A Comparison of Health Communication Models: Risk Learning Versus Stereotype Priming

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Health communication research and practice have been strongly influenced by the protection motivation theory (Rogers, 1975, 1983), the health belief model (Becker, Haefner, Kasl, et al., 1977; Becker, Haefner, & Maiman, 1977; Rosenstock, 1974), and similar conceptualizations. I refer to these as risk learning models because the goal is to teach new information about health risks and the behaviors that will minimize those risks. These models have garnered a substantial amount of empirical support and are apparently quite useful to practitioners (Conner & Norman, 1996). The goal of this article is to describe a less familiar, but complementary, approach to persuading people to avoid risky behaviors, which I will refer to as the stereotype priming model (Bargh, 1989; Bargh, Chen, & Burrows, 1996; Bargh, Raymond, Pryor, & Strack, 1995). The goal is to make salient preexisting social stereotypes about people who do or do not behave as advocated.

The stereotype priming model posits that the stereotypes that we possess regarding the personality traits of groups of people (e.g., smokers, drunk drivers, marijuana users, people with suntans) to a large extent govern our behavior. In this view, it is sometimes useful to capitalize on and reinforce preexisting stereotypes in order to encourage healthy, and/or discourage unhealthy, behaviors.

This article reviews the traditional risk learning models and evidence that supports them, provides corresponding information for the stereotype priming model, compares and contrasts the models, and discusses how the stereotype priming model might be used to design health communications campaigns.
RISK LEARNING MODELS

Research based on the protection motivation theory (Maddux & Rogers, 1983; Rippetoe & Rogers, 1987; Rogers, 1975, 1983; Tanner, Hunt, & Eppright, 1991; see also, Witte, 1992, 1994) indicates that four types of messages are especially likely to increase protection motivation, as measured by intentions to engage in the advocated health behavior. People should be provided with information that enhances perceptions of the severity of the disease consequences, their vulnerability to or chances of contracting the disease, the efficacy of the advocated behavior in terms of preventing or curing the disease, and/or their self-efficacy at performing the advocated behavior. High threat appraisal results from perceptions of high severity and/or vulnerability and presumably inhibits maladaptive behaviors (e.g., unprotected sex). High coping appraisal stems from confidence in self- and/or response efficacy and purportedly encourages adaptive behaviors (e.g., use of condoms).

Numerous studies and two meta-analyses have found support for this theory (Boer & Seydel, 1996; Floyd, Prentice-Dunn, & Rogers, 2000; Milne, Sheeran, & Orbell, 2000). Most of the studies were experiments that manipulated one or more variables (e.g., low vs. high severity) and examined the impact. Typically, main effects have been reported in that increases in any one variable improved behavioral intentions. Some interactions have been reported too. For example, when efficacy (coping) is perceived to be very poor, increasing risk perceptions may inadvertently lower intentions because people feel they have no recourse and react defensively (Rogers, 1975, 1983; Rogers & Mewborn, 1976). Two other constructs, the benefits of maladaptive behavior and the costs of adaptive behavior, have been studied less often (Floyd et al., 2000; Milne et al., 2000), most likely because such information is generally not provided in pro-health communications because it would be contrary to the advocated stance.

The health belief model offers a similar framework (Becker & Maiman, 1975; Harrison, Mullen, & Green, 1992; Rosenstock, 1974). It predicts that people will be more likely to avoid risky behaviors if they understand the severity of the risks, their susceptibility to those risks, and the benefits of the advocated behavior (essentially response efficacy), and perceive no behavioral barriers (a principal one being low self-efficacy). Janz and Becker’s (1984) review of health belief studies found that each of these variables was found to be a predictor of behavior in a minimum of 65% of pertinent studies. Likewise, Harrison et al.’s (1992) meta-analysis of studies that included all four variables found that each variable significantly affected behavior. A fifth factor, facilitating internal or external cues to action, is also specified in the model but is rarely studied, perhaps because of difficulties in measuring it (Sheeran & Abraham, 1996).
Risk learning models have been utilized in a wide variety of contexts (Boer & Seydel, 1996; Sheeran & Abraham, 1996). These include the prevention of sexually transmitted diseases, cigarette smoking, alcohol abuse, and illicit drug use; the promotion of exercise, healthy diets, breast self examinations, mammograms, and dental care; and encouraging compliance with prescribed medical and vaccine regimens and preparedness for nuclear war and earthquakes. The empirical support for these models is particularly impressive given the fact that protection motivation studies have typically involved controlled experiments of behavioral intentions, whereas health belief studies have generally relied on either cross-sectional or prospective surveys of actual behavior. In one sense, though, this research has been narrowly focused in that the emphasis has been on physical, not social, risks (for exceptions, see Dijkstra, De Vries, & Roijackers, 1998; W. B. Hansen et al., 1988; Schoenbachler & Whittler 1996).

**STEREOTYPE PRIMING MODEL**

The stereotype priming model is my chosen label for work on the priming of social constructs that has been advanced by numerous psychologists, including Kelly (1955) and Bargh (1989). This work has examined the information processing effects of a “prime,” which is defined as any “activating stimulus event” that results in the “preactivation of … knowledge structures” (Bargh, 1989, p. 18). The research that is of particular interest to us here is the priming of stereotypes or “knowledge structures linking a social group to a set of traits or behavioral characteristics” (Hamilton & Sherman, 1994, p. 3; see also, Ashmore & Del Boca, 1981; Taylor, 1981).

Kelly (1955) explained how a social construct that is made salient in memory can have profound effects on information processing. The accessible construct is likely to function as “a kind of scanning pattern which a person continually projects upon his world. As he sweeps back and forth across his perceptual field he picks up blips of meaning” (Kelly, 1955, p. 145). For instance, when a stereotype is highly accessible, people will likely pay more attention to, think more about, and manifest higher recall for data that are supportive of that stereotype (Hamilton & Rose, 1980; Hamilton & Sherman, 1994; Snyder, 1981). In the words of Bargh (1989), “The primed constructs, while active, exert a contextually preconscious influence on the selection and interpretation of relevant proximal stimuli” (p. 17). Ambiguous data are particularly prone to be misconstrued (Ha & Hoch, 1989; Hoch & Ha, 1986; Pechmann & Ratneshwar, 1992).

The most frequently studied outcome of stereotype priming is how it influences judgments of “targets” or individuals who are later encountered
(Bargh et al., 1995, 1996; Skowronski, Carlston, & Isham, 1993). The general finding is that people who are (vs. are not) exposed to relevant primes judge targets as far more likely to possess stereotypic traits and treat them accordingly. Priming actually strengthens stereotypes, because once people “discover” confirmatory evidence, they are even more likely to believe that the stereotype is valid.

For instance, in a study by Banaji, Hardin, and Rothman (1993), the priming manipulation involved asking participants to unscramble 30 sentences that pertained to either the female trait of dependency (e.g., “can’t make decisions”) or the male trait of aggressiveness (e.g., “threatens other people”). In a subsequent and ostensibly unrelated task, participants read statements about a hypothetical target person who was either male or female. To simulate the ambiguity of real social stimuli, the statements were conflicting with respect to the primed constructs. Hence, participants could focus on prime-consistent, neutral, or inconsistent information, depending on their point of view. As predicted, Banaji et al. (1993) found that the dependent (vs. neutral) primes caused participants to rate the female target as more dependent, whereas the aggressive (vs. neutral) primes boosted ratings of the male target’s aggressiveness. The dependent prime failed to affect judgments of the male, and the aggressive prime had no influence on judgments of the female, presumably because of “social category inapplicability.” In other words, it seems that the participants in this study had no (or very weak) preexisting knowledge structures about dependent males or aggressive females.

Other studies have used mass media stimuli as primes, including newspaper articles, TV shows, and advertisements, and similar findings have been reported (Deighton, 1984; Ha & Hoch, 1989; Hoch & Deighton, 1989; Hoch & Ha, 1986; Krosnick & Kinder, 1990; Sherman, Mackie, & Driscoll, 1990; Shrum, Wyer, & O’Guinn 1998). Rudman and Borgida (1995) exposed male participants to TV ads that primed the stereotype that women are sexual objects and assessed the impact on a simulated job interview with a female research confederate. The sexist (vs. neutral) ads caused the males to sit closer to the female, ask her more sexist questions, recall more information about her physical attributes and less about her job-related qualifications, and judge her to be less competent. Hansen and Hansen (1990) found that exposure (vs. nonexposure) to a music video that illustrated antisocial behavior caused participants to excuse a job candidate’s obscene gesture. O’Guinn and Shrum (1997) determined that among heavy (vs. light) TV viewers, the “rich American” stereotype is more strongly held and more accessible in memory, presumably because popular TV shows contain extensive depictions of affluence.
CONCEPTUAL DISTINCTIONS BETWEEN RISK LEARNING MODELS AND THE STEREOTYPE PRIMING MODEL

The main conceptual distinctions between the risk learning and stereotype priming models are discussed here and summarized in Table 1.

**TABLE 1**
*Conceptual Distinctions Between Risk Learning Models and Stereotype Priming Model*

<table>
<thead>
<tr>
<th>Required Message Type</th>
<th>Risk Learning Models</th>
<th>Stereotype Priming Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Message Type</td>
<td>Messages should stress risk severity and/or vulnerability; also self and/or response efficacy with respect to advocated behavior</td>
<td>Messages should make salient positive stereotypes about people who behave as advocated and/or negative stereotypes about people who fail to do so.</td>
</tr>
<tr>
<td>Necessary Precursor</td>
<td>None</td>
<td>Messages should convey a preexisting stereotype, focusing on one or more known personality traits.</td>
</tr>
<tr>
<td>Necessary Succeeding Event</td>
<td>None</td>
<td>People should be exposed to the messages just before they are likely to encounter others (“target individuals”) who behave or do not behave as advocated.</td>
</tr>
<tr>
<td>Cognitive and Emotional Mediators of Intentions, Behaviors</td>
<td>Messages should increase beliefs about risk severity and/or vulnerability, which should elicit fear; messages should also boost self and/or response efficacy</td>
<td>Messages should impact thoughts about, and judgments of, the stereotypic target individuals and group; emotional reactions may range from positive (admiration) to negative (repulsion).</td>
</tr>
</tbody>
</table>
TABLE 1
Conceptual Distinctions Between Risk Learning Models and Stereotype Priming Model (cont.)

<table>
<thead>
<tr>
<th></th>
<th>Risk Learning Models</th>
<th>Stereotype Priming Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message : Cognition</td>
<td>Messages and cognitions should show a 1:1 correspondence</td>
<td>Messages and cognitions may show a low correspondence because messages may make salient unstated stereotypic traits</td>
</tr>
<tr>
<td>Correspondence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to Maximize</td>
<td>Attempt to reach people who do not understand the risks and/or efficacy of the focal behavior and repeat the message only until they have learned it</td>
<td>Attempt to reach people who are aware of, but do not fully endorse, the stereotype and repeat the message often to ensure it remains salient 1,2,3,4</td>
</tr>
<tr>
<td>Campaign Cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effect of Competing</td>
<td>The more people are exposed to a competing message, the greater its impact should be, other factors held constant</td>
<td>If a competing message reflects a more dominant (strongly held) stereotype, it should have a disproportionate impact 2,3</td>
</tr>
<tr>
<td>Messages</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Pechmann & Ratneshwar, 1994  
2. Pechmann & Knight, 2000  
3. Pechmann & Shih, 1999  
4. Pechmann & Goldberg, 1998

Recommended Message Type

Risk learning models advocate the use of health messages that convey one or more of these four types of information: risk severity, risk vulnerability, self-efficacy, and response efficacy. The emphasis is on physical risks such as disease and death. The goal is to teach people that the negative health consequences of not behaving as advocated are dire and likely to happen to them personally; furthermore, the advocated behavior is easy for them to perform and almost certain to protect them. It is considered particularly useful to combine risk and efficacy information to ensure that people feel they have a viable course of action (Rogers 1983).

The stereotype priming model, by contrast, recommends the use of messages that make salient positive stereotypes about people who behave as advocated or
negative stereotypes about people who fail to do so. More specifically, messages should (a) identify the target group (e.g., drunk drivers) and (b) remind people of one or more perceived personality traits of that target group (e.g., shortsighted). People may hold different sets of beliefs or stereotypes about a target group, one primarily positive and the other primarily negative (Taylor, 1981). For instance, people may conceive of drunk drivers as fun loving and extroverted, whereas it may also be understood that they are unwise and shortsighted. Hence, messages should focus on the desired stereotype (e.g., the negative traits of a drunk driver).

In sum, risk learning messages address the question: If you behave in this way, are you going to hurt or kill yourself? Stereotype priming messages address a very different question: If you behave in this way, what will others think of you, and how will you feel about yourself? A further distinction is that risk learning messages generally convey scientifically verifiable information about health risks and/or efficacy. By contrast, stereotype priming messages reiterate audience members’ rather subjective and overly simplistic views about the personality traits of the target group. In general, stereotypes are likely to be only partially accurate.

Necessary Precursor

Risk learning models do not require message recipients to have any prior knowledge of the substantive message content. The main goal is, in fact, to impart knowledge where it is lacking. By comparison, the stereotype priming model requires the use of messages that reflect people’s prior stereotypes. In other words, the prime must mirror or correspond to a belief that already resides in long-term memory. Priming merely serves to bring a preexisting stereotype to the forefront of memory.

Necessary Succeeding Event

Risk learning models presume that persuasive messages in and of themselves are capable of impacting intentions and behaviors. People merely need to be exposed to the message; nothing else need happen. Hence, it is inconsequential when message exposure occurs. By contrast, the stereotype priming model requires exposure to the message that conveys a stereotype followed by exposure to a “target person” from the stereotyped group. The fact that the stereotype is accessible in memory is itself innocuous; its accessibility only becomes relevant when one evaluates a person from the stereotyped group. The more salient the stereotype, the more likely it is to govern or bias one’s judgments of that target
High salience will result in more typecast evaluations that will, in turn, reinforce the stereotype.

According to the stereotype priming model, it is therefore necessary to expose individuals to the focal messages just prior to when they might encounter people from the stereotyped group. Preferably the two events will take place within minutes or hours of each other. Also, the choice between conveying a positive or negative stereotype (assuming both types of latent beliefs exist) should depend, in part, on what type of person is more readily identifiable—one who manifests or does not manifest the desired behavior (Hamilton & Sherman, 1994). For instance, sun block ads may want to focus on the negatives of nonuse because nonusers will be tanned or burned and thus readily identifiable, whereas users may be indistinguishable from those who avoid the sun.

**Mediating Variables and Correspondence to Message**

Messages based on risk learning models have intermediary goals: to increase risk perceptions and/or efficacy beliefs. To determine why messages have, or have not, produced the desired effects on intentions or behaviors, it is useful to determine whether each intermediary goal was accomplished (for instance, were perceptions of vulnerability increased?). Risk learning models posit a one-to-one correspondence exists between message goals and intermediary effects.

In stereotype priming, messages convey preexisting stereotypes. To examine whether beliefs were successfully primed and the prime altered information processing, individuals are exposed to a target individual from the stereotyped group and asked to report their thoughts, feelings, and/or judgments with respect to that target (e.g., did that woman seem to be dependent or independent?). To determine whether exposure to the target reinforced the stereotype, generalized beliefs are also assessed (e.g., are women in general dependent or independent?). There need not be a one-to-one correspondence between the persuasive message and its effects. A message that conveys one stereotypic trait (e.g., a woman’s dependency) may prime other known and similarly valenced traits (a woman’s physical weakness). It is therefore important to measure thoughts and judgments pertaining to all possible stereotypic traits, even if some were not addressed in the message.

**Maximizing Message Impact**

In the risk learning approach, messages should be aimed toward people whose knowledge of the subject matter is either low or moderate. If people already understand that the risks are high, and that the advocated behavior is efficacious,
telling them again is unlikely to do much good. Similarly, once a message has been conveyed to its audience, additional message repetitions will likely yield diminishing returns (unless one must contend with competing messages, which is discussed later). It may be useful to occasionally remind audiences of what they have learned, but the primary goal should be to continually reach out to new audiences. It will be particularly important to reach new cohort groups as they reach the at-risk stage in their life cycle.

In stereotype priming, one primarily seeks to reach people who are aware of, but do not yet fully endorse, the focal stereotype. It does little good to reach people who have no awareness of the stereotype, because they lack the requisite memory structures (Herr, 1989). One should also avoid striving to reach people who manifest very high or chronic construct accessibility, because they have likely made up their minds. A belief becomes chronically accessible if it is frequently used (Bargh, 1989). Because each use is self reinforcing, a chronic belief is generally a very strong belief (Snyder, 1981). At some point, the belief cannot be bolstered any further. From then on, primes may continue to bias information processing (Bargh et al., 1986), but should no longer have any discernible impact on underlying knowledge structures.

When trying to sway individuals who do not yet fully endorse the focal stereotype, message repetition will likely be critical. The salience of the stereotype will tend to ebb and flow based on relative exposure to supportive and nonsupportive messages. A sustained effort will generally be required to ensure that the desired beliefs are at the forefront of memory. Efforts can cease if the focal beliefs become chronically accessible, but this ambitious goal may never be attained. In the meantime, advertisers must continually communicate to past audiences for as long as they remain at risk, and also reach out to new at-risk audiences.

Effects of Competing Messages

Risk learning models are concerned about contradictory messages pertaining to risks and/or recourses. It is expected that the cumulative impact of the desired and contradictory messages will be roughly proportional to the level of message exposure. Hence, the goal should be to ensure that people have more exposure to the focal information.

The stereotype priming model is concerned about messages that make salient stereotypes that are opposite in valence to those intended. Competing message effects are not predicted to be proportional to exposure levels, however. A message system that reflects the more strongly held of the alternate stereotypes
is anticipated to have a disproportionate impact. For instance, if the predominant view of a stereotyped group is positive, a positive message should outweigh a negative one. In effect, the positive message should prevail even when its relative exposure level is low. A message reflecting the more strongly held view should have a proportionately greater impact, because it will be better able to capitalize on preexisting knowledge structures.

THE CONDUCT OF CONTROLLED EXPERIMENTS TO TEST RISK LEARNING MODELS AND THE STEREOTYPE PRIMING MODEL

When conducting controlled experiments, different methods are required to test risk learning models versus the stereotype priming model (See Table 2.) To test a risk learning model such as protection motivation (Rogers, 1975, 1983), messages are identified or created that represent different levels of each focal independent variable (e.g., high vs. low efficacy). If two or more variables are studied, the levels of each are generally crossed in factorial design, yielding all possible combinations (e.g., high severity/high efficacy; high severity/low efficacy; etc.), and each participant is randomly assigned to one condition. A presudy manipulation check is typically recommended to ensure that each experimental factor has the desired effect and no unintended effects, for instance, that a high (vs. low) self-efficacy message significantly increases self-efficacy perceptions and has no impact on other risk or coping perceptions (Perdue & Summers, 1986). In the main study, following message exposure, risk and coping perceptions are again measured along with behavioral intentions and perhaps feelings of fear.

In experiments involving the stereotype priming model, there is typically a single manipulated independent variable: exposure to a message conveying a known stereotype about people who engage or do not engage in the advocated health behavior. This variable may take on either two levels (e.g., exposure vs. nonexposure to a positive stereotype) or three levels (e.g., exposure to a positive or negative stereotype or to neither one). In most cases, one will also manipulate the hypothesized moderator: exposure versus nonexposure to a target individual from the stereotyped group. Generally, the levels of the independent and moderating variables are crossed in factorial design (e.g., positive prime, target; positive prime, no target; etc.) and participants are randomly assigned to a condition. It should be self-evident whether exposure to a prime or target has been manipulated, rendering manipulation checks unnecessary. Nevertheless, it may be useful to measure respondents’ awareness of the manipulations, for
instance, recall of a prime may help to determine whether participants used it in judging a target (Banaji et al., 1993). It will nearly always be beneficial to assess the participants’ thoughts about the target to determine if exposure (vs. nonexposure) to the prime influenced how that person was perceived. To assess if prime-driven information processing led to more fundamental changes in participants’ belief structures, generalized stereotypic beliefs and behavioral intentions are measured as well.

**TABLE 2**

*The Conduct of Controlled Experiments to Test Risk Learning Models and the Stereotype Priming Model*

<table>
<thead>
<tr>
<th>Risk Learning Models</th>
<th>Stereotype Priming Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manipulated</strong> Independent Variable(s) and Recommended Minimum Level(s)</td>
<td>Information about:</td>
</tr>
<tr>
<td></td>
<td>• Risk severity (high vs. low)</td>
</tr>
<tr>
<td></td>
<td>• Risk vulnerability (high vs. low)</td>
</tr>
<tr>
<td></td>
<td>• Self-efficacy (high vs. low)</td>
</tr>
<tr>
<td></td>
<td>• Response efficacy (high vs. low)</td>
</tr>
<tr>
<td><strong>Manipulated</strong> Moderating Variable</td>
<td>None required</td>
</tr>
<tr>
<td><strong>Manipulation Checks</strong></td>
<td>Generally needed</td>
</tr>
<tr>
<td><strong>Measured Cognitive Mediating Variables</strong></td>
<td>• Risk severity</td>
</tr>
<tr>
<td></td>
<td>• Risk vulnerability</td>
</tr>
<tr>
<td></td>
<td>• Self-efficacy</td>
</tr>
<tr>
<td></td>
<td>• Response efficacy</td>
</tr>
<tr>
<td><strong>Measured Emotional Mediating Variables</strong></td>
<td>Fear</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Measured Dependent Variables</strong></td>
<td>• Intentions</td>
</tr>
<tr>
<td></td>
<td>• Behaviors</td>
</tr>
</tbody>
</table>
As far as I can tell, few studies have applied the stereotype priming model to health communications. However, I have successfully utilized it in four studies pertaining to the impact of cigarette ads, antismoking ads, and/or smoking scenes in movies on adolescents. Each study is discussed here, and a summary of findings can be found in the previously cited Table 1.

Ads That Convey Smoker Stereotypes

Method. In my first study on this topic (Pechmann & Ratneshwar 1994), 300 seventh graders were randomly exposed to cigarette ads, antismoking ads, or control ads that were embedded in a youth-oriented magazine along with filler or decoy ads. The cigarette ads promoted positive images or stereotypes of smokers, depicting them as attractive, popular, cool, exciting, mature, and/or healthy. The antismoking ads stressed that smoking was physically unattractive, that is, smelly and disgusting. Immediately after seeing the stimulus ads, but in an ostensibly unrelated study, participants read a written description of a teenager, and half (chosen at random) were told that this target person was a cigarette smoker. Finally, respondents completed a survey that assessed their thoughts about, and judgments of, the target person. Based on how the control group judged the target smoker, participants’ preexisting smoker stereotypes were unfavorable; in other words, their judgments were negatively biased. We wanted to see if the antismoking ads accentuated this negative information processing bias and/or if the cigarette ads weakened this bias by tapping into latent positive smoker stereotypes.

Findings. The findings were supportive of the stereotype priming model. Exposure to the antismoking (vs. control) ads apparently made negative smoker stereotypes more salient, generating more disapproving thoughts about and less favorable judgments of the target smoker. Furthermore, only a modest correspondence between the explicit antismoking ad messages and participants’ evaluations of the smoker was found. The antismoking ads stressed that smoking was gross, but participants also inferred that the target smoker lacked common sense and was immature. Presumably, the antismoking ads made salient a more general smoker stereotype. As for the cigarette (vs. control) ads, they apparently made salient positive smoker stereotypes, causing respondents to generate more favorable thoughts about the smoker. However, when participants were asked to
make their final rating scale judgments of the smoker, the impact of the cigarette ads waned. It seems that respondents reverted back to relying on preexisting negative stereotypes.

Follow-Up Study on Ads That Convey Smoker Stereotypes

Method. Our next project (Pechmann & Knight, 2000) was a follow-up to the previous one. We studied 700 ninth graders who were randomly exposed to cigarette ads, antismoking ads, both types of ads, or control ads. The ads were similar in nature to those described earlier and were embedded in a 12-minute videotape that was described as a “home video.” The videotape primarily documented the exploits of five attractive, funny, and boisterous teenagers. The ads appeared in the first half of the videotape, and later on the teenage protagonists either smoked or did not smoke cigarettes while eating lunch. To assess the impact of the pro- and antismoking ads and/or prosmoking peers, we measured participants’ smoking-related thoughts, generalized beliefs about smokers, and intentions to smoke. We included large numbers of filler questions to minimize suspicion and demand effects. We also asked participants what the study was about and eliminated the small number of individuals who guessed that the study might be about ads and/or smoking. (Similar procedures were used in our other studies as well.)

Findings. The findings were again consistent with the stereotype priming model. The cigarette (vs. control) ads apparently enhanced participants’ evaluations of the target smokers, because they later reported more favorable generalized beliefs about smokers and higher intentions to smoke. The antismoking (vs. control) ads, by contrast, seemingly elicited negative smoker stereotypes, as manifested by participants’ unfavorable smoker-related thoughts. Similar effects were obtained regardless of whether participants saw four antismoking ads or just one antismoking ad and three cigarette ads. Apparently, negative stereotypes were easily triggered by a single antismoking message. An unexpected finding was that respondents who had been primed to “find” incriminating evidence about smokers apparently could not find adequate evidence, and so their generalized beliefs and intentions were unaffected. In retrospect, we may have produced a videotape of smokers with too few cues that could be interpreted unfavorably (Hoch & Ha, 1986).
Smoker Stereotypes Conveyed in Films

Background. Another study, by Pechmann and Shih (1999), tested the forbidden fruit thesis, which is closely related to stereotype priming. It contends that many movies and TV shows depict risky health behaviors, such as promiscuous sex and violence, because these behaviors are viewed as forbidden fruit (Cantor, 1995; Cantor, Harrison, & Nathanson, 1997; Klein 1993; Signorielli, Gerbner, & Morgan, 1995; Zillmann & Bryant, 1982). The characters who engage in these behaviors are perceived to be exciting, powerful, and attractive, and watching them evokes high energy and pleasurable engagement. Viewers like feeling this way, of course, and so movies and TV shows of this type become popular (Bushman & Stack, 1996; Hirschman & Holbrook, 1982; Holbrook & Hirschman, 1982; Zillmann, 1991). As additional programs utilize this format, positive stereotypes about risky behaviors are reinforced. A possible solution is to propagate negative stereotypes about people who engage in risky behaviors.

Method. We tested the applicability of the forbidden fruit thesis in two studies. In the first, 600 ninth graders were randomly exposed to movie scenes that either did or did not show cigarette smoking in glamorous settings. All scenes initially contained smoking, but professional editors removed all images of, and references to, cigarettes to create the nonsmoking versions. The editing was done in such a way as to preserve all other elements of the scene. For instance, a cigarette that appeared in the corner of the screen may have been cut out and, in its place, the rest of the picture may have been enlarged.

In our second study, 200 additional ninth graders were randomly assigned to watch one of two versions of a feature film. The original version depicted cigarette smoking by young and attractive main characters in one-third of the scenes. In the nonsmoking version of the movie, all of the smoking was removed by professional editors as discussed earlier. Half the participants, chosen at random, were also exposed to an antismoking ad prior to viewing the film. The ad conveyed the message that smoking was tainted fruit, that is, highly unattractive to others. After participants were exposed to these stimuli, they completed questionnaires to assess their generalized beliefs about smokers, thoughts about the movie’s main characters, and/or intentions to smoke.

Findings. The findings were supportive of the forbidden fruit thesis and, accordingly, stereotype priming. Respondents who were exposed to movie scenes that did (vs. did not) depict smoking reported more favorable beliefs...
about smokers and higher intentions to smoke. However, showing an antismoking ad before the movie prevented all of these effects and, in fact, caused participants to generate negative thoughts about the movie characters who smoked.

Seven Types of Antismoking Messages

Method. This study of antismoking messages, conducted by Pechmann and Goldberg (1998), was originally designed to test the usefulness of risk learning models. Over 1,500 adolescents, half in middle school and half in high school, were chosen at random to view one of seven types of antismoking messages, all seven types simultaneously, or control messages that were unrelated to smoking. Immediately afterward, participants reported their smoking-related knowledge, beliefs, and intentions, including their perceptions of risk severity and vulnerability and self and response efficacy.

Six of the antismoking messages stressed risk severity. “Long term health” messages discussed the risks of sustained use (e.g., cancer, lung disease), whereas “endangers family” messages emphasized the risks of environmental tobacco smoke (e.g., sudden infant death syndrome, asthma). The “selling disease and death” messages stated that tobacco firms are responsible for knowingly jeopardizing people’s lives. The “cosmetics” messages highlighted social risks (bad breath, yellow teeth, etc.) and the “negative smoker role model” messages emphasized both the social and long-term health risks. Additionally, two of the message types attempted to boost perceptions of self-efficacy: “tobacco marketing” messages, which stressed the deceptiveness of cigarettes ads in the hopes of helping youths to resist such ads, and “refusal skills” messages, which showed how to resist offers of cigarettes. We also looked at these messages from the perspective of the stereotype priming model. We predicted that any message that stressed the adverse consequences of smoking on others or that showed people rejecting smokers’ offers of cigarettes would make salient negative smoker stereotypes.

Findings. According to the risk learning models, all eight antismoking message types should have been persuasive. According to the stereotype priming model, only the messages that made salient negative smoker stereotypes should have been effective. The findings were more supportive of stereotype priming. Just three types of messages were found to lower adolescents’ intentions to smoke, and all three conveyed negative smoker stereotypes. Although several of the messages increased respondents’ perceptions of the severity of the health risks, this mediating variable had no impact on intentions to smoke.
I have stressed the distinctions between risk learning models and the stereotype priming model but, to reiterate, I do not consider one to be a substitute for the other. I view them as complementary; each has strengths and limitations. A limitation of stereotype priming is that it cannot create new beliefs; it can only capitalize on preexisting beliefs. Hence, one might want to begin a health communication campaign with risk learning messages and then reinforce the new beliefs via stereotype priming.

A successful campaign that seems to have combined the risk learning and stereotype priming approaches is the California antismoking ad campaign. When it has been adequately funded, it has reportedly led to a significant steepening in the decline in smoking in that state (Pechmann & Reibling, 2000; Pierce, Gilpin, & Emery, 1998). A major thrust has been to teach people about the health risks of second-hand smoke, consistent with a risk learning approach. However, many ads portrayed smokers as thoughtless individuals who carelessly pollute the air and cause innocent people to suffer. A negative stereotype of smokers was likely conveyed, consistent with stereotype priming. Once this stereotype took hold in people’s minds, the ads may have continually primed it, causing people to view smokers in an entirely new light.

A similar, but positive, campaign is that of the U.S. Milk Council. It features famous celebrities and other powerful, attractive, and well-respected adults drinking milk. These individuals proudly manifest milk residue on their upper lips. The initial goal may have been to create a positive image of milk drinkers where perhaps none existed; the predominant image may have even been negative (i.e., that drinking milk was for babies and sissies). Subsequent ads may have primed the positive stereotype, causing adult milk drinkers to be viewed more favorably.

Ethical Considerations

The stereotype priming approach could conceivably pose some ethical dilemmas. At least three points of view are possible. First, it could be argued that stereotype priming is unethical because it conveys subjective information. Further, it exploits people’s overly simplistic and erroneous views about other groups of individuals. Finally, making salient negative stereotypes may make people judge others too negatively.

An opposing view is that stereotype priming is entirely acceptable. The messages simply remind people of their preexisting stereotypes. No new
stereotypes are created. Further, although stereotypes may be flawed, people often rely on them to make important decisions even when factual information is also available. Hence, the ads simply capitalize on people’s own decision-making styles. Finally, many ads, shows, movies, and other forms of mass media tend to reinforce unhealthful or destructive stereotypes, and so it is important to counter this information as effectively as possible.

A third perspective is that stereotype priming is acceptable only under certain circumstances. For instance, one might want to focus strictly on positive stereotypes and forgo promulgating any negative stereotypes. When positive stereotypes are salient, people should judge others more favorably, which should avoid any potentially hurtful encounters. Alternatively, one might use a combination message approach, as California has apparently done with its second-hand smoke messages. That is, one might convey objective health information and also imply that people who ignore the information are unwise, shortsighted, or the like. Yet another option is to focus on well-recognized and noncontroversial negative stereotypes.

In conclusion, the stereotype priming model seems flexible enough to accommodate a wide variety of situations and needs. Because this model has also garnered substantial empirical support, it would seem to merit further consideration from both health communication researchers and practitioners.

REFERENCES


Pechmann, C., & Knight, S. J. (2000). *Cigarette and antismoking advertising and peers smoking: Interdependent influences on adolescents’ smoking-related social cognitions and behavioral intentions* (working paper). University of California, Irvine, Graduate School of Management.


