, 1943) suggested that, though the average person was exposed to new information in the media, they were more influenced by the interactions they had with their peers and colleagues when making decisions or forming attitudes. This approach pointed to a "limited effects" model of the mass media.

While the classical theories debated the relative roles of mass and interpersonal communication in decision-making, other research has considered how interpersonal discussion might influence the individual. The frequency of conversation about an issue has been demonstrated to be associated with feelings of personal risk (e.g., Tyler & Cook, 1984), though correlational studies mean that it is not clear whether such conversations have an impact on risk perceptions, or whether individuals who feel at risk are more likely to talk about the issue. Talking about an issue might also be expected to influence perceptions of social norms, a factor that is both theoretically (Bandura, 1986; Cialdini, Kallgren, & Reno, 1991; Fishbein & Ajzen, 1975), and empirically (Alamar & Glantz, 2006; Hammond, Fong, Zanna, Thrasher, & Borland, 2006) important for behavior change. It is also plausible that talking about an issue with others could include some kind of discussion about what one can do to reduce one's risk, how to change one's behavior, or how others have changed their behavior. In this way, interpersonal discussion might be an important influence on perceptions of efficacy (Rogers, 1975). Conversations about health issues are diverse in their potential, and these are

but some of the ways in which their positive influence might be explained. Future research would do well to explore these possibilities.

The Indirect Effect of the Media: Eliciting Interpersonal Discussion

With interpersonal communication established as an important influence in behavior change, the role of media in stimulating such discussions has become an important line of research in health communication. For example, the agenda-setting framework (McCombs & Shaw, 1972) provided a different perspective: that rather than directly affecting individuals' attitudes and behaviors, the media had an indirect effect by raising awareness of an issue, placing that issue on the public and personal agenda and generating discussion (for an example see Yanovitsky & Stryker, 2001). By this theory, the role of media is seen as generating awareness of an innovation and setting an agenda for discussion, while interpersonal communication is seen as more effective for generating behavior change (e.g., Flay & Burton, 1990).

There is growing evidence to suggest that exposure to a health promoting media campaign is related to discussion of that issue, and that this combination is conducive to changes in behavior. A recent study that surveyed smokers following their exposure to an anti-smoking advertisement in their own home found that 38% of those who were with someone else when they watched it reported talking about the ad, and that talking about the ad was associated with an increased motivation to try to quit (Durkin & Wakefield, 2006). In a study of family planning practices in Bolivia, Valente and colleagues (1996) found that individuals who had adopted the recommended behavior, or were considering it, were more likely to recall the family planning messages and were more likely to have discussed these messages with their family and friends. The positive effect of campaign-stimulated discussion on behavior is also reported in work by Hafstad and colleagues in Norway, with discussion about an anti-smoking campaign the most important predictor for positive behavioral reactions among youth smokers (Hafstad & Aaro, 1997; Hafstad, Aaro, & Langmark, 1996).

In combination, the evidence suggests that media effects can be elevated by interpersonal discussion triggered by a media campaign itself, bringing health messages into the realm of social interactions. More than a decade ago, Valente (1996) pointed out that, though communication scholars recognized the interdependence between interpersonal and mass communication, few models existed to show how these two communication processes interact. Despite the accumulation of evidence of this interdependence, theory is still lagging. What is absent is a theoretical explanation of which kinds of media messages will trigger the kinds of discussions that are likely to generate behavior change.

We propose that conversations about a health campaign that effects positive change in the individual should include some personalized discussion.

In a controlled laboratory study designed to explore discussion of advertising, Kelly and Edwards (1992) exposed participants to one of two anti-drug messages and then led a group discussion about the message. Discussion had some effect with one of the messages, enhancing attitude change. The authors' analysis of the discussions about this message showed that the participants were emotionally involved in the issue and were empathetic. These highly personalized discussions appeared to have some impact on attitudes, with the authors suggesting that the message was transformed into something more meaningful as they elaborated on the messages. Therefore, we propose that personal and emotional discussions are more likely to generate changes in attitudes.

While talking about a public health campaign can be associated with increased positive outcomes, it is also possible that discussion might decrease the influence of a message. Discussion of the second message in Kelly and Edwards' (1992) study did not bring about any greater change in opinions than did the media message alone. The authors suggest that this might be partially explained by counter-arguing from some of the participants. Indeed, persuasive arguments theory (Burnstein & Vinokur, 1975; Kitayama & Burnstein, 1994) proposes that, when we discuss a topic, we are exposed to new arguments, some of which we may not have previously considered, and these arguments might be persuasive. If one person in the discussion does not agree with or believe the message, and can argue against it, others might be encouraged to do the same (e.g., David, Cappella, & Fishbein, 2006). Therefore, a second logical pre-requisite for effective discussion of a mass media message is that it encourages agreement with the message, or at least not explicit disagreement.

Emotional Responses Encourage Discussion

A line of research from social psychology points to the idea that, if a public health media message elicits an emotional response, it is likely to be discussed. Data show that in the hours, days, and weeks following an emotional experience, memories of that episode tend to intrude into people's thoughts (Rime, 1995). These thoughts are generally associated with an urge to talk and to share the emotional experience with others (Rime, 1995). In a review of eight independent studies of people's recall of emotional episodes, Rimé and colleagues (1992) found that between 90% and 96% of people talked about the episode they recalled. Further, the more intense the emotional experience, the more it elicited social sharing. The social sharing of emotion occurs when individuals communicate openly with one or more others about the circumstances of the emotion-eliciting event and about their own emotional reactions (Luminet, Bouts, Delie, Manstead, & Rime, 2000).

Importantly, social sharing has been demonstrated to occur in response to stimuli that share some features with mass media messages. In two key

studies conducted by Luminet and colleagues (2000), social sharing was elicited by emotion induced in response to film excerpts. Participants were exposed to one of two excerpts that generated a similar combination of four basic emotions (sadness, anger, fear, and disgust), though at differing levels (mild or intense), or to a neutral excerpt. The three films were comparable in the amount of interest they elicited and the vividness of mental images generated. Participants arrived at the session with a friend who did not view the film. After viewing the film, they waited together and their conversation was recorded. The data showed that participants exposed to the intense film talked much more about it. Further, there was a positive correlation between the intensity of the individual's emotional reaction to the movie (from video-recorded facial expressions) and social sharing. In a second study, participants viewed the movie individually and then were asked, 48 hours later, to what extent they had shared their film experience. Again, those who watched the intense film were more likely to have shared their experience. However, the more intensely emotional film was also rated to be higher in novelty, and the authors note that emotional responding and novelty are likely to be highly inter-related constructs. Future research might consider the different kinds of emotions elicited by health promoting mass media messages and whether they are more or less likely to be associated with novel message features. It might be expected that message-referent emotions would be more likely to be associated with novel messages which use shock or graphic images, and that these emotional responses might be especially likely to lead to more social sharing.

The social sharing of emotion seems to serve both informational and emotional goals. Luminet and colleagues (Study 2, 2000) found that the conversations of those who viewed the more emotional film consisted mostly of giving information about the film (in 94.6% of utterances) and expressing their emotions in response to it (in 84.2% of utterances). These are ideal conditions for an effective discussion of a health message—relaying the information in the message, as well as reflecting on its emotional impact, which in turn, might influence perceived personal risk.

Social Sharing of Non-Personal Information

Social sharing can be triggered by an emotional event that happened directly to the individual (Rime, Mesquita, Philippot, & Boca, 1991), by emotion-eliciting stimuli (Luminet et al., 2000), or by an emotional response to the autobiographical narrative of another person (Christophe & Rime, 1997). However, we know that many other kinds of ideas are shared in a social context. Heath and colleagues (2001) suggest that ideas and stories are selected and transmitted based on their ability to provide information and provoke emotions. In a series of studies to explore the idea of emotional selection of stories, Heath and colleagues (2001) considered the transmission

of urban legends which elicited disgust. In three studies, the amount of disgust in a legend was associated with how much it was talked about, how likely people thought they would talk about it, or how popular it was on the Internet. In combination, these results provide support for the emotional selection hypothesis that people tend to talk about emotional information. The research outlined above suggests the hypothesis that, if emotions can be attached to the health issues of relevance, then these issues will be discussed, transmitted and propagated.

However, we might expect some emotions to impede discussion. These are likely to be some of the self-referent emotions, such as embarrassment. We would posit that message-referent and plot-referent emotional responses are particularly important here, as they are likely to include emotions, such as disgust, that tend to be shared with others (Frijda, 1986). These shared emotions can provide a trigger for conversation. Future research should explore which type of emotions, or which combinations of emotions, are most likely to lead not only to discussion, but to effective discussion.

PRELIMINARY EXPLORATION OF NEGATIVE EMOTIONAL RESPONSES TO HEALTH MESSAGES

Though the proposed model remains to be empirically tested, we can present some preliminary evidence exploring message responses and outcomes that appear to be associated with particular discrete negative emotions. These results are provided as a preliminary exploration of the roles of different emotional responses in predicting perceptions of risk, intentions, and interpersonal discussion. Two studies were conducted in which participants were exposed to health promoting media messages and reported on their emotional responses and a range of other ad responses and outcomes.[1] Study 1 involved exposing smokers to anti-smoking advertisements (in the format of still video images and a professional voice-over), while Study 2 involved presenting magazine advertisements promoting protecting one's skin from the sun to university undergraduate students.

While the referents of the emotions were not recorded, we were interested to see if, in response to particular advertisements, any emotional responses were more or less likely to be associated with thoughts about the self (measured by a self-referencing scale adapted from Burnkrant & Unnava, 1995) or engagement with the ad and its characters (measured by a transportation scale adapted from Dal Cin, Zanna, & Fong, 2004).[2] Due to the likelihood that some emotions might be experienced across the different classes of emotions, we did not have strong a priori hypotheses as to which emotions would best fit into each class. As a preliminary exploration, a series of multiple regression analyses were used to consider each emotion in turn and to predict them from individual characteristics and ad responses (see

Table 1 for regression coefficients). We found that, in Study 1, fear, anger, guilt and disgust were best predicted by self-referencing, with similar results in Study 2 (anger and disgust showed floor effects in Study 2), suggesting that the experience of these emotions was closely related to thoughts about the self. Interestingly, sadness was predicted by transportation but not self-referencing, suggesting that the experience of this emotion might have been more closely related to engagement with the ad and its characters than to thoughts about the self. This early evidence is suggestive that some emotions (in this case sadness) can be experienced without being related to the self.

In both Study 1 and Study 2, fear was predicted by both transportation and self-referencing. In fact, when a mediation analysis was conducted, it was found, in both studies, that the effect of transportation on fear was mediated by self-referencing.[3] This pattern of results suggests that the plot-referent emotional responses that are associated with transportation might elicit reflections upon the viewer's life and their self, and, in turn, lead to self-referent emotional responses.

By the proposed model, emotional responses will only be directly associated with perceptions of risk and intentions to change if they are self-referent. In Study 2, participants completed measures of felt personal risk (adapted from Morton & Duck, 2001) and they indicated intentions to change their behavior in both studies. We conducted multiple regression analyses to predict these outcomes from emotional and cognitive responses (measured as the overall valence of cognitive response; see Dillard & Peck, 2000). In

TABLE 1 Multiple Regression Analyses to Predict Emotional Responses

Dependent variable	Predictor	Study 1		Study 2	
		β	Adjusted R^2	β	Adjusted R^2
Fearful	Sex	.08	.44***	.01	.42***
	Transportation	.24*		.24*	
	Self-referencing	.47***		.46***	
Sad	Sex	−.07	.27***	−.01	.26***
	Transportation	.35**		.48***	
	Self-referencing	.19		.04	
Angry	Sex	.02	.22***	−.10	.05
	Transportation	.14		.25	
	Self-referencing	.35**		−.16	
Guilty	Sex	−.04	.34***	−.24*	.20**
	Transportation	.30*		−.03	
	Self-referencing	.32**		.34*	
Disgusted	Sex	.15	.32***	−.21	.04
	Transportation	.16		−.07	
	Self-referencing	.44***		−.01	

Note: Values in columns represent standardised regression coefficients for each predictor and adjusted R^2 for each regression equation; *$p < .05$, **$p < .01$, ***$p < .001$.

TABLE 2 Multiple Regression Analyses to Predict Outcomes from Emotional Responses

	Study 1 ($N = 121$)		Study 2 ($N = 80$)	
	Intentions	Likelihood of talking	Felt personal risk	Intentions
	β	β	β	B
Predictors				
Fear	.35**	.01	.46*	
Sadness	−.08	.04	.02	
Anger	−.03	.09	−.03	
Guilty	.08	.27*	.02	
Disgusted	.01	.04	−.06	
Cognitive response	.22*	.15	.19	.19*
Felt personal risk				.54***
Adjusted R^2	.25***	.18**	.30***	.40***

Note: Values in columns represent standardised regression coefficients for each predictor and adjusted R^2 for each regression equation; *$p < .05$, **$p < .01$, ***$p < .001$.

Study 1, intentions were best predicted by fear, over and above cognitive responses to the advertisement (see Table 2). In Study 2, fear also predicted felt personal risk, and felt personal risk predicted intentions. In these studies, fear appears to be a self-referent emotional response. Sadness, which appears to be a plot-referent emotion, though experienced to a similar degree as fear, was not associated with feelings of risk or intentions to change.

Some preliminary evidence for the role of emotions in stimulating discussion comes from Study 1. Participants were asked how likely it would be that they would talk about the advertisement with other people. The reported likelihood of talking about an advertisement was predicted by feelings of guilt, over and above participants' cognitive response to the message (see Table 2). These preliminary findings are one step towards exploring the role of emotion in generating interpersonal discussion, but future research should focus on both the reasons why emotional responses might trigger discussion, and the content of such discussion.

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

The above evidence provides some preliminary support for the proposed model of influence of emotion-inducing health promoting media messages. This model recognizes that we need to influence perceptions of personal risk in order to change an individual's behavior. Further, individuals need

to attach some sort of emotional tag to a health issue or behavior in order to feel risk from it. This might come about through direct experience, or by discussing the issue, or in self-referent emotional responses to a mass media message. The self-referent emotional response can also directly influence the future behavior of an individual by facilitating their learning of the costs and benefits of that behavior, and their perception of the severity of the outcomes of that behavior.

Messages that elicit an emotional response are not only likely to directly influence the individual, but also indirectly, by encouraging discussion about the message. While self-referent emotional responses are proposed to be best placed to contribute directly to individual behavior change, other kinds of emotional responses might also lead to discussion. Emotional responses to the imagery of a message might be particularly likely to trigger discussion, as these reactions might include disgust, which can initiate a social sharing response (Heath et al., 2001). Sympathetic responses to a character in an advertisement might also trigger discussion, as these emotions are likely to be seen as feelings that would be shared by other viewers. In turn, these discussions might contribute to the individuals' motivation to change their behavior.

The self-referent emotions are posited to arise in response to message-stimulated thoughts about one's life and behavior. We propose that narrative is particularly likely to elicit these kinds of emotional responses as stories allow the viewer to perceive the world from another perspective. This might be the perspective of a future self, one in which an unhealthy behavior has had negative consequences. In turn, the emotional experience that is elicited by this new perspective is expected to contribute directly to feelings of perceived vulnerability and to facilitate learning for future behavior.

We propose that the distinction between self-referent and other kinds of emotional responses has important implications for subsequent outcomes, and should therefore be included in evaluations of advertisement effects. It is no longer enough to measure the magnitude of an emotional response. We suggest that it is important to also ask viewers what their emotions are about—the message and its images, the plot or characters, or their self.

Future research might consider the different types of emotional responses proposed here, and their relative contributions to discussion of advertising, perceptions of personal risk, and ultimately, behavior change. Such research might explore the role of different types of advertisements in eliciting these different emotional responses. It is expected that narrative advertisements will be particularly effective at eliciting a plot-referent emotional response, and self-referent emotional responses if identification occurs. Research that considers the differential impact of various message types might be able to explain such differences in terms of the different types of emotional responses they elicit.

NOTES

1. Full details of these studies will be reported elsewhere and are available from the authors.
2. Neither of the messages used in these studies contained images that were graphic or novel, therefore we did not expect a high level of message-referent emotions.
3. Mediation analyses were conducted, with two multiple regression analyses for each study. The first was to predict self-referencing from transportation and sex, the second to predict fear from self-referencing, controlling for transportation and sex. Sobel tests showed that these mediations were significant (Study 1: $z = 4.12$, $p < .001$; Study 2: $z = 3.5$, $p < .001$).

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