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Psychologically Tailored and Framing Messages about Health

Promoting Prevention and Detection


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Message tailoring is a procedure adopted from the social marketing arsenal. It refers to

these specific behaviors.

devised some rules of thumb about the constitution of health messages that generalized beyond relevance to the prevention of early detection of cancer and HIV/AIDS. We hope to be able to

Kremersmaan, and Cigreraser. Although we have focused our attention on health behaviors

sustained information, so apply described in the chapter of this volume by Hothere.

professionals may be able to transcend some of the challenges involved in communicating

psychological styles and needs, and framing risk information in understandable ways. Health

be applied to the creation of more effective health messages. By tailoring messages to
design - psychological learning and framing - in order to understand how these mechanisms can

be applied to the creation of more effective health messages. By tailoring messages to

dental hygiene to consuming more fruits and vegetables fall on deaf ears.

area. It should not be surprising, therefore, that many appeals to engage in behaviors from daily

underlying research on preference, choice, and motivation and its obvious application in this

health campaigns are designed by advertising and marketing professionals with little attention to

cengage in health-promoting behaviors or to cease health-damaging behaviors. Yet, many public

medicine is in the development of public health campaigns designed to persuade individuals to

One area in which the science of human decision making could make contact with

Psychologically Tailoring and Framing Health Messages about Health

Promoting Prevention and Detection:
material," expert systems technology allows investigators to create libraries of text messages
the like (e.g., Davis, Cummins, Rimmer, Sklar, & Stone, 1992). For personalized print
person's name, birth date, city of residence, health history, family composition, occupation, and
including specific identifying characteristics of the recipient of these materials such as the
allocating involves personalizing messages — letters, brochures, newsletters, and booklets — by
matching and sensitivity to stage in the behavior change process. The most basic kind of
matching and sensitivity to stage in the behavior change process is generally thought to be a
more

**Background**

Individuals (e.g., Kramer, Strecher, & Glassman, 1999), populations, while matching is used to describe the matching of messages to characteristics of
individuals, it is often used for the attempt to match messages to characteristics of
receipients. Characteristics (reviewed by Rimer & Glassman, 1999), in recent literature, the term
matching is often used for the attempt to match messages to characteristics of
receipients that are matched to complex and nearly unique combinations of previously identified
characteristics. Some tailored interventions create enormous libraries of text messages and accompany
example, whether the target of the message has ever tried the advocated behavior in the past,
occupations, and educational background as well as to stage in the behavior change process (for
have been tailored to the demographic characteristics of recipients, especially sex, ethnicity,
of specific target populations of individuals (Pasker, 1997). In this tradition, health messages

Programming and Tailoring Health Messages
Tailored messages in this
1994), healthier diets (Campbell et al., 1994), and screening mammography (Rackowski, Flisher,
cession (Moreau et al., 1996; Prochaska, Diclemente, Velicer, & Rossi, 1993; Rimer et al.,
allied to the recipient's particular stage of change have been effective in promoting smoking
individuals to adopt a particular health behavior (e.g., Prochaska & Diclemente, 1983). Messages
A frequent target of personalized tailoring is stage of change, the readiness of an
Hubbell, 1998).
Hubbell, Chavez, Mishra, Meahana, & Velicer, 1995; Mishra, Chavez, Meahana, Nave, Valdez, &
Love, 1996). When demographically tailored messages combine several of these elements (e.g.
versus Ashdown, respectively) or colloguial expressions (e.g., since) are associated with them (Bars, &
providing the health of one's family or community versus of oneself as an individual for lifelong
include themes that are expected to resonate with members of particular social groups (e.g.,
Klein, & Tuenter, 1995) or depict individuals are matched to that of recipients. If may also
& Sandell, 1994), and ethnic group (e.g., White, Black, Hispanic, & Hospers, 1994; Yanca, Tafasiliki,
Tepehak, et al., 1994), gender (e.g., Campbell, DeVeails, Stcherer, Anderman, DeVillis,
Noll, Orense, Rimer, Amorim, & Brown, 1996; Rimer, Orenes, Fielder, Fimzino, Resch,
Demographic tailoring generally involves visual elements in which the age (e.g., Morgan,
recipient's group membership.
individual level, from demographic factors, in which message content varies depending on a
personalized print materials, we distinguish personalized tailoring, which is accomplished at the
aligned to specific survey or intervention responses that can then be merged into unique
Personalizing and Tailoring Health Messages 4
summarize findings from field experiments involving the psychological tailoring of messages.

When practical considerations limit the amount of personalization possible in this chapter, we
study broaden the range of variables available for tailoring and suggest priorities for tailoring
difference in the way people process health information are most important. Findings from such
We believe that psychological characteristics representing core interpersonal
aspects of tailoring that are necessary and/or sufficient to motivate behavior change.
If it is not possible to attribute this success to a single active ingredient or not to understand the
state of change, and psychological needs simultaneously. Such messages are often effective, but
communication. Experimental messages are tailored to several demographic characteristics,
messages in which tailoring is operationalized in several different ways in the same
especially effective messages. Many of the studies cited in the previous paragraphs involve
A challenge in tailoring research is the precise identification of the "active ingredient" in
characteristics have been isolated systematically.
may be more effective than generic messages, but neither those nor many other psychological
(Alt., 1994) level of social support (Ryan & Seligman, 1996; and attributional style (Stroebe et al., 1994)
respect to a behavioral domain (Brune, Steinhuis, Van Assenma, & De Vries, 1996; Campbell et
evidence that materials that take into consideration a recipient’s perceived self-efficacy with
refer to this approach as psychologically tailoring messages. For example, there is some
psychological (non-demographic) characteristics of individuals other than state of change. We
less systematically investigated is personalized message tailoring around specific
because these benefits and barriers vary depending on stage.

Priming and Tailoring Health Messages
Need for cognition refers to an individual's tendency to engage in and enjoy effortful cognitive activities. Although conditions can be created to encourage other definitions of these health information processing dimensions in more detail.

Before describing the results from these experiments, we review the conceptual and operational two different kinds of messages, yielding four possible combinations of experimental conditions. One type of person, 50% in any experiment, two different kinds of people could receive one of the two experiments). Then, health communication materials were designed and tailored to one of the external or internal health locus of control, or as monitors versus planners depending on the individuals were classified in one of two groups (E or I), high or low in need for cognition, internal or external in health information seekers. These differences in each of these three dimensions (one per experiment). For the sake of simplicity, in the psychological research described here, our strategy was to measure inter-individual psychological traits of health information seeker and avoid inter-individual needs for cognition (the willingness to engage in effortful thinking). (b) attribution of are largely responsible for health outcomes), and (c) monitoring/planning (the motivation to seek responsibility for health (health locus of control), that is, the belief that internal or external forces have involved aliasing messages around these health information processing dimensions (a) attribution of these two, somewhat arbitrary, chosen health behaviors. The experiments conducted thus far mentioned earlier, we expect principles derived from these experiments to generalize beyond the designed to promote screening mammography and fruit and vegetable consumption (although, as framing and tailoring health messages 6
more number of arguments presented (Cacioppo et al., 1996),
with which they can be processed (are they presented pictorially rather than verbally?) and the
of the arguments (is it a well-known or authoritative public figure or credible authority?), the ease
influential in the actual quality of arguments, but instead, pay much more attention to the source
arguments with respect to partners. Individuals low in need for cognition are more or less
arguments about beliefs that are clearly articulated in a direct manner and by strong counter-
need for cognition. Individuals high in need for cognition are most persuaded by strong
in the kinds of arguments that are most effective in persuading individuals high versus low in
studies of attitude change in many different domains, a picture is emerging with respect
Perry, and Kao (1984), and Cacioppo et al. (1996).
(reverse scored); the excellent psychometric properties of this scale are reviewed by Cacioppo.
theses as, I would prefer complex to simple problems” and “thinking is not my idea of fun.”
Need for cognition is especially measured using a brief 18-item scale including Likert-formatted
compensation process to understand information presented to them (Cacioppo & Perry, 1992).
likely to rely on others (other colleagues and experts), simple rules of thumb, or social
reflect back on arguments presented to them. Individuals low in need for cognition are more
in different ways. Individuals high in need for cognition tend to actively seek, think about, and
individuals high and low in need for cognition tend to derive meaning from persuasive messages
investigations in social psychology (reviewed by Cacioppo, Perry, Feinstein, & Jarvis, 1996).
Persuasion and attitude change have now been the focus of more than 100 empirical
individual differences in need for cognition (especially its importance in understanding
Terrorizing and Tooling Health Messages
can control, such as breast self-examination, but that women with a powerful-other orientation persuade women with an internal health locus of control to engage in health behaviors that they passively role (Cromwell, Breslau, Breslau, 1977). It appears to be easier to participate with powerful-other external do better in programs in which they play a more active role (e.g., Turner, 1979; Wallis, 1992, 1997). There is also some evidence that minimals have more success in therapeutic interventions requiring active health (e.g., Towner, 1991, 1997; Wallis, 1992, 1997). So long as they also report that they value to seek information (e.g., pick up free pamphlets), so if they value in general, individuals who endorse internal health loci of control beliefs are more likely (1997).

Psychometric adequacy of these subscales is revealed in Robinson, Shaver, and Wiggins's the self, powerful others, or link to determinants of health outcomes. The well-established correlations between these six-item subscales (available in three alternative forms) assessing beliefs concerning measure of causal beliefs relevant to health (Wallis, 1981, 1982). The MHC Multidimensional Health Locus of Control Scale (MHLC) is probably the most widely used measure of causal beliefs relevant to health (Wallis, 1981, 1982). The construct has been helpful in the study of patient information-seeking, although it has been less systematically used as a predictor in persuasion research. The Wallis, 1981, 1982). The construct has been helpful in the study of patient information-seeking, although it has been less systematically used as a predictor in persuasion research. The Wallis, 1981, 1982). 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communicated the same material about breast cancer and mammography.

The third tape served as a control condition. This information-only video

better known.

prevent breast cancer, the value and benefits of a doctor finding it early are

breast cancer and using mammography (Wohle) it is not yet known how to

The external tape emphasized the health care system's responsibility for detecting

better known.

To prevent breast cancer, the value and benefits of your finding it early are

mammogram and detecting breast cancer (Wohle) it is not yet known how

The internal tape emphasized a woman's own responsibility for getting a

cancer.

systematically in terms of the attribution of responsibility for preventing and detecting breast

mammography. The three programs contained identical information. However, they varied

mammography. We developed these educational video tape programs about breast cancer and

mammography. One health affected women's attitudes and behaviors regarding screening

a local telephone company, we examined how attribution of responsibility for

activities (see also Michela & Wood, 1986). In a field experiment among about 200 employees of

to internal versus external attributions of responsibility for prevention and early detection

Trevor & Fischlin, 1993) – not the work we focus on in this chapter -- we narrowed the emphasis

in some of our previous work on persuasive health messages (e.g., Rohrman, Dolowy,

breast examination (Finkel, Marks, & Richardson, 1993).

seem to favorably toward physician controlled screening activities like pap testing and clinical
considered interacting individual difference dimensions. Some individuals are thought to be more

sensitive to psychological literature, monitoring and planning generally have been

alike, and in psychological literature, monitoring and planning were used to avoid this information

while be motivated to seek and acquire information about their personal health, even when

process of intervening information (Miller, Brody, & Summerton, 1988). A given individual

Monitoring/Planning: Monitoring and planning are personality dimensions pertinent to the

persuasive (as suggested by work on smoking cessation by Harkness and her colleagues,

powerful others, we might have found that at least for these individuals, external messages are

have isolated a group of women with strong beliefs about their health being controlled by

control may have been persuade, especially well by the internal messages, but that if we could

hers, however, that individuals with an internal locus of

Telephone workers, in this experiment, we did not attempt to match individuals to messages that

Although Rokhman, Salovey, Terry, and Fischkin (1993) demonstrated that internally

women who saw the external or control video actually to have obtained a mammogram.

the intervention, women assigned to the internal condition were significantly more likely than

The participants were assigned randomly to one of these three conditions. Twelve months after

well known.

how to prevent breast cancer, the value and benefits of finding it early are

external (medical care system) responsibility (while it is not yet known

without any particular emphasis, as much as possible, on internal (self) or

Pratique et Théorie des Santés 10
concerned and disinterested about health risks, report greater treatment side effects, are more

plinners. Overall, as compared with plinners, individuals with a monitoring style are more

Cookman, 1991). This is the case even though cancer knowledge is often quite limited among

are more satisfied with what they already know (Lerman et al., 1993; Segrice, Sutcliff, Allen, &
cancer prevention and detection behaviors. For example, Miller et al. (1983) found that the

Work on monitoring and plinners has focused on the informational preferences of these

Barsevick et al., 1993).

Behaviors (e.g., Jacob, Penn, Kullik, & Sper, 1992; Lerman, Dalrymple, Walsh, Resch, Sevy,

MBSS has appropriate reliabilty and construct validity, especially for cancer-related sentences and

versus, "Watch the TV movie even if I haven't seen it before," Miller (1987) reports that the

listen carefully for unusual engine noises, and "Read and re-read the safety instruction booklet"

describes flying on a plane, and the respondent is asked to indicate how likely he or she is to

contraline AV Hypothetical Stress-Evoking Scenes (Miller, 1987). For example, one scene

Monitors and plinners are identified using the Monitor-Plinners Style Scale (MBSS)

appreciate opportunities to be distracted from the central message and

reassurance about their problems, but plinners prefer more minimal information and

(even if it is negative, potentially painful, or concerning disease) as well as advice and

concerns about more information. High monitors generally prefer detailed and voluminous information

These intrividual differences translate into different patterns of interest with respect
direct themsevles accordingly from it in order to plin its psychological impact

likely to seek out and monitor for threatening or stressful information, while others tend to

Framing and Tailoring Health Messages. 11
They receive a telephone message matched to their information processing style or
cognition, health locus of control, or monitoring/monitoring status is assessed, depending on the
communication. With very brief questionnaires administered on the telephone, their need for
suitability to receive proactive messages about mammography screening or fruit and vegetable
Institute. After their request has been addressed, callers to the CIS are assessed for their
Cancer Information Service (CIS), a telephone information line supported by the National Cancer
messages. All of these experiments were carried out in collaboration with the New England
We have so far conducted few experiments on the psychological impact of health

Psychological Trajectories: What Have We Found So Far?

Incredible anxiety, unreasonable thoughts, and consequent denial
them with the information they have to have but to package it in a manner that does not lead to
emotionally for or find meaning in the situation. For monitors, the key seems to be to provide
especially if containing clear cues concerning certainty and safety and enable them to prepare
threat-focused, but that information for monitors should be more substantial and comprehensive.

Maller (1993) recognizes that health information for monitors is voluminous
example, a planner may be more likely to let a spouse make health decisions on their own behalf.

Maller (1993) recognizes that health information for monitors is voluminous
example, a planner may be more likely to let a spouse make health decisions on their own behalf.

Who is perceived to be more competent than they are, especially in the face of danger?
Schroeder, Wessgän, & Seidell (1996), and are more likely to yield control to another individual
they also report more intrusive, intrusive thoughts about their condition (Maller, Rodolitz,
their care, and are more adherent to medical recommendations (referred to in Miller, 1995). However,
knowledgeable about their medical situation yet less satisfied with the psychological aspects of
experiment, but with fluid and acceptable consumption as the target behavior. For this
demonstrated for at least one other health behavior. So, we reasoned to replicate this
need for cognition and message alignment if the effects shown for mammography could also be
We could be more confident about the importance of inter-individual differences in the
need for cognition. They also felt more hopeful after reading either of the pamphlets.
messages as more educational and the pamphlets as more reassuring than those women high in
Mensed (e.g., Salovey, in press). Further, women in need for cognition found the phone
partial support for the psychological tailoring of messages (Williams-Phelps, Schmidt, Pizarro,
women low in need for cognition both messages were equally effective. These findings provide
higher in need for cognition who had received the mismatched message did worse. Among
who received an appropriate message had obtained a mammogram, but only 29.1% of individuals
importance of mammography. After six months, 33.3% of individuals high in need for cognition
There were fewer details on each topic, and they remained highly satisfied regardless of the
level. The messages for women low in need for cognition were more succinct and simplistic.
cancer and mammography utilization. These messages also included statistics about breast cancer
The messages for women high in need for cognition emphasized the facts and details related to
individuals high or low in need for cognition and promoting annual mammography screening.
assigned randomly to receive a telephone message and follow-up print materials designed for
mammography responded to a few items from the Need for Cognition scale and then were
In the first of these experiments, 602 Clicks callers who had a smoking history of at least
the promoted behavior is then assessed through follow-up telephone and mail surveys.
received the materials designed for internists had obtained a mammogram, but only 34.0% of the
messeges. After six months, among internally-oriented women, 50.8% of women who had
messages. A few differences in the effectiveness of messages were more effective than

messages. Matched messages were more effective than mismatched messages. Internally-oriented women did best with the external message (different messages were most

predicted, meaning that the externally-oriented women did best with the internal message and the

message type was exactly as responsibility for maintaining health is a woman's partnership with her health care provider.

The messages for women with external health locus of control beliex emphasize that the

with an internal health locus of control underscored the woman's responsibility for her health.

individuals with internal or external health loci of control. The information tailored for women

mammograming's, 499 calls to the CIS were provided with information tailored either to

in another experiment involving women with internal health beliefs emphasizing screening

cohort for nutrition but not those who were low in need for cognition.

matching hypotheses was confirmed, but again only partially, for individuals high in need for

highest fruit and vegetable consumption once and four months later. Once again, the messages

received the message and materials psychologically tailored for such individuals reported the
defined for the calls by the CIS information specialists. Callers high in need for cognition who

higher fruit and vegetable consumption by more than one portion per day - portion sizes were

versus low need for cognition individuals. Following the intervention, all participants increased

cohort scale and were assigned randomly to messages and print materials designed for high

6 Salovey, this time, 517 calls. Callers answered the questions from the Need for

experimental, we could recruit both women and men (Williams-Piehola, Pizarro, Navarro, Movean,

Framing and Tailoring Health Messages 14
obtained a mammogram after six months, but 37.9% did so if they received the message designed

by the materials they received. Among monitors, 43% of whom received the monitor message
predicted interaction between participants' monitors/placers to information-processing style and the
performance in order to emphasize key points. As in the previous experiment, we obtained the
of bold fonts in order to emphasize key points. As in the previous experiment, we obtained the
Non-interleaving, basic information was presented in an outline format and incorporated the use
anxiety that is characteristic of monitors. The information for monitors was short and to the point
well as a tab of breast cancer risk by age. It also included reassuring statements to address the
defection. If combined additional statistics related to mammography use and breast cancer, as
the risk factors and symptoms of breast cancer and statements on mammography and information
emphasized the evidence and details related to cancer and mammography utilization, including
Pizzaro, Schmerder, Howard, & Salovey (in preparation). The information for monitors
involved messages and plain materials designed for monitors and placers (Wijllems-Pheopa,
Finally, our most recent experiment on encouraging mammography among CIS callers
Howard, & Salovey; under review).

condition, but only 38.7% in the mismatched-condition (Wijllems-Pheopa, Schmerder, Pizzaro,
mismatched, among externally-oriented women, 69.5% obtained a mammogram in the matched
mammogram. Among internally-oriented women, 75.9% obtained a mammogram when the message was
mammogram, if they had received materials designed for internals. These findings held after 12
mammogram, among the externally-oriented women, 41.7% who had received materials
designed for externals obtained a mammogram, but only 34.9% of such women obtained a
mammogram. Among the externally-oriented women, 41.7% who had received materials
such women who had received materials designed for externals obtained a
Health Information

A person might come to hold and act upon an attitude. The central role to persuasion involves attitude change (Peary & Caiozzo, 1986). The ETM distinguishes two different ways by which attitude change occurs in the Elaboration Likelihood Model (ELM) of persuasion and respect to underlying mechanism in the Elaboration Likelihood Model (ELM) of persuasion and processing. The theoretical framework that integrates work on psychological reasoning with messages exists their especially persuasive impact is by encouraging message scrutiny and central

Moreover, we believe that the specific mechanism by which psychologically tailored messages

Health Information

induce those variables of this type that appeared most promising for understanding the impact of

differentiate people with respect to how they process new incoming information. We selected for

health behavior. This powerful theoretical framework focused our attention on variables that

application of cognitive-social theory to breast cancer screening behaviors. This squarely in this

the basis for models of health behavior change. For example, Miller, Stoddard, and Huntley's (1996)
differences has had enormous impact in the field of personality psychology, it has also served as

different measures had enormous impact in the field of personality psychology. The approach to individual

differences in information processing styles and competencies are what distinguish individuals

could be psychologically tailored. The social intelligence theory of personality argues that

Kihlstrom, 1987) guided our selection of dispositional characteristics around which messages

A theoretical orientation known as the social intelligence view of personality (Kantor &

Mechanisms Underlying the Advantage of Psychologically Tailored Messages

to see if these impressive findings hold after twelve months.

mammograms, but 29.2% did so if they received the materials designed for monitors. We are waiting

for monitors. Among monitors, 48.8% obtained a mammogram if they received the booklet

Printing andial inate Health Messages 16
Being centrally processed by all persons, processing style was expected to increase their personal relevance and thus their likelihood of being processed centrally (Perry & Cacioppo, 1990). Tailoring messages to health information according to the ETM, the personal relevance of messages increases, they are more likely to reflect the strength of subsequent attitudes by encouraging central rather than peripheral processing. Messages that are matched to the recipient's health information processing style increases the recipient's autonomy from subsequent arguments. The ETM also suggests that the goal of the psychological process is to explore whether providing peripheral mechanisms (such as relevance) is more effective for individuals low in need for cognition. Higher in need for cognition may chronically form attitudes using central mechanisms more so the central and peripheral routes. It can also be placed in an inter-individual context, individuals considered as intra-individual models, when the same individual could hold attitudes formed by both attention to simple cues rather than consideration of subsequent arguments. The ETM could be the peripheral route are less persistent, resistant, or hard to behavior because they result from the message itself (Perry & Weger, 1991; Perry et al., 1994). Attitudes formed via the behavior because they encourage elaboration, thinking about new ideas beyond those presented. More resistant to challenge from competing messages, and more meaningful of subsequent processes – consideration of the actual arguments – are more persistent and stable over time.
benefits of potential losses (i.e., costs) as compared to a reference point (e.g., in the situation decision makers represent information relevant to choice options in terms of potential gains (i.e., (Kahneman & Tversky, 1979; 1982; Tversky & Kahneman, 1981). Prospect Theory suggests that frameworks for understanding preference and decision making under conditions of uncertainty Any discussion of message framing must begin with Prospect Theory, the primary

Background

persuasive than the other one. same information about fruit and vegetable consumption, one of these messages might be more vegetables can lead to ill health. Although these two rather bland messages convey essentially the generally convey the costs of not adopting the recommended behavior (e.g., "loss-framed messages"

gain-framed messages usually present the benefits that are accrued through adopting a

escalators discussed in Heyman’s chapter in this volume.

and thus could be considered psychological risk escalators, analogous to the kinds of risk These frames can change perceptions, perceptions of risk and feelings about different outcomes, consequences of adopting or failing to adopt a particular behavior (Kahneman & Tversky, 1997). This context, message framing refers to the emphases in the message on the positive or negative messages encourage different kinds of representations of risk or probabilistic information. In

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Our second line of research on the creation of effective health-promotion messages

Message Framing


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Message Framing

Frame and Framing Health Messages 18
encouraged preferences for certain surgical procedures (Levin, Schmuhlter, & Thee, 1988, Exp. 2; Apgarovich, Pizato, Mieczkowska, Zullo, & Rohman, 2001). Gain-framed messages have been especially effective when promoting breast self-examination (Rohman & Salovey, 1997) and mammography utilization (Chabekian, 1987). HIV screening (Kaufman, Ko, & Coly, 1995), and mammography utilization has been reviewed more systematically by Rohman and Salovey (1997) and Wilson, Prudon, and Wiatrowski (1998). Although loss-framing

The literature on framing and health promotion has been reviewed more systematically by

Gains or benefits, that is, when the upside of a situation is made salient, more likely to predict those options when information is framed in terms of relative advantages (i.e., salient. Alternatively, when behavioral choices involve some risk of uncertainty, individuals are

losses or costs (of the behavioral option) that is, when the downside of a situation is made

likely to take those risks when information is framed in terms of relative disadvantages (i.e., the idea that when behavioral choices involve some risk of uncertainty, individuals will be more

concerned for gains and converse for losses, and steeper in the loss domain. This function modifies

shaped function reveals objective outcomes to their subjective valences, and that the function is

Losses are salient but risk-averse when gains are salient. Prospect Theory assumes that in S-

of preferences or decision strategies by noting that individuals are in general, risk-seeking when

individuals such that they encode it as either a gain or a loss. Prospect Theory characterizes a set

that we study, one's present level of health. Finally, an instrument of health can be presented to

Framing and Tailoring Health Messages 19
Our first field experiment focused on mammography screening was conducted as part of a workplace health-promotion program at a large telephone company (Hanks, Salovey, Gnee, & Kolmin, 1999). Any woman who had obtained fewer than 50% of the mammogram钼 gratuit, Beanier, (Efe, 1999) should be better motivated by loss-framed messages than gain-framed messages.

A woman must consider the risk of finding out she has breast cancer before deciding whether to take a mammogram. Most women pursue screening behaviors that they are healthy. Obeying a mammogram, most women pursue screening behaviors that they are healthy. Obeying a mammogram.

Loss-Framed Messages Promote Detection Behaviors.

Prevention behaviors, but loss-framed messages more persuasive when promoting early detection (March, 1999). That is, are gain-framed messages more persuasive when promoting

mammograms? Behavior. There is the function of the required health behavior (prevention or detection) effectively. Therefore, we advised whether the match between a message frame (gain or loss) and the function of the required health behavior (prevention or detection) effectively.

Choosing to perform prevention behaviors is a risk-averse option, and people are more likely to perform preventive behaviors. Therefore, we advise whether the match between a message frame (gain or loss) and the function of the required health behavior (prevention or detection) effectively.

Occurrence of a health problem. Choosing to perform prevention behaviors is a risk-averse option, and people are more likely to perform preventive behaviors. Therefore, we advise whether the match between a message frame (gain or loss) and the function of the required health behavior (prevention or detection) effectively.

From a Prospective Theory point of view, the perceived risk (of finding an abnormality) Salovey, Primm, & Kolmin, 1999; Kolmin, Salovey, Primm, & Kolmin, 1999)

Physical exercise (Robinson & Kagars, 1988) and screening utilization (DeWolfe, Bedell, & Plezic, 1999).
...while or Latina women and provided statistics and pictures models drawn only from those all women, black, while or Latina. The other videos were targeted especially for either blacks, produced different parts of Framed videos, one path emphasized the problem of breast cancer for unique video about breast cancer and mammography that was gain or loss-framed. We... Most of the participants were from lower-income families. Once again, women viewed a 15-min. video about knowledge about breast cancer. However, after two weeks, it was clear that the women who viewed the gain or loss-framed video did not differ in their liking for the videos.
In comparison to early detection behaviors such as screening mammography, the use of skin
sunscreen at the beach, like most prevention-oriented health behaviors, involves few
uncertainties and little psychological risk. Using sunscreen is a low-cost way of reducing skin
losses are made salient. Choosing to obtain a mammogram is a behavior with an uncertainty
that should be preferred over certainty when
the Prospector Theory predicts that the risk (uncertainty) should be preferred over certainty when
rather than specifically targeted for a particular ethnic group. These findings are consistent with
rarefiﬁed effectiveness to a particular ethnic group within some demographic that connoted their
effectiveness as the loss-framed, multicultural one. After 12 months, the pattern of ﬁndings was
larger to the speciﬁc ethnically of the participations, and neither version of the targeted video was
as effective as the loss-framed, multicultural one. However, there were no differences due to framing when the messages were
viewed the loss-framed message received a mammogram compared to only 36% in the gain-
messages, which were most like the ones used at the telephone company, 53% of the women who
the telephone company study (Banks et al., 1995) was replicated here. With the multicultural
neared six months later, the advantage for loss-over gain-framed messages seen in
for Latina women could be viewed with either an English or Spanish soundtrack.
framing and framing health messages 22
exchangecd later for a free bottle of sunscreen. When the sunscreen "wonder" appeared on the prevention of skin cancer. After reading the brochure, they were given a coupon that could be on a public beach to read either gain-or-loss-framed brochures about sunscreen and the which we collected data about interest in sunscreen. In one experiment, we recruited 217 sunbathers involving topic for both men and women. The beach represents an ecologically valid setting in for people sunbathing on the beach, however, skin cancer might be a relatively more

47% respectively.

as compared to 45% who read the loss-framed pamphlet. For men, request rates were 50% and instance, 79% of the women who read a gain-framed pamphlet substituted requested sunscreen loss-framed ones was small for the men in the study, but quite sizable for the women. For pamphlet motivated more requests for sunscreen. The advantage of gain-framed messages over across the two framing conditions. As Prospect Theory led us to predict, the gain-framed information about skin cancer prevention. Interest in the pamphlet was high and did not differ possibilities that they could mail to our laboratory requesting sunscreen samples and more.

Martin, 1993). Experiment 2). After reading the pamphlets, participants were given posture-pad framed pamphlets about skin cancer and sunscreen use (Rodham, Slayden, Arioua, Keough, &
samples of sunbathers on public beaches. In one study, 14 of undereducated read gain-or-loss and the acquisition of sunscreen, some among college students and others with more diverse Wve have conducted several experiments involving the manipulation of framed messages

that is, when the advantages of the option are made salient. outcomes (opinions with probabilistic or uncertain outcomes) after considering potential gains, cancer risk, Prospect Theory suggests that individuals should prefer options with certain Framing and Tailoring Health Messages 23
Mouth rinse. In the experimental promotive mouthwash, we described a product to 120

lesser...

experiment to encourage, in one instance, the use of mouth rinse and, in the other, annual pap

messengers should be more effective. We have conducted this type of two-way, factorial

when the same action is described as an early detection or screening behavior, loss-framed

prevention function. Gain-framed messengers are more effective than loss-framed messengers. But

Ideally, we would like to show that when a health behavior is described as serving a

Behaviors That Can be Described as Either Detection or Prevention

same study when participants are randomly assigned to conditions.

continuing data require observing both the loss-frame and gain-frame advantages within the

was only obtained across very different experiments leveraging very different behaviors. More

pattern of effects predicted based on the notions gleaned from Prospect Theory, but this pattern

prevention behaviors might be best promoted with gain-framed messengers. This was exactly the

was best promoted using loss-framed messengers, the successive experiments suggest that

Unlike our experimental lagging mammography in which an early detection behavior

Bedell, Salovoy, Pronin, & Kohlman, 1999)

nonscreening that day were statistically controlled in a logistic regression analysis (DeWittle,

difference remained reliable for both women and men even when prior intentions to use

required nonscreening, but only 53% of those who read a loss-framed pamphlet did likewise. This

compares. Seventy-one percent of the participants who read a gain-framed pamphlet spontaneously

beach about half an hour later, we could observe those beach-goers who actually used it later

Frame and Promoting Health Messengers 24
example, health communication can emphasize the prevention of cervical cancer through the detection function, which is typical of most pap messages, or their preventive function. For cervical cancer, but actually, pap tests can be described in two different ways, emphasizing their early purchase. Pap testing is generally thought of as a behavior designed to detect cervical mouthwash after reading the loss-frame pamphlet, but only 37% of them said they would purchase it after reading the gain-frame pamphlet. In the detection condition, 73% of the participants said they would buy the discoloration (mouthwash) was described in terms of costs of not using the mouthwash (loss-frame) and when the discoloration was described in terms of benefits of using the mouthwash (gain-frame). Predicted intentions to purchase the product were stronger when the preventive mouthwash was presented, especially those about their intentions to buy the mouthwash in the next week. As participants were asked about their intentions to purchase the mouthwash in the next week.

although participants reported having more positive affective reactions to the gain-frame pamphlet, quality of the pamphlet was unaffected by either the behavior-type or framing manipulations, participants were assigned randomly to receive one set of the other. One again, ratings of the prevention mouthwash or the discoloring mouthwash were framed in gain or loss lanes, and discoloration on teeth where better brushing is needed. As usual, arguments in favor of either the technique more unusual mouthwash, one that detects the buildup of plague by leaving red plague from teeth and thus prevents tooth decay and gum disease. The other half heard about a 1999, Experiment 2) Half of those students heard about a typical oral mouthwash, one that removes plaque and fillings Healthy Messages 25
this should be better motivated by loss-framed messages. However, because HIV is held, in large
seen to be a typical detection behavior with attendant psychological risks and uncertainty, and
generally does not know the outcome (healthiness) in advance. Despite tested for HIV would
choices. The decision to initiate a detection behavior often involves uncertainty and risk, as one
typically associated with them. Prevention behaviors are usually comprised of safe, risk-averse
prevention and early detection behaviors differ in terms of the risk of uncertainty

Behavior That Can Be Considered in Different Ways
interaction just about reached conventional levels of significance
(prevention/detection) and message framing (gain/loss), the behavior type by message framing

Regressions analysis that included baseline behaviors, the main effects for behavior type
highest in the prevention-gain and detection-loss conditions as expected, and in a logistic
American, 26% were Latina, and 12% were White. Six months later, rates of pap lesions were
health clinic. Most of these women were from relatively poor families; 99% were African
We showed one of those four videos to 497 women over age 18 attending a community

Communications
include more information about cancer prevention than the more typical pap lesion-promoting
under review). Although this latter message is not exclusively focused on prevention, it does
cancerous lesions that could be healed (Researcher, Pizarro, Schmidt). Pizarro, & Salovey.

Or a program emphasizing the prevention of cervical cancer through the detection of pre-
program emphasizing the early detection of cervical cancer, and gain- and loss-framed versions
video tape programs about the benefits of pap testing, gain- and loss-framed versions of a
detection of pre-cancerous abnormalities with regular pap. We developed four different

Framing and Tailoring Health Messages 26
Consequences: Likelihood of would make positive outcomes unlikely (see also Dewell et al., 1999). Unlikely, loss-frame messages either noted that or less likely to make negative outcomes noted that HIV testing would bring positive consequences of would make negative outcomes framed verbally, promoting HIV testing were created. That is, gain-frame messages either information were or framed differently. Two types of gain-framed and two types of loss-framed health center. Of the 480 participants included in our analyses, most were either African American or Latino. We developed four videotaped educational programs, including in all participants were from a low-income neighborhood of New Haven.

Persuaded by gain-frame messages, women who viewed HIV testing as a safe behavior with certain outcomes would be more behavior with uncertain outcomes to be more persuadable by a loss-frame message, whereas HIV test (Aparicio et al., 2003). We expected women who viewed HIV testing as a risky encouraging women living in public housing or attending a community health center to obtain an Salovey, 2003). We examined whether gain-or loss-frame messages were more effective in that would be most effective in motivating them to obtain an HIV test (Aparicio, McCarthey, et al., 2006). We examined these differences in their views of HIV testing: in this way would increase behavior in the framed message. Therefore, these individuals might be more persuadable by gain-framed messages.

There is some evidence of increasing positive; the behavior has a relatively certain outcome. They are not at risk for HIV. For those individuals, HIV testing is a psychologically safe behavior part, to behavior, some individuals might reasonably believe based on their past behavior, that
perceiving the least as an opportunity to confirm their present health status. Loss-framed individuals have a greater chance of selecting their HIV status, based on their behavioral history, HIV, compared to breast cancer, for example, seems to be a unique disease in that instance.

They do indicate that brief, message-based interventions can wear off (after nine months in this study), and that the messages were no longer differentially effective. Given the number of unmeasured variables, the findings are significant. Analyses controlling for prior behavior, this interaction term was significant.

For example, 47% who saw a loss-framed video. In a logistic regression analysis controlling for prior behavior, the interaction term was significant. A risky behavior with uncertain outcomes showed a trend in the other direction, toward loss-framed messages being more persuasive. Forty percent of participants who saw a gain-framed video were less likely, compared to 26% who saw a loss-framed video. Participants who viewed HIV testing as a risk behavior with uncertain outcomes showed a trend in the other direction, toward loss-framed videos, as they were combined in all subsequent analyses.

There was a significant gain-framed advantage among women who viewed HIV testing as a risk. At six months, the findings generally confirmed the pattern previously described.

There were no differences across the two types of gain-framed or loss-framed videos, so they were combined in all subsequent analyses.
representations, their alteration in response to framed and tailored messages, and the associations

Laboratory – will be required to gain a better understanding of the nature of health and illness

needed for the causal etiology of multiple variables. Future research - perhaps in the
individuals. At the same time, the field does not provide the kind of fruitful environment usually
confidence that these principles generalize in ecological psychology, complex concerns with truly vulnerable
experiments were conducted in the field rather than in the laboratory and that provides some
understand the underlying mechanisms to account for these effects. Nearly all of our

We are less quàntitive, however, about the strides we have made in attempting to

Healthy States of the United States

is often larger than the base rate of mammography utilization in the healthiest versus least
rate of seeking mammograms between women exposed to the most and least effective messages
health impact. For example, in studies examining screening mammography, the difference in the
most cases, but also represents an increase in desired health behaviors that would have public
different populations. The magnitude of these differences is not only statistically significant in
essential findings in both domains appear robust across different kinds of health behaviors and in
uncertainty associated with (or thought to be associated with) the targeted behavior. The
related to health information processing styles, and of framing messages in accord with the certainty of
relating and framing of health messages has demonstrated the importance of matching messages

The research have been conducting for the last ten years or so on the psychological

Conclusion

messages are more effective for the latter group.

messages appear more persuasive to the former group of individuals, while Gain-Harmed
Representation of uncertainty and the persuasiveness of health messages.

us beyond Prospect Theory or the Elaboration Likelihood Model as ways of understanding the
work may lead to integrative conceptual views of the determinants of health behavior that move
between these cognitive changes and health behavior. Moreover, theoretical advances in finance

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been described in Salovey and Wegener (in press).

Women's Health Investigator Program at Yale University. Some of these experiments have also

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Author Notes

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