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Health Communication and Caregiving Research, Policy, and Practice

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In the inaugural issue of *Health Communication*, Gary Kreps (1989) asked, "What difference can the field of health communication make to the public?" Since then, health communication scholars have been contributing to the answer from a variety of perspectives. In the same issue, Jon Nussbaum (1989) commented that evidence strongly suggests, "health communication as a legitimate field of inquiry has finally arrived" (p. 35). Wright, Sparks, & O'Hair (2007) in the book *Health Communication in the 21st* Century, outline the varied approaches to the study of health communication by stating that researchers studying health communication from an intrapersonal communication perspective tend to focus on people's attitudes, beliefs, values, and feelings about health-related concepts and messages. Interpersonal health communication scholars tend to focus on relationships, such as those between providers and patients, or they study how everyday relationships (i.e. family members, co-workers, and friends) impact our health.

Other health communication scholars examine health from an organizational standpoint, and they tend to focus on features of the health organizations, such as hierarchies, information flow in organizations, and employee-management relationships. Intercultural health communication scholars tend to focus on the unique role that culture plays in terms of how people understand health and illness as well as how intercultural differences affect healthcare relationships. A large number of health communication scholars focus on social influence and they devote their efforts to understanding how health messages and campaigns can be improved in terms of leading to health behavior changes for large groups of people. Many health communication researchers are interested in the role of the mass media in terms of helping to shape our understanding of specific health-related issues and our more general conceptions of

health and illness. Finally, a growing number of health communication researchers are interested in the role that new technologies play in terms of disseminating health information, facilitating relationships among people who share similar health conditions, and for improving communication between providers and patients and within health organizations.

Although the term "Health Communication" has only been around since the mid-1970's (Atkin & Marshall, 1996; Rogers, 1996), communication scholars have taken a scientific approach to studying communication within health contexts for decades. Prior to the formation of the communication discipline in the 20th century, the United States has had a rich history of communication campaigns addressing a variety of health issues, such as alcohol abuse, smallpox, improper handling and storage of food, and inadequate health care for underserved populations (Paisley, 2001). Health communication research has grown exponentially over the last 30 years. This growth has occurred not only in the United States, but can be seen in the work of scholars from around the world, including researchers from the eastern European/Scandinavian countries, Australian/New Zealand, Asia, and the United Kingdom. Organizations such as the European Association for Communication and Healthcare publish the journal *Patient Education and Counseling*, and it sponsors an international conference every two years that attracts interdisciplinary health communication researchers from all over the world.

Scholars in the social sciences who were interested in the study of communication began to examine the health care system in the late 1960's, which encouraged communication scholars to follow. Korsch and Negrete's (1972) "Doctor-Patient Communication" published in *Scientific America* is still regarded as a foundation of the field (Thompson, et al. 2007; Wright, Sparks, & O'Hair, 2008). Much other work came from medical researchers, influencing the study of provider-patient interaction in particular. In 1972 a group of scholars with backgrounds in

communication formed the Therapeutic Communication interest group of the International Communication Association (ICA), which was renamed the Health Communication Division in 1975 and is now the largest division at both ICA and the National Communication Association. The formation of this area provided the earliest forum for the presentation of research on health communication. These developments were followed by numerous conferences and mini-conferences focusing on aspects of health communication, including those at the University of Kentucky.

This widespread interest in health communication led to the creation of two important publication outlets for health communication researchers. The first issue of the journal *Health Communication* appeared in early 1989. This was followed in 1996 by the *Journal of Health Communication.* These publications played an instrumental role in helping to spur the growth of health communication as an area by disseminating health communication research to a wider audience (Wright, Sparks, & O'Hair, 2008).

At the same time that these developments were taking place, important curricular growth was being observed in health communication courses at universities around the world (Wright, Sparks, & O'Hair, 2008). Many universities now offer programs focusing primarily on health communication and others have strengthened and expanded their health communication offerings. Funding opportunities have increased dramatically. Health communication scholars have moved into important policy and administrative positions within the Centers for Disease Control, the National Cancer Institute, and the National Institute for Drug Abuse. With the inception of the Health Communication and Informatics Research Branch (HCIRB) formed in 2001 within the Behavioral Research Program (BRP), Division of Cancer Control and Population Sciences (DCCPS) at the National Cancer Institute (NCI), health communication has

arrived into its own as a viable, vibrant, and extremely valuable discipline that significantly contributes to health care policy and practice. Health communication is here to stay as evidenced by expansion of curricula and research within liberal arts schools as well as schools of public health and medicine.

The area of Health Communication is now widely recognized as vibrant, theoretically-driven, pragmatic, and a key contributor in shaping national health policies (Kreps, 2003b). The research in health communication has always been on the forefront of translating research into practice by focusing on real world, significant problems in an effort to reduce the nation's health care burden.

According to Atkin and Marshall (1996),

> This specialization has grown rapidly in response to growing pragmatic policy interests, particularly in the public health agencies of the federal government and among private sector health care providers. Pressing needs to address alarming problems such as smoking, substance abuse, poor nutritional habits, and AIDS have given a strong impetus (and expanded funding) to the systematic study of communication processes and effects (p. 479).

The many opportunities for researchers to address real world health concerns makes health communication an exciting area to study (Wright, Sparks, & O'Hair, 2008). Health communication research is rich and diverse expanding into health domains including such important issues as caregiving, hospice and palliative care, spirituality and health, on-line support groups, and telemedicine. As Wright, Sparks, & O'Hair (2008) point out, the most dominant themes of research in health communication can be derived from an analysis of topics appearing in the journal *Health Communication* between 1989 and 2003, reveal that over 20% of

the articles have dealt with provider-patient interaction, followed by health campaigns (13.4%), risk communication (11.8%), health and aging (8.4%), language and health (7%), media and (5.9%) and social support and health (4.3%).

Many of the prominent theories that are still used in the area of health communication have their origins in communication, social psychology, and anthropology (Atkin & Marshall, 1996). This reflects the ways in which theory has developed in the various contexts of health communication research. For example, several theories of provider-patient interaction have their roots in interpersonal communication research, a number of the theories used to understand intercultural health issues have their origins in anthropology, and many of the theories of social influence that are associated with health campaigns have been borrowed from social psychology.

Leading health communication scholar and editor of *Health Communication,* Teri Thompson states that health communication deals with health care related environments that give meaning to health status by assuming and defining its cause (Thompson, 2000). The U.S. Department of Health and Human Services (2000), in achieving the Healthy People 2010 initiative to educate the public on the nation's major health priorities, put forth this definition of health communication:

> The art and technique of informing, influencing, and motivating the individual, institutional, and public audiences about important health issues. The scope of health communication includes disease prevention, health promotion, health care policy, and the business of health care as well as enhancement of the quality of life and health of individuals within the community.

Put simply, *health communication involves creating shared meaning about health care and conditions*. Health communication covers a wide-ranging array of topics, including disease

control and prevention, emergency preparedness and response, injury and violence prevention, environmental health, workplace safety, and general communication behavior as it relates to well-being and leading healthy lives. Health promotion efforts at the national level often take a developmental-life-span perspective with a focus on adolescent health, aging, women's health issues, men's health issues, school health, and minority health (Parrott, 2004).

Objectives and Organization

By conveying a sense of the broadened scope of recent communication theory and research, the purpose of this chapter is to propose an interpersonal theory-based framework through which health care interventions might occur. To achieve this goal, I begin with a brief discussion on the state of the science of health communication and caregiving research, policy, and practice. This section includes an overview of the major variables in health communication research, including the significant body of literature on message framing. To exemplify the issue of health message framing, the next section offers a case study to explore the impact that message frames can have on receivers' perceptions of health-related information. The third section is devoted to a discussion of the major theoretical and conceptual frameworks utilized in health communication, health education, and health behavior fields. Exposure to such health theories in one comprehensive chapter provides a logical transition to how health messages translate into health policy and practice. The final section of the chapter outlines the proposed SMILE-HCCM model of health care interventions. The SMILE-HCCM is an interpersonal theory-based model that draws from recent theory and research in the field of communication to create a flexible framework for future caregiving research, policy, and practice. The goal is to further translate existing research into practice by providing a model that can be tested and applied in health care settings to achieve better health outcomes.

The State of Health Communication Research

The field of health communication has grown exponentially over the last 25 years or so (Becket al., 2004; Thompson, Dorsey, Miller, & Parrott, 2003), with research in health communication becoming one of the most highly regarded contexts of communication study among communication professionals. There are currently two journals devoted to the topic of health communication specifically, including *Health Communication* and *Journal of Health Communication*. Scholars have also discussed the history, future trends, and specific contexts in health communication in several overview books (see e.g., Beck, 2001; du Pré, 2000, 2005a; Geist-Martin, Ray, & Sharf, 2003; Jackson & Duffy, 1998; Kreps & Thornton, 1992; O'Hair, Sparks, & Kreps, 2007; Sparks, O'Hair, & Kreps, 2008; Sparks & Villagran, 2009; Thompson et al., 2003; Wright, Sparks, & O'Hair, 2008), special issues of journals (see e.g., Kreps, Neuhauser, Sparks, & Villagran, 2008; Parrott, 2004; Ratzan, 1994; Sparks, 2003) as well as hundreds of journal articles and book chapters. All have provided important outlets for the study and dissemination of health communication research, policy, and practice. Through these works, health communication scholars are dramatically increasing attention to pertinent health communication issues and contributing in important ways by translating such research into policy and practice. Because of the inherent complexities of contemporary health communication and the potential to impact society, we must continue to clearly disseminate the most important theoretical and methodological orientations of the health communication field. There is no better way to inform the health care and research community than to engage in translating such research efforts into practice.

Important Theoretical and Conceptual Frameworks used in Health Communication

At its core, the health communication field focuses on two major elements: 1) message production and processing and 2) the creation of shared meaning about health issues in relationships. Communication researchers and professionals address health care issues from a variety of perspectives, including interpersonal and relational issues in provider-patient communication (Beck, 2001; Beck, Ragan, & du Pré, 1997; Donohew & Ray, 1990; du Pré, 2000, 2005a; Harzold & Sparks, 2007; Harzold & Sparks, 2008; Kreps & Thornton, 1992; Pomerantz, Fehr, & Ende, 1997; Ragan & Glenn, 1990; Robinson, 1998; Robinson & Stivers, 2001; Roter & Hall, 1992; Sharf & Street, 1997; Smith- du Pré & Beck, 1996; Sparks & Villagran, 2009; Sparks, Villagran, Parker-Raley, & Cunningham, 2007; Thompson et al., 2003; Vanderford, Jenks, & Sharf 1997; Whaley, 2000; Wright, Sparks, & O'Hair, 2008), breaking bad news (Sparks et al. 2007), communication and skills training (Rowan, 2000, 2003, 2004), disclosure issues (Sparks, Travis, & Thompson, 2005), caring for special populations such as older adults (Giles, Coupland, & Wiemann, 1990; Hummert & Nussbaum, 2001; Nussbaum, Baringer, & Kundrat, 2003; Sass, 2000; Sparks, O'Hair, & Kreps, 2008; Sparks, 2003; Sparks, 2007; Sparks, 2008; Sparks & Nussbaum, 2008), broader social and community health issues such as prevention (Kreps, Neuhauser, Sparks, & Villagran, 2008; O'Hair, Kreps, & Sparks, 2007), health risk communication and strategic communication approaches (Kreps et al., 2005; Rowan, Sparks, Pecchioni, & Villagran, 2003), cultural issues and disenfranchisement (Mokros & Deetz, 1996; Nussbaum, Bergstrom, & Sparks, 1996; Nussbaum, Sparks, & Bergstrom, 1996; Pecchioni, Krieger, Sparks**,** Pitts, & Ota, 2008; Pecchioni, Ota, & Sparks, 2004; Sparks & McPherson, 2007; Sparks & Mittapalli, 2004), social support (Adelman & Frey, 1997; Cawyer & Smith-du Pré, 1995; du Pré, & Ray, 2008; Jones, 1997; Robinson & Turner, 2003; Sarason, Sarason, & Garung, 1997) and social identity issues (Harwood & Sparks, 2003; Sparks &

Harwood, 2008), health organizations and decision making (du Pré, 2005a; O'Hair & Sparks, 2008; O'Hair, Thompson, & Sparks, 2005; O'Hair et al., 2003), health information sources (Pecchioni & Sparks, 2007; Bethea (Sparks), Travis, & Pecchioni, 2000), health campaigns (Sparks, 2007; Sparks & Turner, 2008; Witte, Meyer, & Martell, 2001), the role of spirituality (du Pré, 2002; Egbert, Kreps, Sparks, & du Pré, 2008), the role of humor, narratives, interviewing and message strategies in health care (Anderson & Martin, 2003; Bellet & Maloney, 1991; du Pré, 1998; Frankel, 1990; Harzold & Sparks, 2007; Harzold & Sparks, 2008; Marshall, 1993; Sparks, 2007; Sparks, Travis, & Thompson, 2005; Bethea (Sparks), Travis, & Pecchioni, 2000; Suchman, Markakis, Beckman, & Frankel, 1997; Sparks & Turner, 2008), health literacy (Kreps & Sparks, 2008; Sparks & Nussbaum, 2008), information technologies, e-health, and telemedicine (Query & Wright, 2003; Robinson & Turner, 2003), as well as broader health policy issues (Thompson et al., 2003; Thompson, 1984). (For detailed account of the history of health communication, see Thompson et al., 2003.)

In addition to foci on messages and relationships, health communication scholars focus on evaluating the effectiveness of patient-provider interaction and health campaigns. Research has generated increasing understanding of how to stimulate desired health behaviors via communication (see Sparks, 2007; Sparks & Turner, 2008; Sparks & Villagran, 2009; Wright, Sparks, & O'Hair, 2008; Witte, 1998). However, such theory driven and evidence based health communication interventions must be continually evaluated for effectiveness and adjusted accordingly. If such evaluations reveal that certain variables are not receiving the consideration needed, then new, better attuned theoretically-based outreach interventions can be developed in order to achieve better health outcomes.

In an era in which access to health information has a profound effect on longevity (see e.g. Pecchioni & Sparks, 2007; Sparks, 2007; Sparks, 2003), one important health communication research goal, especially of the National Network of Libraries of Medicine (NN/LM), has centered on improving health care provider access to health information, especially in rural, underserved, and minority communities (see Witte, 1998). In recent years, the health literacy movement and links to health communication, policy, and practice has extended this commitment to health information access for all as evidenced by National Academy of Sciences, National Library of Medicine (NLM), Healthy People 2010 and the Institute of Medicine (IOM) (see Kreps & Sparks, 2008; Sparks & Nussbaum, 2008).

Health literacy is an important construct for understanding patients' needs for health information, as well as their abilities to access and utilize such health information and messages for critical health decision-making. Health literacy currently is defined by the National Academy of Sciences, National Library of Medicine (NLM), Healthy People 2010 and the Institute of Medicine (IOM) as "the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions that may affect the health of Americans and the ability of the healthcare system to provide effective, high quality care." As such, patients need to be able to competently evaluate and locate health information for credibility and quality, analyze relative risks and benefits, calculate dosages, interpret test results, etc. Health literacy includes the concepts of accessing and understanding information and services, with a comprehensive skill set of literacy that potentially includes visual (graphs and charts), computer (operate and search), information (obtain and apply relevant information), and numeracy (calculate and reason numerically) skills required to make appropriate health decisions (see e.g. Nielsen-Bohlman, Panzer, & Kindig,

2004; Ratzan, et al 2000). Further, patients need strong oral communication to adequately and accurately describe their symptoms, concerns, and be able to competently search for and understand health information for stronger decision-making skills. According to the American Medical Association, poor health literacy is "a stronger predictor of a person's health than age, income, employment status, education level, and race" (Report on the Council of Scientific Affairs, Ad Hoc Committee on Health Literacy for the Council on Scientific Affairs, American Medical Association, *JAMA*, Feb 10, 1999). In *Health Literacy: A Prescription to End Confusion*, the Institute of Medicine reports that ninety million people in the United States, nearly half the population, have difficulty understanding and using health information. As a result, patients often take medicines on erratic schedules, miss follow-up appointments, and do not understand instructions like "take on an empty stomach". It is clear that health literacy and communication have huge implications for caregiving research, policy, and practice. Patients and their family members clearly need help accessing and navigating the health care maze.

Access to health information should, arguably, be broadened to include access for both formal and informal health care providers. The conundrum in community-based long-term care is that formal and informal caregivers have what some theorists have come to acknowledge as contradictory structures (Litwak, 1985); the potential for conflict always exists. At the same time, they have complementary roles in that the two networks must be able to coordinate their efforts on a regular basis (see e.g., Travis & Bethea (Sparks), 2001). For contemporary long-term shared health care to be successful for all involved there must be a comfortable distance between formal and informal providers that is still close enough to coordinate the caregiving goals, while not leading to destructive conflict (Litwak, 1985). Litwak and Meyer (1966) refer to successful negotiation of this experience as “balanced coordination” and note its apparent essential role in

successful health care communication efforts. As Thompson (1984) acknowledged, it is important to investigate variables that moderate processes discovered in prior research and then build upon those studies in new investigations rather than starting from scratch.

Designing Effective Theory Based Health Messages

Health behavior and health communication scholars study messages and interventions that encourage patients to be active participants in health communication contexts. In addition to designing mediated health messages, we need to focus on effective interpersonal message strategies that will prove effective with the unique complexities and barriers patients and their family members often face (see e.g., Sparks, 2007; Sparks, 2008; Sparks & Turner, 2008). That said, such a goal must be pursued by paying attention to the unique cognitive and emotional processes different populations often deal with, followed by tailored interpersonal message framing that will be more likely reach such specific populations—one patient and one family at a time.

In recent years, health communication scholars and health practitioners have utilized prospect theory by using message framing to understand the communication involved in risky decisions (see e.g., Kahneman & Tversky, 1979; Kahneman & Tversky, 2000; Tversky & Kahneman, 1981; Sparks, 2007). The landmark essays of Amos Tversky and Daniel Kahneman elegantly present Prospect Theory, suggesting that individuals will react differentially to information presented as gains or losses. People encode information relevant to choice options in terms of potential gains or potential losses. Thus, factually equivalent information can be presented to people differently so they encode it as either a gain or a loss (framing). A framing effect is demonstrated by constructing two transparently equivalent versions of a given problem, which nevertheless yield predictably different choices. The standard example of a framing

problem is the “lives saved, lives lost” question, which offers a choice between two public-health programs proposed to deal with an epidemic that is threatening 600 lives. One program will save 200 lives; the other has a 1/3 chance of saving all 600 lives and a 2/3 chance of saving none. In this version, people prefer the program that will save 200 lives. In the second version, one program will result in 400 deaths; the other has a 2/3 chance of 600 deaths and a 1/3 chance of no deaths. In this formulation, most people prefer the gamble. Of course, these formulations present identical situations. The only difference is that in the first formulation, the problem is framed in terms of lives saved and in the second, the situation is framed as a matter of lives lost. Thus, the message frame that a decision-maker adopts is controlled partly by *the formulation of the problem* and partly by the norms, habits, and personal characteristics of the decision-maker (Tversky & Kahneman, 1981, p. 453). In essence, individuals tend to select some aspects of a perceived reality and make them more salient during interaction.

Nearly all health-related information can be construed in terms of either gains (benefits) or losses (costs). But which frame works better? The answer depends on whether the target health behavior is an illness-detection behavior or an illness protection behavior (Rothman, Salovey, Antone, Keough, & Martin , 1993). Detection behaviors (e.g., prostate exam) involve uncertainty (i.e., You may find a problem!). Protection behaviors (e.g., using sunscreen) typically lead to relatively certain outcomes (i.e., You maintain your current healthy status).

Prospect Theory predicts that loss-framed information leads to preference for uncertainty, whereas gain-framed information leads to preference for certainty. Research findings indicate that loss-framed messages were effective in promoting mammography, breast self-examinations (BSE), and HIV testing. Gain-framed messages were effective in promoting infant car restraints, physical exercise, smoking cessation, and sunscreen.

The message-framing component of prospect theory has been utilized in health risk studies dealing with the uncertainty and risks involved in disease detection (see e.g., Banks, Zimmerman, Ishak, & Harter, 1995; Meyerowitz & Chaiken, 1987; Rothman, Salovey, Antone, Keough, & Martin, 1993). Meyerowitz and Chaiken's (1987) research suggests that female participants were more convinced to conduct breast self-examinations after being exposed to negatively framed messages than positively framed messages. Negatively framed messages have also been found to be more effective in persuading persons to engage in detection behaviors, such as seeking health information or discovering a lump or mole (see Rothman et al., 1993).

Health messages differ in whether they recommend preventing a health risk or hazard (e.g. wearing seatbelts) or recommend detecting a health risk or hazard (e.g. breast self examinations). Seeking out health information can be a frightening and even risky endeavor. Knowledge gained from information seeking strategies will not cure disease, but it can help in finding out if one is at risk for cancer; thus, such strategies are considered detection behaviors (see e.g., Mitchell, 2000; Mitchell, Brown, Morris Villagran, & Villagran, 2001). . Detecting a health problem is viewed as more risky, though, because in the process of gathering health information about particular symptoms, individuals may find out they have a serious health problem. Not knowing allows for a state of blissful ignorance. Prevention is less risky because you are taking measures to ensure not becoming sick or hurt. That said, negatively framed messages are more likely to smooth the progress of detection behaviors, largely because risky options are preferred when individuals are considering losses (Rothman et al., 1993).

Case Study: Message Framing Gone Bad

Carlo is a 50-year old Caucasian male who is an active professional in his field, a fabulous father and husband, an avid mountain climber, and occasional runner. He works a 50-60

hour week, but regularly exercises most of the time (i.e., running and weights). His diet is normal and typically healthy, consisting of fish, pasta, meat, vegetables, grains, some fruit, wine or beer, coffee, and as often as possible, chocolate. Carlo says he did not fully understand the importance of message framing until he had a personal encounter with its subtleties during a recent health care encounter. He relates his experience in his own words:

A couple of months ago I developed some unusual symptoms, and a quick web check indicated that a possible explanation for the symptoms could be ALS (amytrophic lateral sclerosis aka: Lou Gehrig's disease). The websites I visited did indicate that other causes were possible, but there was little clarity as to how to distinguish ALS from more benign syndromes. Additionally, there was no indication of how likely one diagnosis was versus another. What I quickly learned was that if I was going to see a doctor, (s)he would probably look for signs of hyper reflexivity (reflexes abnormally brisk) and for a particular reaction of my toes when stimulating the nerves on the bottom of my foot.

Through a neurologist friend, I was given the name of a doctor who is supposedly one of the best clinicians in the field. I then visited the doctor and he did, in fact, test my reflexes and my toes. At the end of the visit, despite my obvious anxiety (which he had acknowledged), he delayed his conversation with me for several minutes. First he scribbled in his folder for a long time, then he went to his office for 5 minutes (was he reading up about my symptoms and proper tests to be performed), then he came back and kept scribbling, though occasionally glanced at me.

Finally, after about 10-15 excruciatingly long minutes, he was able to render his opinion. He started with an unpleasant comment: "there are a few question marks in your neurological examination." This was taken by me as a negative sign, that something was wrong. He then continued by saying that in fact I was hyper reflexive in four limbs! This really set me thinking that maybe I needed to get my affairs in order as soon as possible (i.e., create a will and prepare myself for death). What is amazing, however, is what he said right after that. He told me that, in fact, my reflexes were 'within the norm', though 'on the brisk side'.

This brings me to the first comment on message framing. Here are two ways one could frame the information (or messages).

1. There are a few question marks in your neurological examination. You have hyper reflexivity in four limbs, though one could say that your reflexes are within the norm, though on the brisk side. [What happened at the doctor's office.]

2. Your reflexes are within the norm, somewhat on the brisk side, though this could easily be a result of your state of stress. [What should have happened.]

The outcome of #1 is that the patient immediately senses that something is wrong (the 'question marks' comment), and this sensation is then followed by the clarification that there is

hyper reflexivity (one of the key symptoms for a clinical diagnosis of ALS). The state of mind of the patient is now a highly stressed and emotional one, which makes it really hard to consider the subsequent qualification ('the reflexes are within the norm') with the actual extreme importance it has. Arguably, this is a scenario where one's emotional state is likely impacting the ability to cognitively process the important components of the message(s) being delivered by the physician.

Had the patient been exposed to message #2, it is much more likely that he would have had a lower emotional response and thus, would have been more capable of cognitively processing the message by hearing "your reflexes are within the norm." In essence, this likely would have translated into something entirely different and positive such as "you do not exhibit hyper reflexivity," which was a much more accurate description of the actual diagnosis.

The second issue concerning message framing has to do with the fact that the doctor never explained what the 'couple question marks' were. The patient and his wife inferred that the hyper reflexivity was one of them (but, there was NO hyper reflexivity, and so they were worrying for no good reason), and since he mentioned 'couple' (which typically means 'two' and most certainly more than one), they assumed that the toes test gave bad results as well. The patient should have asked for further clarification, but likely did not because of the severe levels of stress and worry at that time (i.e. high emotion levels likely impacting ability to think clearly).

Now, let us go to the final moments of the visit.

1. Well, there is a 10-15% chance you have ALS [He did not explain where or how he got that number and what it meant.], and the only way to find out is to do an EMG. If I were to bet, I would bet you don't have ALS, but I certainly would not bet the farm on it! [What happened at the doctor's office.]

2. I am 90% sure you only have a benign syndrome. I'd be willing to bet on it. To make completely sure, we should probably run an EMG. [What should have happened.]

Though the 'content' of #1 and #2 is the same, the way the patient is able to cognitively process it (or hear it and then process it) is totally different. In the first case, the patient is faced with a substantial chance of ALS. Further, 10-15% is actually pretty high, especially if one considers that ALS is an extremely rare disease. Thus, for the doctor to think that the likelihood is so high, it leaves the patient thinking that he must have seen something to lead him to say that percentage. His apparently reassuring comment on the 'bet', however, is quickly tempered and turned ominous, by the qualification about the 'farm.' In case #2, the patient hears that he is most likely fine, and the only reason for the test is because there is no absolute way to rule out ALS otherwise. In this case study, the patient does an excellent job of explaining how message framing affected his and his wife's perception of his condition. Future research should give practitioners feedback on their messages to patients so that the insights gained from prospect theory can help providers and patients understand medical conditions and avoid unnecessary anxiety.

In summary, prospect theory and the research it has spawned has been particularly fruitful. More research needs to be done in terms of translating research into practice to assist formal and informal caregivers in understanding how they can benefit from this line of work.

Theories Used in Creating Messages to Stimulate Health-related Behavior Change

Prospect theory has shown that message features affect the ways health and illnesses are perceived. Another focus of health communication research has been on exploring the ways in

which communication affects peoples' attitudes. Can a change in attitude move people from *thinking* about a prevention or detection behavior to *acting on their beliefs*? What causes individuals to change their health-related behavior? How do the accounts patients and informal caregivers present about a health condition impact their management of that condition? Such questions are at the heart of a significant amount of health communication research.

The Health Belief Model

The health belief model (HBM) (Janz & Becker, 1984; Rosenstock, 1974) is one of the most commonly used models of health behavior change and is probably the most frequently taught model in outreach intervention courses. Many have used it to guide the development of intervention and evaluation efforts, and its influence on health communication research is enormous. It was developed as an overarching framework on how to promote preventive behaviors (such as immunizations) by a group of social psychologists in the early 1950's (Janz & Becker, 1984). The HBM suggests that preventive health behavior is influenced by five factors: (a) perceived barriers to performing the recommended response; (b) perceived benefits of performing the recommended response; (c) perceived susceptibility to a health threat; (d) perceived severity of a health threat; and (e) cues to action (see Figure 1).

HBM suggests that individuals weigh the potential benefits of the recommended response against the psychological, physical, and financial costs of the action (the barriers) when deciding to act. For example, a patient may realize the benefit of having up-to-date information but may lack access, the skills, or even the transportation needed to get to a library. In this case, the barriers would outweigh any benefits and the patient probably would not seek out up-to-date information. Similarly, the HBM suggests that individuals evaluate whether or not they are really susceptible to a threat and whether or not the threat is truly severe. Rosenstock (1974) has noted

that the combination of perceived susceptibility and severity provide the motivation for action, and the comparison of perceived benefits to perceived barriers provides the means or pathway to action. Thus, the stronger the perceptions of severity, susceptibility, and benefits, and the weaker the perception of barriers, the greater the likelihood that health-protective actions will be taken.

Demographics and prior experiences are said to affect the four variables just described (i.e., perceived susceptibility, severity, benefits and barriers), as are "cues to action." There can be external cues (such as television shows or mass mailings) and internal cues (such as symptoms), which are suspected to increase perceptions of susceptibility and severity. This in turn triggers the decision-making process, whereby perceived barriers and benefits are weighed against each other.

The HBM has been empirically tested as the basis for educational campaigns on a number of health behaviors, including bicycle helmet use (Witte, Stokols, Ituarte, & Schneider, 1993), vaccination for infectious diseases, adolescent fertility control (Eisen, Zellman, & McAlister, 1985), and risky sexual practices (Vanlandingham, Suprasert, Grandjean, & Sittitrai, 1995). Overall, perceived barriers have been the strongest predictor of whether or not individuals engage in health-protective behaviors, followed by perceived susceptibility (Janz & Becker, 1984). Janz and Becker (1984) found that the perceived severity was the weakest predictor across studies employing the HBM. The HBM may be viewed as the grandmother of most modern health education theories. As such, its variables and principles can be seen in many of the other models.

The Theory of Reasoned Action

Messages created for outreach efforts are very often based on intuitive appeal, rather than sound methodology (Fishbein & Ajzen, 1981). Even if a theory is used to develop messages,

campaigners tend to use the variables in the theory as guidelines without carefully considering the concrete content or words in a message. For instance, campaign designers might address theoretical variables in a message by looking at the severity of a threat and the audience's susceptibility to that threat, but the verbal and nonverbal cues used to address these variables are not systematically chosen. Fishbein and Ajzen (1981) go so far as to conclude that "the general neglect of the information contained in a message and its relation to the dependent variable is probably the most serious problem in communication and persuasion research" (p. 359).

Fishbein and Ajzen (1975, 1981) suggest specific message construction and evaluation techniques based on their theory of reasoned action (TRA). In TRA, Fishbein and Ajzen (1975) propose that a person's behavior is predicted by intentions, which in turn are predicted by attitudes toward the behavior and subjective norm. These attitudes are predicted by behavioral beliefs and evaluations of those beliefs. Subjective norms are predicted by normative beliefs and the motivation to comply with those normative beliefs. Fishbein and Ajzen (1975) state that two sets of beliefs must be altered prior to behavior change: (1) beliefs about the consequences of performing a certain behavior and the evaluation of those consequences (attitude); and (2) beliefs about what other people or referents think about the behavior to be performed and the motivation to comply with those referents (subjective norm). Only when a message targets the salient beliefs of these variables do attitudes and subjective norms, and subsequently, behavioral intentions and behavior, change.

Overall, TRA is one of the few theories to offer a systematic approach to the construction of the content of a health education message. It has been applied to a number of health-related behaviors, including the impact of health risk messages about tap water (Griffin, Neuwirth, & Dunwoody 1995), sexual practices and AIDS related-behaviors (Fishbein & Middlestadt, 1989;

Fishbein, Middlestadt, & Hitchcock, 1991; Vanlandingham et al., 1995), childbearing intentions (Crawford & Boyer, 1985), testicular cancer prevention (Brubaker & Wickersham, 1990), exercise in schoolchildren (Ferguson, Yesalis, Pomrehn, & Kirkpatrick, 1989), alcoholism (Fishbein, Ajzen, & McArdle, 1980), cigarette smoking (Norman & Tedeschi, 1989), and many others.

Social-Cognitive Theory

Bandura's social cognitive theory or social learning theory has been used extensively for interventions and evaluation efforts. The Stanford 5-Cities project used social cognitive theory to prevent heart disease. Social cognitive theory has also been used in a number of AIDS-prevention projects. The thrust of the theory focuses on perceived self-efficacy. Bandura (1989) defines self-efficacy as "people's beliefs that they can exert control over their motivation and behavior and over their social environment" (p. 128). Bandura (1977) views self-efficacy as the driving force of human behavior. "Efficacy expectations are a major determinant of people's choice of activities, how much effort they will expend, and of how long they will sustain effort in dealing with stressful situations" (Bandura, 1977, p. 194). In other words, perceived self-efficacy is your perceived self-effectiveness or what you believe about your capability to perform a certain action.

Another important construct in Bandura's theory centers on outcome expectations. Outcome expectations refer to an individual's belief that a certain behavior will lead to a certain outcome. For example, "I believe that if I search the Internet for credible and current health information I will get the information needed to effectively treat a patient" is an outcome expectation. Outcome expectations are different from efficacy expectations in that the latter is an individual’s belief on whether he or she is able to "successfully execute the behavior required to

produce the outcomes" (Bandura, 1977, p. 193). For example, even if outcome expectations are high, efficacy expectations may be low (e.g., “I don't know how to search for credible sites on the Internet."). In short, according to social cognitive theory, a person can believe that certain actions lead to a particular outcome, but this individual may doubt his or her ability to perform the action. According to Bandura (1977), only when efficacy expectations are high will people perform certain behaviors. Efficacy expectations can vary on dimensions of magnitude (level of difficulty of task; people may have different efficacy expectations for simple tasks than for difficult tasks), generality (specific to general), and strength (weak to strong; Bandura, 1977).

Stages of Change Model

One of a number of stage models of behavior change, the transtheoretical model allows educators to determine which stage the majority of their target audience members are in, along a continuum of no action to consistent action (DiClemente & Prochaska, 1985). The model, also referred to as the stages of change model (SOC), suggests there are five stages to the performance of a behavior: *Precontemplation, Contemplation, Preparation, Action, and Maintenance*. In the *Precontemplative* stage, individuals do not intend to change their behavior because they are completely unaware of the behavioral options available to them. They may not realize they are engaging in a risky behavior or they may deny that their behavior puts them at risk for harm. In the second stage, however, this risk becomes apparent to the individual. *Contemplation* is the stage in which individuals begin to think about the behavior that is putting them at risk and contemplate the need for change. In this stage, for example, an individual recognizes the need for more information. In the third stage, *Preparation*, individuals make a commitment to change and take some action to prepare for the behavioral change, such as taking a class on how to speak a foreign language or making an appointment to secure a medication. It

is in the *Action* stage that individuals perform the new behavior. In this stage, for example, a person might continue to improve his or her foreign language skills or sign up for additional informational resources on keeping up with various medicines. Of course, it is in the *Maintenance* stage that individuals consistently continue to carry out the learned behavior over time.

The SOC model is useful to campaign designers for several reasons. First, individuals in different stages exhibit distinct behavioral characteristics (Weinstein, 1988). Thus, researchers can effectively analyze and segment a target audience according to their different stages of change. Then, practitioners can strategically design messages to move individuals through the stages (Maibach & Cotton, 1995). For example, if campaigners wish to design a campaign to promote a new service, and they determine that the majority of the members of the target population are in the contemplation stage, they can design messages to systematically move audience members through the preparation, action, and maintenance stages. Similarly, if the majority of the target audience is in the maintenance stage, educators can provide messages which reinforce and support the desired behavior. This model has been empirically tested with numerous health topics, including cancer prevention behaviors, smoking cessation, sunscreen use, addictive behaviors, pregnancy prevention, and risky sexual behaviors (e.g., Grimley, Riley, Bellis, & Prochaska, 1993; Prochaska, DiClemente, & Norcross, 1992).

The Extended Parallel Process Model

Fear appeals are defined as persuasive messages that attempt to frighten an audience into implementing a recommended response and are used frequently by politicians, advertisers, parents, and even professors. Fear appeal research is used in studying effective risk messages often focusing on health, physical, or social risks.

The extended parallel process model (EPPM;Witte, 1992a, 1992b, 1994, 1998, Witte et al., 1993) is based on Leventhal's danger control/fear control framework and builds on previous fear appeal approaches (Janis, 1967; Leventhal, 1970; Rogers, 1975, 1983). According to the EPPM, the evaluation of a threat brings about either danger control or fear control processes (Witte, 1998). First, individuals determine whether they believe the threat is serious and whether they think they are susceptible to the threat. The higher the perception of the threat, the more motivated individuals are to then evaluate the efficacy of the recommended response. When people think about the recommended response, they evaluate its level of response efficacy in terms of getting appropriate and useful information about the threat. They also evaluate their level of self-efficacy in terms of perceived ability to, for example, ask a knowledgeable health care provider the “right” questions to get the needed information to solve the problem. When the threat is perceived as low, trivial, or simply is not perceived as important to consider, the efficacy of the recommended response is typically not evaluated, often resulting in no response to the risk message. In other words, if people do not feel at-risk for a threat in some way, they tend to ignore information about the threat.

When both perceived threat and perceived efficacy are high, then individuals will be motivated to control the danger and adopt the recommended response (Witte, 1998). Danger control processes are generally cognitive processes in which individuals perceive a high threat and believe they are at-risk for experiencing negative consequences from the threat. Individuals who also perceive high efficacy tend to be scared of the severe threat, and because of their fear, they become motivated to protect themselves. This combination results in individuals effectively deterring the threat and facing the danger. The cognitions or thoughts that arise in the danger control processes bring about increased protection motivation, which stimulates adaptive actions

such as attitude, intention, or behavior changes that control the danger (e.g., cancer prevention, reducing risky sexual encounters, or another relevant health, risk, or crisis condition).

Studies have shown that fear appeals with high levels of threat and low levels of efficacy result in message rejection, and often result in boomerang effects because people do the opposite of what is advocated (Witte, 1998). Thus, when people believe they are vulnerable to a significant threat but believe that there is nothing that can be done to deal with the threat then they deny they are at risk, defensively avoid the issue, or react in unpredictable ways. In such cases, fears about a threat get in the way of taking appropriate action, and risk messages may not work (Witte, 1998).

Not surprisingly, for campaigns to successfully implement EPPM, high threat messages should be accompanied by high efficacy messages. If it is difficult to promote high efficacy, then one should use fear-arousing messages with extreme caution, if at all, because they may not work. Fear appeals messages are only potent persuasive devices in certain conditions.

Social Marketing

One approach to campaigns that has been widely used by health educators in both the public and private sector is that of social marketing. Social marketing involves the design, implementation, and control of campaigns aimed at altering the acceptability of the social ideas or behaviors of a specific target group or groups (Kotler, 1984; Kotler & Roberto, 1989). It is the application of for-profit management and marketing technologies to pro-social, non-profit programs (Meyer & Dearing, 1996). Wallack (1989) suggests that one of the keys to this approach is the reduction of psychological, social, economic and practical distance between the target of the campaign and the behavior.

Kotler and Roberto (1989) outline five basic steps in the social marketing management process. The first step is an analysis of the social marketing environment immediately surrounding the particular campaign. Next, the social marketer must research the target-adopter population and segment the audience into groups with common characteristics. The third step involves the careful design of the campaigns objectives and strategies. It is in this step that the social marketer must consider four concerns basic to every campaign—the four 'P's.

The four "P's" are *product, price, promotion,* and *place,* also known as the marketing mix. The *product* is the behavior or the product that the target audience must change or adopt. Campaigns have targeted a number of health behavior products including condom use, contraception, and alcohol and drug use. For instance, in the Stanford Heart Disease Prevention Program (SHDPP), the products that were promoted included regular exercise, smoking cessation, dietary changes, and stress reduction. *Price* includes any physical, social, or psychological cost related to campaign compliance. In the case of the SHDPP's Smokers' Challenge, the costs of joining the challenge included the money, time, and energy spent in accepting the challenge, as well as any additional psychological costs of giving up smoking. *Promotion* deals with how the product is packaged or presented to compensate for the costs of adopting it. The Smokers' Challenge promoted the contest by removing or reducing the financial cost of the program to make it more appealing to target audiences (Lefebvre & Flora, 1988). *Place* involves the availability, or oftentimes the accessibility, of the recommended response. The designers of Smokers' Challenge attempted to make information about the program easily accessible. They also mailed information on smoking cessation to households participating in the study. Social marketing is a well-known campaign approach with widespread adoption and allows campaigns to target their persuasive materials carefully.

PRECEDE-PROCEED Planning Model

The PRECEDE theoretical framework was developed in the 1970's by Green and colleagues (Green, Kreuter, Deeds, & Partridge, 1980; www.lgreen.net/precede/preapps.htm). PRECEDE-PROCEED stands for the acronym Predisposing, Reinforcing, Enabling Constructs in Educational/Environmental Diagnosis and Evaluation and is based on the premise that in the same way that a medical diagnosis precedes a treatment plan, the educational diagnosis should precede an intervention plan. In 1991, PROCEED, which is the acronym for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development, was added to also recognize the importance of environmental influences on health and health behaviors. The PRECEDE-PROCEED planning model takes the following steps: 1) social assessment (quality of life); 2) epidemiological assessment (overall health); 3) behavioral and environmental assessment (behavior, lifestyle, environment); 4) educational and ecological assessment (predisposing, reinforcing, and enabling factors); 5) administrative and policy assessment (health promotion, health education, policy, regulation, organization); 6) implementation (health promotion, health education, policy, regulation, organization); 7) process evaluation (predisposing, reinforcing, and enabling factors); 8) impact evaluation (behavior, lifestyle, environment); and 9) outcome evaluation (health and quality of life; see Gielen & McDonald, 2002; Green & Kreuter, 1999, p. 34).

Precaution Adoption Process Model

The Precaution Adoption Process Model (PAPM) is a stage theory similar to other stage theories (stages of change model) that question whether changes in health-relevant behaviors are describable via a single prediction equation. According to Weinstein, Rothman, and Sutton (1998), stage theories comprise four major elements: a category system to define the stages, an

ordering of the stages, common barriers to change that people face in the same stage, and different barriers to change that people face in different stages. Weinstein and Sandman (2002) state that adopting a new precaution or ceasing a risky health behavior requires purposeful action. Thus, PAPM explains the psychological processes involved in how an individual decides to take action and how that decision is then translated into action through the following stages: 1) unaware of health issue; 2) learn about the health issue but unengaged in health issue; 3) decision-making process; 4) decide not to act (PAPM ends here for the time being if this step is taken); 5) deciding to act in terms of adopting the precaution or cessation; 6) acting or initiating the health behavior; and 7) maintenance of the health behavior over time. The PAPM suggests that individuals typically go through the stages in sequence, without skipping any steps.

Diffusion of Innovations Theory

Diffusion of innovations theory spans more than five thousand publications utilizing the approach in a variety of fields, from agricultural research and rural sociology to health communication campaigns, education, and promotion, to name a few (Oldenburg & Parcel, 2002; Rogers, 2003). “Diffusion is the process through which an innovation, defined as an idea perceived as new, spreads via certain communication channels over time among the members of a social system” (Rogers, 2004, p. 13). Rogers (1995) defines an innovation as an idea perceived as new by the adopter. Such information is most often disseminated from opinion leaders to the public in order to bring about social change surrounding a particular adoptive issue (e.g., health behavior). Social change, including decisions affecting health care communication, can happen due to certain consequences via the invention, diffusion, and adoption or rejection of new ideas (i.e., innovations). Thus, diffusion of innovations involves an innovation, communication channels, social systems, and time with the actual innovation process. It involves the five main

steps of knowledge, persuasion, decision, implementation, and confirmation, which can be used in any health care communication campaign. According to DOI, the knowledge phase (phase 1) introduces an innovation by capitalizing on the spread of information by appropriate channels (e.g., mediated channels). The persuasion phase (phase 2) focuses on the diffusion of the innovation via interpersonal channels in order to potentially convince late adopters and laggards to adopt. The *decision* phase (phase 3) involves a change agent or opinion leader who influences decisions in a direction desired by a change agency. The change agent can either secure the adoption or slow the diffusion process to prevent adoption of certain innovations that have undesirable effects. Change agents typically play out several roles in the process of introducing the innovation, including: developing a need for change, establishing an information-exchange relationship, diagnosing problems, creating an intent in the client to change, translating an intent to action, stabilizing the adoption and preventing discontinuance, and achieving a terminal relationship (Haider & Kreps, 2004). The implementation phase (phase 4) occurs when a person utilizes an innovation and engages in health behavior change as the new idea is put into practice. The *confirmation* phase (phase 5) occurs when a person looks for reinforcement of the already implemented innovation-decision. The adoption here is often modified or even reversed if the person is exposed to conflicting messages about the innovation. The DOI model explains that individuals typically fall into one of the following five categories reflecting a normal distribution: innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%; Rogers, 2003).

In a recent article published in a special issue of *Journal of Health Communication,* Rogers (2004) concludes: “the diffusion process displays consistent patterns and regularities, across a range of conditions, innovations, and cultures” (p. 19). For example, adopters take on

different characteristics depending upon when they choose to adopt a new way of doing something (e.g., sunscreen protection, seatbelt safety, diet, exercise, smoking cessation, new technology). Certainly, the generalizability of the diffusion model suggests that the theoretical framework can indeed be applied to a variety of real world problems and useful results, particularly in applied health care settings, health policy, and practice. By 2003, , since the diffusion of innovations model was initially developed 40 years ago, the public health and health communication fields represented nearly 10% of all diffusion publications (Rogers, 2004). After Rogers' first diffusion book was published in 1962, several important additions have been made to the original model, including: the critical mass of an adoption to the point where it becomes self-sustaining; a focus on the social networks, particularly in terms of understanding how a new idea spreads via interpersonal channels; and re-invention, or how adopters change the innovation during the diffusion process.

Information-Motivation-Behavioral Skills Model

The Information-Motivation-Behavioral Skills Model (IMB) was initially used to understand human immunodeficiency virus (HIV) risk and prevention behaviors across a variety of populations, but it has broad applications in a number of health promotion contexts (Fisher & Fisher, 2002). In the context of HIV, the IMB model specifies that prevention information and motivation work influence prevention behavioral skills to bring about preventative behavior. According to Fisher and Fisher (2002), the IMB model approach to health behavior promotion has the following three major components: *elicitation* of existing levels of health promotion information, motivation, behavioral skills, and health promotion behavior; *intervention* in the design and implementation of an empirically targeted intervention addressing the same components; and *evaluation* of intervention impact. In addition to HIV health promotion

campaigns, the IMB has also been implemented for breast self-examinations and motorcycle safety.

Elaboration Likelihood Model of Persuasion

The Elaboration Likelihood Model of Persuasion was initially developed to explain how persuasion processes move through two major routes (central and peripheral) to change attitudes (Petty, Barden, & Wheeler, 2002). The central route refers to thinking about the desirability of the communication's consequences and the likelihood that they will occur. The central route is a thoughtful and cognitively effortful route that occurs when the person is motivated and has the ability to think about the merits of the health issue being considered. Alternately, thinking under the peripheral route includes reliance on simple communication cues, such as the likeability of the message source (see e.g., Azjen & Fishbein, 2000). The peripheral route is a less thoughtful route that occurs when motivation or ability is low (Petty et al., 2002). When people lack expertise about a topic, they are more likely to employ the peripheral route as they consider a health message, which helps to explain why health claims unsupported by research are often appealing. ELM has been used in many studies to understand health communication efficacy and message tailoring in health behavior change efforts.

Problematic Integration Theory

Problematic Integration Theory explains how people engage in information-seeking behaviors and manage uncertainty when coping with an illness, and this theory helps to explain reasons why people may or may not choose information and other types of support (Babrow, 2001). Babrow argued that the meaning of uncertainty is largely dependent on the values of the individual experiencing an illness, and those values guide the ways that information is used to manage uncertainty. For instance, an individual with cancer may decide to gather certain types of

information about the most aggressive forms of chemotherapy if he or she primarily values stopping the progression of cancer, regardless of the side effects of the treatment, whereas another person might be more concerned with acquiring information that enhances the quality of his or her life.

Uncertainty has a major impact on families in health care crises, but problematic integration (PI) theory (Babrow, 1992, 1995, 2001) offers additional explanatory power with regards to uncertainty by assuming that multiple uncertainties exist at multiple levels (Hines, 2001). A central claim in PI theory is that probability and evaluation are often integrated in incompatible ways. According to Babrow (2001, p. 554), "expectations and evaluations (e.g., desires, dread) are interdependent in complex ways." Communication comes to play a central role in PI theory in that it can address the uncertainty that patients experience or serve to compound the complexity and ambiguity of the context in which the original uncertainty inheres. PI theory serves as an explanatory mechanism for how and why families, as well as patients and providers hold assumptions, generate expectations, and make decisions about health care. Perhaps one of the most emotionally challenging examples of how PI operates in family decision making occurs at the end of life (Sparks, 2008).

Generally, the decision-making process about what to do at the end of a patients life require public and private conversations among the patient and the family as they begin to discuss their concerns for care (Sparks, 2008). The role of the family in decision-making in these initial stages is particularly important as the caregiving team is often comprised of the patient's family and loved ones. For terminally ill patients and family members in this situation, probabilistic judgments might be the extent to which they accept a negative prognosis. Evaluative judgments might include individual perceptions of the patient's life or the

relationships among family members. These two components are integrated in the minds of patients and family members through messages that are sent and received as part of the health care experience (Babrow, 1992; 2001).

Probabilistic and evaluative judgments are integrated and reciprocally related. Babrow (2001) illuminates probabilistic judgments as, "associational webs of understanding that we form through more or less thoughtful engagement with the world" (p. 560). In examining communication in end of life care it is important to consider the role of probabilistic orientations in end-of-life decision making. For example, probabilistic orientations are essential for physicians and health care providers who assist patients and family members with managing uncertainty about the prognosis. Additionally, probabilistic judgments ultimately serve as an assessment of patient care because family members gauge real life events with estimates given by the physician and health care team.

Ultimately, communication is the source of problematic integration as well as a resource for coping with uncertainty. Communication and decision-making are easier when probabilistic and evaluative judgments merge. Likewise, when judgments are in conflict then communication and decision-making are much more difficult. Using PI theory as a backdrop illuminates that interconnectedness between uncertainties and communication conflicts which occur as part of the decision-making process.

Communication Accommodation Theory

The premise of CAT is when two individuals interact, a host of psychological, sociological, behavioral and contextual variables play into decisions that those individuals make about future interactions. For this reason, it is vital to understand the processes through which people form expectations for future interaction, especially in the patient provider relationship.

CAT examines the attitudes, motives, and communication strategies that shape communicative interaction. Originally labeled Speech Accommodation Theory (SAT), it was designed to explain individuals' modifications in speech style during interactions, such as accent shifts, speech rate, loudness and gestures; either to become more alike (converge) or to exaggerate their differences (diverge) from their speech partner (see e.g., Giles, 1973). Researchers believed that accommodation leads to social identity and bonding or disapproval and distance, and occurs either as an attempt to increase understanding, or as an attempt to seek approval. According to SAT, the ways in which accommodation differs are according to the status of the speaker and the listener, and is associated with power (Giles, Mulac, Bradac, & Johnson, 1987). For instance, most students use different communication styles when speaking with friends as opposed to speaking with their professor or their parents.

In the last 25 years SAT has been expanded into a macro-level theory of communication processes that apply to a wide variety of contexts, motivations, behaviors, and strategies called Communication Accommodation Theory to demarcate it as inclusive of all communication behaviors, not just speech (Gallois, Ogay, & Giles, 2004; Shepard, Giles, & Le Poire, 2001). The primary focus of CAT is on language and speech behaviors as they indicate group membership and individual identity. An individual's use of certain language and speech behaviors can be important indicators of ethnic, sexual and social identity, define status differentials (Giles, 1973; Giles & Powesland, 1975), or enforce role or norm-specific behaviors (Gallois & Callan, 1991). CAT proposes that people enter interactions with interpersonal and intergroup goals, which are predetermined by each individual's tendency to view an encounter in intergroup terms and the interpersonal history between the interacting parties (Watson & Gallois, 1998).

Communication Accommodation Theory (CAT) proposes that when speakers from different social groups interact, they adjust or modify their verbal and nonverbal communication in order to accommodate each other (see e.g., Shepard, Giles, & Le Poire, 2001). Although each person is individually unique, we are all members of multiple social groups based on variables such as age, race, ethnicity, socio-economic background, beliefs, attitudes, values, and interests, and we are constantly in the process of making judgments about other people in terms of whether they are members of in-groups (groups to which we feel we belong) or out-groups (groups to which we feel we don't belong). Providers and patients can be seen as members of different social groups based upon education, training, status (in the case of physicians), and perceptions of health and health care. Not only do provider and patients speak different languages, but these differences often reflect very different perceptions of health and medicine.

Accommodation Strategies

These predispositions, attitudes, and views influence current interactions to shape the course of communication through accommodation strategies. Specifically, how participants' perceptions, speech behaviors, language use, and subsequent responses are altered as they negotiate meaning during an interaction to achieve a desired social distance between themselves and their communication partner. For example, participants may convert to their counterpart's communication style by using the same language structure, accent, dialect, speech rate, and lexical diversity as their interlocutors in order to gain acceptance or approval (Coupland, Coupland, Giles, & Henwood, 1988; Gallois, Franklyn-Stokes, Giles, & Coupland, 1991), or they may use such accommodation strategies to distinguish themselves from communication partners. There are several different types of accommodation strategies, including approximation strategies, discourse management, interpretability, and interpersonal control.

Approximation Strategies

For many years, approximation strategies were the primary focus for research on CAT. There are two forms of approximation strategies that may be used during interaction depending on what the desired outcome is, convergence and divergence. Both of these strategies are heavily reliant on the behaviors of the person/s being addressed (Gallois, Ogay, & Giles, 2004; Shepard, Giles, & Le Poire, 2001).

Convergence. Convergence strategies are used by individuals who wish to be more like their communication partner. Individuals may modify linguistic and non-verbal characteristics such as, accents, dialects, pauses, utterance length, or aspects of the communication exchange itself such as information density and self-disclosure (Street, 1982; Street, 1991; Street, 2001) to be more like their counterpart. Many of us can probably think of numerous examples of convergence strategies we used in junior high and high school to be cool or fit in with a certain crowd. Convergence is consistently rated to be a positive accommodation strategy with a high probability of resulting in compliance gaining, social attractiveness and predictability. However, sometimes it can be perceived as insincere or over-facilitative, and can result in misinterpretation of intent and miscommunication. Thus, creating negative results (Gallois, Ogay, & Giles, 2004; Shepard, Giles, & Le Poire, 2001). This process is called overaccommodation, or a process where at least one participant perceives a speaker to go beyond a communicative style necessary for attuning talk. Overaccommodation has been noticed in many studies on communicating with older adults and is often seen in patient/provider relationships, especially when health care providers are younger (Hummert, Shaner, Garstka, & Henry, 1998). For example, a younger health care provider may speak loudly or more slowly to an older adult patient because they hold the stereotype that older adults are hard of hearing or mentally deficient. This type of

communicative behavior is often perceived as insensitive by the older adult and may cause a communication breakdown that limits effective discourse. In the patient/health care provider relationship, a communication breakdown of this nature can be extremely harmful if it leads to the patient not following directions for effective treatment.

Divergence. Divergence Strategies are used by individuals to distinguish their speech and non-verbal behaviors from other's behaviors to increase social distance and to signal in-group and out-group membership (Shepard, Giles, & Le Poire, 2001). Divergent interactions are often rated negatively and perceived to signal dislike and disinterest in the person, conversation, or issue at hand. Teenagers wishing to rebel against their parents frequently engage in divergence strategies. The process of distinction may occur in one of two ways, maintenance or speech complementary strategies. Maintenance strategy occurs when one continues her/his own speech style in a conversation regardless of how the interlocutor behaves. Speakers maintain communicative behaviors to avoid movement toward or away from other speakers. For instance, during a doctor/patient conversation where the patient is calmly told s/he has stage 3 lung cancer, the patient may become upset and scared. The doctor may maintain her/his calm speech behavior so as not to further upset the patient by becoming too emotional. Further, Street (1991) argues that when strong role, power, or status differences exist between speakers, such as the patient provider relationship, complementary behavior may occur where parties mutually maintain their social differences through their communicative interactions. It is a strategy of both non-compliance and non-divergence, but is evaluated as being psychologically equivalent to divergence, and can be an indicator of social meaning.

Speech complementary strategy highlights sociolinguistic differences between conversational partners holding different roles, such as doctors and patients or family caregivers (Gallois, Ogay,

& Giles, 2004; Shepard, Giles, & Le Poire, 2001). For example, in doctor to doctor discussions, advanced vocabulary is often used when describing illness or treatments. When talking to patients about the same illness or treatments, using the same complex words that a patient/family caregiver may not understand can lead to confusion and communication barriers. Underaccommodation, where at least one communication participant perceives a speaker to be communicating in a manner that is underplayed regarding needs or wishes, can result during conversations in which one person is using divergence strategies. An illustration of this can be found in the previous example of maintenance strategy, where the patient may perceive the doctor to be very insensitive because they offer no emotional support or sympathy while s/he is upset about their cancer diagnosis.

Other Strategies. In an effort to recognize the other functions that accommodation strategies may be used for, researchers proposed the strategies; interpretability, discourse management, and interpersonal control to examine how a speaker can utilize accommodation in a conversation to control it. Interpretability strategies focus on the receiver's ability to interpret language performance occurring in the interaction (Gallois, Ogay, & Giles, 2004; Shepard, Giles, & Le Poire, 2001). A conversation participant utilizing this strategy may speak more loudly or slowly so the conversation partner understands what is being said. Interpretability strategy is common during conversations with older adults who are stereotyped as being hard of hearing and mentally deficient, and also frequently occurs in cross-cultural conversations between people whose primary languages are different. Speakers must be careful not to overaccommodate in these instances in order to avoid alienating the receptor. For example, many elderly Chinese do not speak English well, but understand it just fine (Ng, Liu, Weatherall, & Loong, 1997). However, in communication situations they may find that interactants speak slower, use simple words, and

talk as if they are not there because they assume the person cannot understand them. This can be very insulting, and in the patient/provider/caregiver relationship can cause a communication breakdown leading to noncompliance. However, in the patient/provider/caregiver relationship, health care providers must be especially attuned to the special needs of patients during communication about diagnoses and treatments so as not to cause underaccommodation leading to decreased understanding due to the in ability to hear or understand instructions because of language barriers.

Discourse management focuses on the receiver's conversational needs, and the receptor's ability to attune to those needs, such as topic selection, face maintenance, backchanneling (noises like humm, uh huh, um, etc. that people make during conversation), or turn management (Gallois, Ogay, & Giles, 2004; Shepard, Giles, & Le Poire, 2001). Discourse management strategy can be very important during communication to show conversation partners that they are being listened to and that the receptor understands what they are trying to communicate. This strategy can be essential during telephone conversations when interactants can't see each other's non-verbal behavior. Behaviors like backchanneling let the speaker know that the listener is still there and paying attention. It is important for family members and health care providers communicating with cancer patients via phone conversations to employ discourse management to ensure that the patients can discuss their needs and concerns accordingly, especially older adults who may not be as mobile and must rely heavily on telephone interaction. Lastly, interpersonal control strategies attempt to control the direction or nature of the communication interaction by using interruptors or other forms of talk (Gallois, Ogay, & Giles, 2004; Shepard, Giles, & Le Poire, 2001). Family members who do not want to face facts about illness often engage in interpersonal control strategies when they sugar coat, ignore, or cut off comments or

discussion from cancer patients about their illness, thereby downplaying their need to express their feelings. This practice can result in reduced communication or depression in older cancer patients who feel that they are being ignored and can't express themselves.

There are many reasons why a person may choose to engage in any of the aforementioned accommodation strategies. But, it remains obvious that if the doctor/patient/family caregiver relationship is to be a successful one, all parties must have a good understanding of the socially and contextually determined expectations for appropriate conversational behavior and practice it in their accommodation styles. Selection of appropriate accommodation strategies is highly dependent on the context in which the interaction occurs. Important variables for consideration are power structure of the relationship, gender and cultural/ethnic background of the interactant, and age.

In sum, CAT predicts that our perceptions of members of out-groups will influence our communication behaviors in a variety of ways. When we adapt our verbal and nonverbal communication in a why in which we emphasize similarities (in terms of speech, gestures, topics, etc.) between ourselves and another person, this is known as *convergence*. Although physicians and patients come from different social groups, a physician can engage in convergence with a patient by explaining his or her problem or the recommended treatment using language that the patient can understand (as opposed to using medical jargon).

Conversely, if we emphasize differences between ourselves and another individual based upon perceived social group differences when communicating, this is known as *divergence*. Providers may engage in divergence when communicating with patients by emphasizing their medical expertise or social status. Providers may use medical jargon or communicate their medical expertise in other ways when attempting to persuade a patient to try a certain treatment

option or to get them to comply with a treatment. Providers can *overaccomodate* when communicating with patients if they emphasize expertise or status differences too much. In these cases, patients may feel that their doctor is patronizing them or communicating with them in other condescending ways (e.g. talking to the patient as if he or she is a child, chastising the patient for an unhealthy lifestyle or not adhering to a treatment, etc.).

Social Health Theory

Sparks and Villagran (2009) provide a relational framework for understanding health communication and relationships termed *social health theory.* The authors state that it is through our relationships that we most often seek and obtain health information and subsequently make decisions, all of which ultimately impact our health in dramatic ways. *Social Health Theory* is put forth as a framework for understanding how our interactions impact our health. The central premise of *Social Health Theory* is that our conversations and history of interactions create, maintain, and/or destroy our relationships in positive and negative ways that ultimately impact our health. Thus, *communication impacts our health over time.* Each day, we can make conscious choices about the people with whom we interact. Some interactions will be positive and some will be negative. The goal is to consciously choose to engage in *more* positive interactions than negative interactions, therefore creating *more* positive and healthy relationships in our lives and thus be better equipped to make better health decisions and successfully age. At the same time, we must consciously let go of as many negative interactions as possible. Thus, if you have a negative interaction during the day you better try to surround yourself at the very least with an equal number of positive healthy interactions before the end of the day. Consciously do this each and every day and you will slowly rid yourself of the relationships that are contributing negatively to your life and subsequently your health, which will likely result in

living a healthier life so you can live your best life possible. If we are able to *be present* in all of our interactions, we can begin choosing more positive relationships, organizations, etc. Future research is needed to fully understand the function of *Social Health Theory* more precisely in terms of how our health is potentially impacted in positive and negative ways due to our interaction environment over time. The premise of social health theory further suggests that we begin to pay more attention to the negative interactions in our lives and offset as many of those as possible with more positive interactions and relationships to achieve a more satisfactory and, arguably, a healthier way of life. The authors also suggest that you pay attention to the positive interaction environment in your life and spend more time nurturing those relationships that are contributing to your life in positive and healthy ways (see Sparks & Villagran, 2008).

Effective health communication can encourage prevention practices, inform detection and diagnosis processes, guide treatments, support successful survivorship of serious health problems, and promote the best end-of-life care. Decisions about each of these phases of the care continuum are negotiated by families every day as each family member processes messages differently depending upon the situation.

Each of the theories outlined has guided numerous health communication interventions and campaigns over the last several decades. However, there is an important aspect of health communication that seems to be under-addressed by these theories. Specifically, with the exception of the Sparks et al (2009) *Social Health Theory*, current health communication theories frequently do not adequately address the interpersonal nature of health care encounters (see Becker, Rogers, & Sopory, 1992; Rogers, 2003,2004). Further, interaction with family and friends is known to have an important impact, both for good and for ill, on health behavior (Nussbaum, Pecchioni, Robinson, & Thompson, 2000; Sparks, 2007; Sparks & Villagran, 2009;

Sparks-Bethea, 2002; Wright, Sparks, & O'Hair, 2008). For example, we know that the health of married people is generally better than the health of single individuals. Additionally, we know that African American males who are active in the social activities of their churches are generally healthier than those not involved in church social activities (Ferraro, 2004). To address the lack of a theoretical framework for effective and appropriate health care communication contexts, the SMILE health care communication (SMILE-HCCM) is put forth.

The SMILE Health Care Communication Model (SMILE-HCCM)

As political psychologist Harold D. Lasswell (1948) stated, in studying communication processes one must ask, "Who says what in which channel to whom with what effect?" Lasswell identified the central components of communication including the sender (who encodes and transmits), the content or message (communication substance), the channel (the medium through which information is transmitted), the receiver or audience (who decodes the communication to derive meaning), and the effect (a measurable outcome of the communicative process). In 1960, Berlo put forth the S-M-C-R model (sender, message, channel, receiver), which can be adapted and extended to modern day health care communication contexts. Berlo's approach places great emphasis on dyadic communication, hence emphasizing the role of the *relationship* between the source and the receiver as an important variable in the communication process.

Berlo's emphasis on the relationship between the communicative source and receiver is a key component of the SMILE Health Care Communication Model. The central features of the SMILE (Satisfaction, Modification-Mirroring, Identification, Listen, and Enact-Evaluate) Health Care Communication Model depict the communication challenges surrounding interpersonal and small group communication in health care settings. *Satisfaction* centers on the extent to which the health care communication encounter leaves patients feeling they have the cognitive and

behavioral tools to deal with potential health issues. *Modification* suggests that health care communicators stay on message while making *modifications* to the way messages are delivered, while *mirroring* the communicative style that emerges during the health care interaction. *Identity* deals with the importance people ascribe to their *identities*, the ways in which they protect them, and the ways in which they respond when their identities are threatened. *Listening* refers to paying close attention to communicative cues that arise during each health care interaction. *Enacting* patient action and *evaluating* the current health care communication encounter occur while remembering that each interaction is based on a history of prior interaction with the patient.

The HCCM extends prior theoretical research by focusing on two distinctive features: 1) interpersonal-based message framing; and 2) reframing of message based on feedback cues during the health care communication encounter. Such subtle and natural approaches to health campaigns are very important to consider in health care interactions and can be found within the SMILE Health Care Communication Model theoretical framework. The SMILE-HCCM model says that communicators who anticipate and address the issues identified by SMILE are more apt to improve the health care communication encounter than those who are unaware of and unresponsive to these issues. The SMILE-HCCM is meant to provide a theoretical guideline for health care professionals and their interactions in health care settings.

S: Satisfaction in SMILE

Satisfaction with the health care communication encounter indicates that patients feel they have the cognitive and behavioral tools to deal with potential health issues. Research in the medical setting reveals that when patients feel empowered satisfaction ratings soar (du Pré, 2005b). In the cancer health context, Facione (2002) found that perception of risk is believed to

be a significant predictor of cancer treatment and prevention measures; thus, it is important to examine how patient decision-making is affected by risk messages. For cancer survivors, risk perception is defined as a belief that the cancer will return (Mullens, McCall, Erickson, & Sandgren, 2004). Such beliefs are often provoked by satisfaction with claims or evidence presented by health care providers about the likelihood that the particular health issue (e.g., cancer) will remain a persistent problem or go away with proper treatment.

As explained earlier in the discussion on message framing, theoretical models that attempt to explain how and why individuals adopt a health-protective behavior are based on evidence that stresses the importance of perceived susceptibility and health risk (Witte et al., 2001). These approaches examine how patient attitudes affect decisions based on *satisfaction* with evidence about the potential risk of cancer based on demographic, socio-economic, and behavioral factors. Perceived susceptibility is combined with factors including outcome estimates, difficulty of potential action, and potential cost of noncompliance (Katapodi, Lee, Facione, & Dodd, 2004).

Based on these ideas, there is often an inverse relationship between level of perceived health risk and cognitive *satisfaction* with options to reduce risk factors. Although patient attitudes are a primary factor in health risk decision-making, particularly when it comes to cancer, the dyadic interaction between patient and provider also plays a significant role in risk assessments (Whelan et al., 2004).

Satisfaction increases when patients seek more information about their cancer through a relationship with their health care provider, although they still make risky personal decisions to reject risk information based on lifestyle, behavioral choices, or other preferences (Brashers, Haas, & Heidig, 1999). *Satisfaction* with risk claims also includes a sense of satisfaction with

treatment options presented by providers based on perceived risk (Whelan et al., 2004). For instance, women whose providers used decision aids to help them make choices about treatment options were more satisfied with their decisions. Prior research also encourages physicians to develop mutual decision-making processes with patients that reflect goal-oriented rather than problem-oriented approaches (Mold, 1995). However, this could pose a number of challenges.

Even patients who understand cancer risk statistics may still have optimistic or pessimistic biases when interpreting this information for their own lives (Facione, 2002). People suffer from optimistic bias when they view themselves as less susceptible to diseases than research data reveals them to be (Thompson, Armstrong, & Thomas, 1998); these individuals are the "worry free" (Kreuter & Strecher, 1995). Low estimations of risk are often driven by a need for control over uncontrollable health concerns (Facione, 2002; Thompson et al., 1998). For example, even heavy smokers with other personal risk factors did not perceive themselves as at an elevated risk for cancer (Ayanian & Cleary, 1999). In this case, dissatisfaction with evidence of elevated cancer risk for smokers was driven by their need for control over their addiction to cigarettes.

People underestimate risk factors that seem familiar and voluntary, such as smoking and diet (Fischhoff, 1999; Sandman, 1993; Weinstein, 1999), and underestimation lessens the desire to take action (Sandman, 1993; Weinstein, 1999). To encourage reconsideration, physicians should present information to patients highlighting the relationship between personal choice and risk. Risk is controllable when the risk agent is a personal choice of the patient.

Conversely, some individuals suffer from pessimistic biases, or overestimation of risk. In this scenario, persons with the abilities to reduce their risk wrongly believe that cancer prevention is beyond their control. Further, a significant amount of research reports people with

higher levels of worry or anxiety are more likely to overestimate their risk of cancer (e.g., Katapodi et al., 2004), and therefore choose inaction.

Research indicates that people are more apt to take action to improve their health when they view themselves as both vulnerable to a health threat and powerful enough to take action against such threats (Witte, 1998). Health care communicators, therefore, need communication options for both helping patients to understand their vulnerability to health risks and their capacity for its prevention.

Several tools are available to help patients correctly estimate their health risks. One web site, www.yourcancerrisk.harvard.edu, helps patients determine their vulnerability to a dozen cancers as "average, below average, or above average." In addition, when possible, it lists steps individuals can take to minimize their risk (e.g., such as taking a multivitamin tablet or increasing servings of leafy green vegetables). Kreuter and Strecher (1995) found that people who had such personalized feedback were more apt to overcome optimistic or pessimistic biases. Thus, personalized feedback about ways to reduce risk increases patient satisfaction with health care.

The health care communication encounter is the key mechanism through which these types of messages should be exchanged. To successfully approach patients about risk and benefits of screening, physicians should consider using "loss framed messages" rather than "gain framed" messages when recommending cancer screening. Banks et al. (1995) note that "loss framing" may be more persuasive because the perceived greater loss of not participating in the screening process may seem more important to patients than the smaller losses associated with taking these tests (e.g., discomfort and fear).

Testable Propositions

1. Patients who perceive more health risks will be more likely to overestimate the number and severity of their personal risk factors and be less satisfied with contradictory risk information.

2. Health care communicators who use decision tools will be associated with higher levels of communication satisfaction among patients after a health care interaction.

3. Individuals who mindfully do not engage in healthy behaviors (e.g., check-ups, preventive diet, seek treatment) are more likely to underestimate their health risk.

4. Health care communicators who can reduce patient anxiety in health care interactions will have more satisfaction among patients who comply with their specific health behavior requests (e.g., cancer screening tests, dietary changes).

M: Modification-Mirroring in SMILE

Health care professionals often fail to communicate effectively due to a lack of clear communication goals. Key messages are often framed in ways to support the goals and then *modified* according to the feedback received during interaction. Due to the continuous changes that occur during patient care, setting goals and identifying support messages are decisions that should be made prior to the interaction with the patient and the family and then *modified* with each subsequent interaction.

Modification and *mirroring* of verbal and nonverbal messages is a very important yet often overlooked communication component during the health care interaction. Health care communicators must stay on message while making *modifications* to the way messages are delivered. The key is to communicatively mirror the emotional state of the patient while staying on message and modifying the key messages to match the mood of the patient and his or her family members. The goals and messages should still be simple, straightforward, and realistic,

but should be articulated on a similar emotional level as the diagnosis or health problem is being understood and digested by the patient and family. If information is not available or known, then the health care provider must be honest with the patient (Pecchioni & Sparks, 2007; Sparks, 2007; Sparks & Villagran, 2009).

Tetradic model of relational adjustment. The *modification* element of health care communicative processes may also be understood through the lens of a tetradic model (O'Hair & Sparks, 2008; Sparks & Hill, 2005). A tetrad could characterize a diagnosed individual as being in a varying state of intensification, obsolescence, retrieval, and *modification* depending upon each relationship within the individual's network. .For example, as a diagnosed individual progresses and adjusts to living with cancer, the patient *modifies* his or her relational interactions to account for the impact of the disease on each relationship in the patient's life (e.g., spouse, children, friends, health care workers, colleagues, etc.). As patients' provide information about their relational networks, health care providers can learn about how health care will likely be handled and managed. Such valuable information potentially gives the health care team a bigger picture of the health care efforts that will be needed for the patient and his or her family and can adjust treatment options accordingly. Health care communicators can also build credibility by *modifying* their communication according to the needs of the patient. Caregivers should build a relationship with their patients and get to know them as individuals by learning more about their occupations, skills, families, and support networks. The more attention health care communicators pay toward getting to know the interests of patients, the easier it will be to *modify* the key messages that are important to get across to them.

Another way to modify one's messages based on patient cues is to ask questions or make statements that elicit patients' emotions in a supportive manner. Marshall (1993) offers the

"NURS" mnemonic to help physicians "get a true sense of what is going on" with patients (p. 21). "N" stands for naming the emotion, "U" for understanding/legitimating it, "R" for respecting/praising, and "S" for supporting the elicited emotion with statements such as, "I admire how you're holding up" (pp. 21-22). Use of the "NURS" formula may encourage honesty. According to the National Cancer Institute, some patients say activities they most enjoy are associated with elevated cancer risks (NCI, 1998). Physicians can acknowledge the understandability of such views while encouraging patients to consider what they value most. If time is short, tell patients, but also let them know their agenda is important. *Mirroring* can be a powerful communicative tool. Learning how to *mirror* the verbal and nonverbal communicative cues of the patient can be an effective communicative strategy, particularly when the diagnosis is a difficult one. People have different communicative styles. Some individuals are highly emotional, while others show emotion less in the health care environment than they do in the comfort of their own home. Some individuals make eye contact, while others are uncomfortable making eye contact, especially with strangers. Some people generally feel uncomfortable in the health care setting, and others are not impacted by the chaos of the numerous interactions that take place when a patient enters the health care environment. In sum, health care providers should aim to match or mirror the communication style of the patient and each individual family member during each conversation. But it is important to remember that mirroring is different from imitating, and if not done naturally, a patient may suspect insincerity. *Mirroring* may help pave the way in initial interactions, but it is not meant to be a panacea for every health care interaction.

Testable Propositions

1. Health care communicators who repeat key messages (modifying each message) in health care interactions will have greater patient comprehension of available treatments for informed decision-making.

2. Health care communicators who are able to mirror nonverbal and verbal patient messages will be perceived as more credible (competent communicators) in the health care setting.

I: Identification in SMILE

Patient *identity* is important. A health care provider may gain additional insight by understanding an individual's social *identification*. Understanding where patients have come from in terms of their social *identity* and the relational networks with which they have been or currently are connected can impact health outcomes. Shifts in an individual's social *identity* occur through communication.

Social Identity Theory and Health

In recent years, Harwood and Sparks (2003) and Sparks and Harwood (2008) have argued for the general applicability of Social Identity Theory (SIT; Harwood & Giles, 2005; Tajfel & Turner, 1986) to health communication literature, and most specifically to issues surrounding cancer diagnosis, treatment, and recovery. SIT is a broad socio-psychologically grounded theory of intergroup relations, which focuses particularly on the importance people ascribe to their *identities*, the ways in which they protect them, and the ways in which they respond when their identities are threatened. It deals primarily with *identification* with large social groups (age, culture, sexuality, etc.), but can also be applied to smaller and more specialized groups (an alma mater, a family, a victim of a particular disease).

Harwood and Sparks (2003) specified three levels of identity exploring the links between social identity and health from an intergroup perspective (see also Sparks & Harwood, 2008). At the primary level, individuals identify with large-scale social groups, and those identifications influence their susceptibility to and ability to cope with cancer. For instance, highly identified women might, under some circumstances, be more likely to attend to breast cancer risks and engage in appropriate prevention strategies. At the secondary level, identifications with particular behaviors will influence cancer communication processes. For example, identifying strongly as a smoker will likely make it harder to quit. At the tertiary level, identification with cancer-specific identities come into play (e.g., patient, victim, survivor, etc.). As individuals identify more strongly with being a survivor rather than a victim (and in spite of perhaps very similar prognoses), we might predict a better outcome for the survivor. In all cases, the issue here is that particular conceptualizations of self within the cancer realm have the capacity to change psychological orientation and behaviors related to cancer, and hence to influence concrete outcomes. Thus, savvy health care communicators should pay attention to changes in a patient's health status (i.e., shifts in a patient's social identity) and adjust accordingly.

Testable Propositions.

1. Health care communicators who can pay attention to changes in a patient's health status (i.e., identity shifts) during health care interactions will have increased patient communication satisfaction, thus achieving greater health outcomes.

L: Listening in SMILE

It is important to listen to patients. Using "active listening" techniques help to show interest and concern. Marshall (1993) writes that open-ended questions "show patients they will have some control over the interaction and that their concerns are important" (p. 19).

Listening for communicative cues during interviews. Health care communicators who learn to identify unique and subtle communicative cues from their patients are likely to more fully understand the nature of the health care problem and related health and family issues, which contribute to information seeking, decision-making and a host of other concerns that may arise (e.g., medication administration issues, caregiving concerns, treatment options, etc.) (see Sparks et al. 2005).

During interviews and conversations in healthcare environments, respondents often convey information in a humorous fashion, self-disclose something very personal, or tell detailed stories that consist of emotional content that is difficult to decipher and interpret. Words and gestures are composed of ambiguous signals and require interpretation (Sillars, Roberts, Leonard, & Dun, 2000). The humorous delivery of these signals often disguises their importance. Because conversations such as these tend to occur rapidly, and the interviewer may be distracted by the humor, it is easy for the uninformed interviewer to miss information cues about problems or concerns that should be followed up with additional questions or probes.

Long-term family caregivers are frequently asked to talk about topics such as bowel movements, loneliness, personal safety, and intimate care. Such socially taboo and sensitive topics can cause periods of awkwardness and embarrassment. Previous work indicates that humor and laughter functioned as “cues” that family caregivers were approaching topics that needed a type of communication safety valve to relieve the stress, tension, or embarrassment associated with discussing the topic (Bethea, Travis, & Pecchioni, 2000, Sparks-Bethea, 2001; Sparks, Travis, & Thompson, 2005). To appreciate the subtlety and complexity of this communication strategy in the interviewing situation, it is vital to understand that the humorous

anecdote is not the end point. Humor instead is most often the cue that sensitive probing may now need to be used in order to fully comprehend what the caregiver is experiencing.

Meta-humorous interaction theory (*MetaHIT*). MetaHIT has been utilized as a guiding conceptual framework in prior research on family caregiving and communication and the use of humor in caregiving situations (see Sparks-Bethea, 2001; Bethea, Travis, & Pecchioni, 2000). This theoretical approach moves beyond previous stimulus-response approaches to humorous interaction and embraces a relational or process oriented approach. This conceptualization of humor is used on the relational or meta-communicative level as a way of safely communicating difficult issues, where cues about important aspects of one's story can be conveyed in implicit, humorous ways. The MetaHIT taxonomy extends arousal-relief theory by recognizing the typical functions of humor (i.e., cognitive, affective, and behavioral) while incorporating important relational elements that exist in the interaction. In other words, humor is often used as a cue that something of "deeper meaning" is going on in the relationship(s) involved in the story. Humor in this context is not always "funny," but instead is often used in coping or relief responses cognitively, affectively, or through behavior.

Listening: Relational agency model. O'Hair and Sparks' (2008) research on relational agency in life-threatening illnesses further emphasizes the importance of relationships in health care communication. They identify the role of the relational partner in the management of care and refer to numerous relational challenges that caregivers face in the context of LTIs. Through the empowerment of relational resources, patients and their partners elevate their prospects for exerting *agency*, or a choice created through strategic communication, in the conduct of their interactions with each other and with the healthcare system. Partners begin to feel that their perceptions and behaviors of one another are in sync and can focus on intimacy building and

strategizing how they both will manage the LTI. For example, partners may insist on second-opinions when they are faced with a disappointing prognosis report, or they may appeal insurance restrictions against participating in a clinic trial. Communication efforts such as these represent the ability to expand choices. Agency also entails having the faculties and resources necessary for making competent decisions based on a wider range of choices. Health care communicators can work closely with patients by listening carefully to the patient agent.

Testable Propositions

1. Health care communicators who listen for communicative cues in health care interactions will obtain more patient information, thus achieving better decision-making (e.g., diagnoses).

2. Patient (agents) who are given multiple choices for treatment will have greater satisfaction with the health care system.

E: Enactment and Evaluation in SMILE

Building on the Rowan, Sparks, Pecchioni, and Villagran (2003) CAUSE model, *enactment* requires action on the part of the patient. Once a health risk has been identified and made salient to the patient, in order to optimize health outcomes, the patient needs to make an informed decision based on the best medical advice. Two substantial barriers to action, however, create challenges to behavioral change: initiating changes to longstanding habits and maintaining those changes across the life span.

Motivating patients to change is often difficult, even when patients are aware that behavioral changes are not only desirable, but necessary for their health. Health-related behaviors that individuals have been *enacting* are strongly embedded in their lives (Booth-Butterfield, 2003). For instance, changing one's diet or quitting smoking are not simple actions.

Instead, these changes require considerable time, determination, and persistence. Patients must feel the need to make changes and, perhaps most importantly, they must see the salience of the potentially negative outcomes of not making the desired change. For example, most people are aware that smoking increases one's chances of developing mouth, throat, or lung cancer, but are unaware that smoking also increases one's likelihood of developing other cancers as well (Moyad, 2003). While most people are aware that exposure to the sun can lead to skin cancer, most are not aware of the cumulative damage that can occur over time and thus minimize estimates of their own risk (Chakrabarty & Geisse, 2004).

Helping patients to understand their risk factors is an important part of this process. Therefore, while taking the patient's medical history, health care providers should spend considerable time exploring lifestyle choices and family history that put the patient at risk for a wide array of health risks as well as those that might create barriers to changing behaviors. Providers can use any opportunities that arise in these interviews to discuss the individual's risk factors. Further, health care providers need to be alert to moments when patients might be highly motivated to make a behavior change (Dracup et al., 1994).

Receiving a cancer diagnosis raises the salience of these issues for patients, and they are often more highly motivated to make changes (Patterson, Neuhouser, & Hedderson, 2003). Once patients feel the need and are motivated to make changes, they may resist making desired changes because they seem too difficult (e.g. quitting smoking). As with any seemingly overwhelming project, identifying small steps helps to make the task seem more manageable. For example, start by asking the patient to read a brochure or quit smoking for an hour and then move toward longer-term goals (Dolin & Booth-Butterfield, 1995). Developing a detailed written plan that sets realistic goals, provides incentives and support, as well as planning for slips

or relapses into old behavior patterns, helps patients feel in greater control of their behavior and then they are more likely to maintain changes over time (Luszczynska & Schwarzer, 2003).

After patients have initiated the desired changes, maintaining these changes can continue to be a challenge, especially when embedded within a social support network that may reinforce undesirable behaviors. Health care communicators can undertake a number of strategies to help patients maintain desired changes. Regular discussions with patients should occur to provide opportunities to talk about and support successes in getting rid of embedded behaviors. Health care communicators can look for communicative cues and create opportunities in which to praise patients for any successes. In addition, helping patients see they have the ability to succeed in carrying out the health behavior is very important. The physician should note the patient's successes in other contexts and assure the patient of the physician's belief in his or her ability to succeed in this domain as well (Witte, 1998). Acknowledging the likelihood of failures by developing a relapse management plan helps patients to get back on track more quickly after a failure (Luszczynska & Schwarzer, 2003). Multiple messages in a variety of forms must also be considered. For instance, while face-to-face meetings are often the best approach, this is not the only strategy available for providing support to patients. A cost and time efficient method is to send "tailored" postcards, email messages or phone calls that remind individual patients of appointments for cancer screenings (Lantz, Stencil, Lippert, Beversdorf, & Jaros, 1995). These mediated means of communication can also be used to acknowledge and provide social support for successes and offer words of encouragement.

The most effective behavioral changes occur in a web of supportive relationships (Dean, 1989; Jones, 1997; Sarason, Sarason, & Garung, 1997), therefore, health care professionals should involve patients' families in all stages of the process and recruit them as allies in making

the needed health behavior changes. Conversely, the support network can create obstacles to making changes by continuing to support poor choices (Rook, 1995), and this should be taken into account.

Evaluation requires action on the part of the health care communicator or provider. Once a health risk has been identified and made salient to the patient, in order to optimize health outcomes, the health care communicator now needs to navigate and negotiate the outcome with the patient. Health care communicators must constantly reflect and *evaluate* the current health care communication encounter while remembering that each interaction is based on a history of prior interaction with the patient. A communication goal of "educating the patient and family on every aspect the medical complexities involved" may not be realistic; *informing them of the problem and specific dangers, providing guidance on appropriate treatments, and easing concerns* are achievable communicative goals. Messages in support of these goals must also be directly and effectively translated to the audience via more than one communication channel. After goals and messages have been established, the challenge becomes one of delivery and ensuring that messages and goals are achieved.

If the goal is to ease concern and the message in support of that is, "the risk to the patient is low," that message should be clearly stated at the outset and returned to as often as naturally possible:

"I want to begin by first saying that the risk is very low…."

"As I said a few minutes ago, the risk is very low…."

"That is an important question, but before answering it I want to again let you know that the risk is very low…."

"Before we finish here I want to remind you that the risk is indeed low."

The point is that health care communicators need to bring up the main message in multiple ways so that the audience leaves with a solid understanding of the key message(s).

Testable Propositions

1. Raising the salience of negative consequences of health-related behaviors will increase compliance with medical advice.

2. Patients who are carefully guided through the change process by using small steps and developing specific written plans to change will be more likely to comply with medical advice than those not having such support.

3. Patients who receive more supportive messages from their physicians through more than one channel of communication (i.e., interpersonal-mediated) will be more likely to comply with medical advice.

4. When health care communicators actively involve patients' family members in the change process, the patients will be more likely to comply with medical advice.

5. When health care communicators use more than one communication channel to stay on message in terms of informing them of the problem and specific dangers, the patients will be more likely to comply with medical advice.

6. When health care communicators use more than one communication channel to stay on message in terms of providing guidance on appropriate treatments, the patients will be more likely to comply with medical advice.

7. When health care communicators use more than one communication channel to stay on message in terms of easing patient concerns, the patients will be more likely to comply with medical advice.

Finally, health care communicators must also remember to smile, when appropriate, during health care encounters. Just as not all diagnoses are alike, not all health care interactions are alike. Adjust and tailor each health care interaction accordingly.

Implications for Practice, Education, and Research

To influence entrenched health behaviors, messages need to be relevant and compelling, with health information providing direction and rationale for making the best health-related decisions and adopting health-preserving behaviors (Maibach, Kreps, & Bonaguro, 1996; Sparks, 2007; Sparks & Turner, 2008). Care must be taken to coordinate content and relational aspects of communication to inform people about cancer and cancer treatment without confusing or upsetting them (Buckman, 1996; Gillotti, Thompson, & McNeilis, 2002; Sparks, 2003; Sparks, 2007).

By understanding nuances in interpersonal message exchanges, researchers, practitioners, and family members involved in caring for patients will be able to deliver relevant and compelling messages and better health outcomes will be achieved. Designing and delivering health care communication messages to match the specific communication skills, needs, and predispositions of varied patient populations is a crucial component of health care delivery. Health communication scholars must do a better job of translating communication theories and literature into the lives of patients, caregivers, and health care provider teams. Communication theories provide sound building blocks for those interested in using reliable, research-based empirical evidence to aid in explaining the critical features of various health diagnoses to patients. Understanding how communicative interactions play out in the construction and processing of such messages across the health communication continuum (e.g., interpersonal, small group, organizational, public, mass) is an essential step for improved health outcomes. To influence

entrenched health behaviors, messages (from interpersonal to mediated) need to be relevant and compelling, with health information that provides direction and a rationale for making the best health-related decisions and adopting health-preserving behaviors.

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