

ORIGINAL ARTICLE

## Narratives and Cancer Communication

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*Narratives can be an effective means of communicating cancer-related information. Transportation into narrative worlds, or immersion into a story, is a primary mechanism of narrative persuasion (Green & Brock, 2000, 2002). Transportation theory extends the domain of traditional message effects theories, as well as providing mechanisms for behavior change. Transporting narratives can both change beliefs and motivate action, and may be particularly useful for conveying cancer information because they reduce counterarguments (and thus help individuals overcome barriers to treatment seeking); facilitate the mental simulation of unknown, difficult, or frightening procedures (e.g., screening); provide role models for behavior change; and create strong attitudes that are based on both cognition and emotion.*

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Throughout human history, narratives have been used to share information, change beliefs, and inspire action. Indeed, narrative has been described as a fundamental mode of thinking (Schank & Abelson, 1995). In the health domain, narratives may be as simple as a brief public service announcement (commercial) or as complex as a multiepisode telenovela (soap opera). Engaging, transporting stories may be especially well suited to convey cancer-related information for a variety of reasons—they reduce counterarguments (and thus help individuals overcome barriers to treatment seeking); facilitate the mental simulation of unknown, difficult, or frightening procedures (e.g., screening, seeking treatment for smoking cessation); provide role models for behavior change; and create strong attitudes that are based on both cognition and emotion.

Traditional theories of message effects, particularly those in the persuasion literature, have tended to emphasize nonnarrative communications (with a few exceptions, such as cultivation theory; Gerbner, Gross, Morgan, & Signorielli, 1994). Health behavior theories have often highlighted processes within an individual, such as stages of change or health beliefs, without implying a particular type of intervention. Communicators may or may not use narratives in their interventions (e.g., a tailored communication could be a story of a person going through a similar

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treatment or an expository presentation of relevant health information), but the effect of stories per se has not typically been the focus of study. In contrast, transportation theory (Green & Brock, 2000, 2002) focuses specifically on the experience of becoming immersed in a story and the ways in which this “transportation into a narrative world” can lead to real-world belief (and behavior) change. This perspective complements existing attitude change theories (e.g., the Elaboration Likelihood Model; Petty & Cacioppo, 1986), which are most relevant to argument-based messages, such as editorials and advertisements. Persuasion theories that center on reactions to message arguments do not adequately address stories, which illustrate events rather than presenting explicit arguments and lists of facts. Narratives rely on characters rather than external sources and often are presented as entertainment rather than education. A narrative structure—with a beginning, middle, and end—ties actions and implications together in a causal chain, rather than relying on a set of propositions that may be more or less well integrated.

This paper describes the transportation theory of narrative persuasion and the ways in which transportation into narrative worlds (even fictional ones) can lead to cancer-relevant belief and behavior change, as well as linking this theory with other perspectives on message effects and behavior change. The theoretical framework described below (see also Green & Brock, 2000, 2002) has received initial empirical support; however, a goal of this paper is to encourage further testing of the transportation theory propositions, particularly in the area of cancer communication.

### Transportation into a narrative world

Transportation into a narrative world is defined as an integrative melding of attention, imagery, and feelings, focused on story events (Green & Brock, 2000, 2002; see also Gerrig, 1993; Nell, 1988). Transportation, psychologically similar to flow (Csikszentmihalyi, 1990) or absorption, is a form of experiential response to narratives (Prentice & Gerrig, 1999). Transportation is a pleasurable state that contributes to media enjoyment (Green, Brock, & Kaufman, 2004).<sup>1</sup> Indeed, the fact that film, television, and book publishing are multibillion dollar industries illustrates the extent to which individuals value and seek out transportation experiences. Individuals can be transported into factual or fictional communications, and into written, spoken, or visual narratives.

### Measurement and manipulation

Transportation can be measured with a 15-item self-report scale (Green & Brock, 2000). The scale has shown good internal consistency, as well as discriminant and convergent validity. Participants answer each item on a scale of 1 (*not at all*) to 7 (*very much*). Example items include “I was emotionally involved in the narrative while reading it” and “I could picture myself in the scene of the events described in the narrative.” Transportation can also be manipulated by varying story quality or by

varying the instructions given to readers. For example, instructions to focus on the surface aspects of the story, such as difficulty and grammar, produce lower transportation (Green & Brock, 2000).

The transportation scale taps cognitive, emotional, and imagery processes. These processes work together to create the transportation experience; therefore, using the entire scale often provides the strongest predictive power. However, it is possible that particular dimensions of transportation may be more predictive of some outcomes than others; emotion may be a key factor in some circumstances and imagery in others.

### Individual differences

Across studies, there is no gender difference in transportation, although men may be more transported into some kinds of stories and women into others. Transportation does show a moderate correlation with dispositional empathy, so it is possible that individuals who are more empathic may be better candidates for narrative-based persuasion. Similarly, individuals with greater tendencies toward becoming absorbed in activities in general (e.g., Tellegen & Atkinson, 1974) and those with higher propensities toward forming mental images (Sheehan, 1967) are likely to experience stronger effects from narratives. “Transportability,” the extent to which individuals readily become deeply transported into stories, can be measured as an individual difference (Dal Cin, Zanna, & Fong, 2004).

### Transportation effects

Research has shown that individuals who are transported into a narrative world are likely to change their real-world beliefs in response to information, claims, or events in a story. For example, transported readers of a story about an attack on a young girl at a shopping mall were more likely than their less-transported counterparts to believe that malls were dangerous places and that the world was unjust (Green & Brock, 2000). Transportation was also associated with increased positivity toward sympathetic characters and a reduction in negative cognitive responses to the story.

There are at least three possible means by which transportation can affect readers: creating connections with characters, reducing counterarguing, and making narrative events seem more like real experience (including providing concrete examples of events and vivid mental images of story events or characters). Transportation into a narrative world also helps individuals to engage in mental simulations of events or behaviors.

### Relationships with characters

Transportation is associated with increased positivity toward sympathetic characters (Green & Brock, 2000). Transported individuals may identify with those characters or come to view them as friends. If an individual likes or identifies with a particular character, the implications of events experienced by the character or assertions made by the character may carry special weight in shifting a reader’s beliefs.

### *Increasing identification*

Identification has been conceptualized in different ways by different researchers (see Cohen, 2001, for a discussion). Broadly speaking, identification refers to relating to characters, caring about them, and putting oneself in the character's place. Separating out the different aspects of identification—liking, similarity, and empathy, for example—may be useful in providing a fuller understanding of identification effects.

Factors that make it easier for readers to identify with characters may facilitate the experience of transportation and thus should increase belief change. Research suggests that a preexisting similarity between a narrative character and the recipient (reader, viewer) of a narrative can increase transportation (Green, 2004), for example, readers who had a gay friend or family member were more transported into a story that dealt with prejudice against homosexuals in fraternities. This effect appears to be stronger when the preexisting similarity is on a story-relevant dimension rather than on a simple demographic characteristic (e.g., gender, school attended), although there is not strong evidence on this point. These findings are consistent with research that suggests that tailoring health messages to specific groups or individuals can be an effective strategy (e.g., Kreuter, Strecher, & Glassman, 1999; Rimer & Kreuter, 2006). Therefore, during the message design or story selection phase of a cancer communication campaign, attention should be given to finding stories that match the audience on key characteristics (values, experiences, and so on).

### *Modeling*

Characters may serve as role models for appropriate behavior, as described by social cognitive theory (e.g., Bandura, 1977). Characters illustrate the costs and benefits of different courses of action. People may be inspired to emulate the actions of admired characters, avoid the problems of negative characters, or follow in the footsteps of transitional characters, who experience a transformation (typically a move from negative to positive attitudes or behaviors) over the course of the story (Rogers et al., 1999). The effectiveness of narrative modeling has been demonstrated by studies of entertainment education in a variety of health domains such as family planning (see Slater, 2002, for a review).

Modeling has been shown to increase perceived self-efficacy, or individuals' beliefs that they are able to perform a specific behavior, such as breast self-examinations (Anderson, 2000). Seeing similar others succeed at a task provides confidence to viewers. Consistent with the identification research discussed above, there is some evidence that models who are similar to the target audience are more effective at motivating the desired behavior (e.g., that African American models are more influential for African American women; Anderson & McMillion, 1995). Modeling may also contribute to response efficacy, or a belief that the action will have the intended effect (e.g., that having a mammogram will decrease the chances of dying of breast cancer).

When individuals identify with characters, these characters may provide templates for “possible selves” (Markus & Nurius, 1986). An individual may wish to avoid a future possible self as a cancer sufferer, or a person already diagnosed with cancer may strive for a “cancer survivor” possible self through adherence to a treatment regimen. Being able to identify with or relate to a character may be particularly useful in helping individuals overcome barriers to screening or treatment seeking, including embarrassment about needing help or the belief that cancer “couldn’t happen to me.” Furthermore, seeing characters struggle with cancer fears may provide the emotional benefit of making individuals feel that they are not alone in confronting these difficult issues.

Individuals in narratives may also provide inspiration postdiagnosis. Reading Lance Armstrong’s story of survival and triumph over testicular cancer can give hope of living a full life after cancer treatment; hearing from survivors of breast cancer provides living proof that a breast cancer diagnosis is not a death sentence (Erwin, Spatz, & Turturro, 1992).

### *Norms*

Although perceived norms are likely to be most influenced by real others, characters in a narrative may also create shifts in normative beliefs (perceptions that important others think that the person should or should not perform a behavior, a component of the theory of reasoned action). These shifts in norms can occur simply from exposure to popular culture. If beloved characters on a favorite television show go for cancer screening or mention a preference for healthy foods, viewers of the show may come to believe that those activities are generally viewed as beneficial.<sup>2</sup>

On the negative side, however, smoking scenes in movies glamorize smoking and can increase the young people’s intent to smoke (Pechmann & Shih, 1999). A large-scale study of adolescents found that viewing smoking in movies was linked to smoking initiation (Dalton et al., 2003) and positive attitudes toward smoking even among nonsmokers (Sargent et al., 2002). Viewing on-screen smoking can lead to actual smoking through multiple pathways. Not only can movie smoking lead to positive images of smokers but can also lead to perceptions that smoking is more frequent (McCool, Cameron, & Petrie, 2005). However, antismoking advertisements can counteract these effects, and specifically, recent studies of adolescents’ responses to antismoking advertisements indicated that ads focusing on the social disapproval that could result from smoking were more effective in creating nonsmoking intentions than other types of advertisements, such as those focused on health risks (Pechmann, Zhao, Goldberg, & Reibling, 2003).

A related approach involves evoking or creating stereotypes of individuals who engage in healthy or unhealthy behavior (Pechmann, 2001). Reinforcing negative stereotypes about smokers (that they are unsuccessful, “stinky,” and dumb), for example, can reduce intentions to smoke (Pechmann & Knight, 2002).

### *Emotional response*

Characters help create emotional responses to narratives. Emotion is a core component of narrative impact (Oatley, 2002). Research on dual-process models of attitude change suggests that attitudes can be based in affect, cognition, or both (e.g., Fabrigar & Petty, 1999). Narratives may be a particularly effective means of forming and changing affectively based attitudes, as well as attitudes based in both affect and cognition. Emotional responses to narratives can also motivate behavior change (e.g., by evoking sadness for a character's poor outcome and a desire to avoid a similar outcome oneself, or fear about the consequences of risky behaviors).

Narratives may also help people manage their emotions postdiagnosis. Listening to others' stories (or even telling one's own story) may allow individuals to gain some distance from the fear, uncertainty, sadness, or anger that can accompany the discovery that one has cancer (Carlick & Biley, 2004).

### **Reduction of counterarguing/negative cognitive responses**

A second way that transportation can lead to attitude change is by lowering resistance and reducing counterarguments. Resistance can be broadly defined as a reaction against change or a motivation to oppose persuasive appeals (Knowles & Linn, 2004). Resistance to persuasion is a key obstacle to belief and behavior change, and resistance may be a particular concern for cancer communication because individuals are likely to be highly motivated to maintain an illusion of invulnerability. Narratives may be especially effective at overcoming resistance; for example, Slater and Rouner (1996) found that in processing alcohol education messages, college students rated statistical evidence as more persuasive when the message was congruent with their values but narrative evidence as more persuasive when the message was incongruent with their values (counterattitudinal).

Stories may be a relatively subtle form of persuasion that is less likely to inspire reactance, particularly if they are not presented as overt persuasive attempts (e.g., Dal Cin et al., 2004). A uses-and-gratifications perspective suggests that individuals seek out entertainment products to meet particular needs (Rubin, 2002). Presenting a narrative as entertainment rather than education may be helpful in reducing selective exposure (i.e., individuals avoiding health information, perhaps because they expect it to be either frightening or boring). Individuals may be drawn to the narrative because of its plot, interest, or entertainment value but can then be affected by cancer-related information contained in the story. Concern about selective exposure may be most relevant to the earlier stages of the cancer continuum (prevention and screening); postdiagnosis, individuals may be quite motivated to seek out cancer-relevant information.

Message effects theories based on the cognitive response perspective (Petty, Ostrom, & Brock, 1981) suggest that the thoughts individuals have in response to a message are primary determinants of persuasion. Positive thoughts lead to greater persuasion, whereas negative thoughts lead to a lack of persuasion (or even a

boomerang effect, in which individuals adopt a position opposite the one being advocated). Transportation into a narrative world leads to a reduction in negative cognitive responding or counterarguing of story assertions (Deighton, Romer, & McQueen, 1989; Green & Brock, 2000).<sup>3</sup>

Studies of the way in which individuals correct (or fail to correct) beliefs that are false or inaccurate suggest that the default is for individuals to accept all propositions that they hear as true, unless they have the motivation and ability to refute them (Gilbert, 1991). Transportation may reduce individuals' ability to counterargue a story's assertions because the reader's mental capacity is devoted to imagining story events. It may also be more difficult to counterargue conclusions that are implied by the story rather than stated directly as arguments. Transportation may also reduce individuals' motivation to counterargue because interrupting the narrative flow to dispute the author's claims or descriptions would likely destroy the pleasure of the experience. Even when individuals have finished a narrative, they may not be motivated to go back and critique the implications of the story, especially if they do not believe the story has influenced them. If individuals are not refuting claims made in a narrative or disputing the realism of the narrative situations, the story events are likely to become integrated into real-world belief structures.

The integration of story information into real-world beliefs has been demonstrated with explicit attitudes (e.g., Green, 2004; Green & Brock, 2000), and Dal Cin et al. (2004) suggest that it is likely that narratives would also affect implicit attitudes. Implicit attitudes are unconscious associations. For example, tobacco use may be embedded in a network of either positive or negative associations (Swanson, Rudman, & Greenwald, 2001). Even though an individual may not be aware of these links, implicit attitudes can influence behavior, especially spontaneous behavior (e.g., Marsh, Johnson, & Scott-Sheldon, 2001). Thus, they may be particularly important for influencing cancer risk behaviors such as smoking or going out in the sun without sunscreen. Future research should extend the investigation of narratives to include implicit attitudes, as well as testing the impact of implicit attitudes on cancer-relevant behaviors specifically.

### **Increasing realism**

Part of the power of narratives is their ability to give concrete form to abstract ideas. Providing a list of the benefits of cancer screening may not capture recipients' attention or inspire action in the same way that hearing a woman talk about how getting a mammogram allowed her to catch her cancer in time to save her life. Transportation enhances this aspect of narratives by making narrative experience seem more like real experience (Green, 2004). Direct experience with attitude objects is a powerful predictor of attitudes (see Fazio & Zanna, 1981, for a review). Perceived realism matters; if the story seems more like an actual event, the plausibility and impact of the story are increased (see Potter, 1986).

### *Concrete examples*

Zillmann's exemplification theory suggests that concrete incidents, particularly ones related to danger or risk, attract attention and are stored in long-term emotional memory (Zillmann, 2002). Such specific examples are also highly accessible and thus tend to influence decision making in a heuristic fashion. Although exemplification theory states that relevant instances may be conveyed through pictures or language, it is likely that narratives are an especially frequent and powerful source of exemplars. A picture of a person suffering from advanced cancer may be striking, but the story of how that person's actions contributed to the cancer (e.g., years of smoking) or other narrative elements (e.g., reactions of family members, opportunities lost due to the disease) are likely to be even more touching and memorable (Green & Brock, 2002).

People tend to generalize from stories even when the cases presented in the story are not typical (see Strange & Leung, 1999). People often disregard the base rates of an event. It is difficult to argue against a character's concrete experience. These generalizations may be useful when the cases imply good health practices (e.g., a colonoscopy that helped a person avoid dying from colon cancer), but a problem may arise when these narratives or exemplars are counter to good health practices (e.g., a person who smoked his entire life but never suffered any ill effects). It is possible that other stories may be the most effective way to combat inaccurate perceptions.

Direct comparisons between narrative/report and statistical information have shown mixed results, although many of these studies show that reports are more persuasive (see Baesler & Burgoon, 1994, for a brief review). However, these experiments typically have not measured the degree of transportation evoked by the narrative accounts; pallid narratives may be less effective than statistical evidence, whereas absorbing stories are more effective.

### *Mental imagery*

Story-based mental imagery may be a particularly powerful means by which narratives can influence beliefs. Visual images, or mental pictures, can be evoked by a transporting narrative or provided by a visual narrative (television, movies). These images are likely to be enduring and are difficult to change with other types of arguments. Images have a long history in health communication; antismoking campaigns have used striking pictures of diseased lungs to convey the dangers of smoking (see Hammond, Fong, McDonald, Brown, & Cameron, 2004, for a recent example). Transportation-imagery theory (Green & Brock, 2002) suggests that these images are most powerful when they are evoked by a story, rather than provided in isolation.

Theories of mental imagery are related to research on the vividness effect, but these two effects differ in some key respects. Vividness refers to the extent to which a message is "emotionally interesting, concrete and imagery provoking, proximate in a sensory, temporal, or spatial way" (Nisbett & Ross, 1980, p. 45). As this definition shows, vividness encompasses a range of elements. Furthermore, vividness studies,

which have shown mixed effects, have typically focused on features of the message itself rather than the imagery experienced by readers (e.g., Taylor & Thompson, 1982). An important point from the vividness studies is that vivid imagery that is not central to the message themes may be a distraction rather than an enhancement and thus may actually reduce persuasive impact (Smith & Shaffer, 2000). Imagery should be relevant to the central message being conveyed; for example, a story should encourage imagery related to a family's joy after a mother's successful treatment for breast cancer, rather than creating vivid mental images of (say) the family's hometown.

Imagery or vividness may also interact with other factors. For instance, studies by Block and Keller (1997) of messages about human papilloma virus (HPV) (a cause of cervical cancer) and skin cancer suggested that vivid messages (operationalized as stories in one experiment and pictures in the other) were more persuasive, but only among high self-efficacy participants, whereas Cox and Cox (2001) found that a loss-framed anecdote about breast cancer was more effective than statistical evidence, but that a gain-framed anecdote was less effective. Further research and theory is needed to understand the moderators of imagery and vividness effects.

### Mental simulation

The effects of transportation—creating connections with characters, providing realistic, concrete situations, and evoking mental imagery—combine to facilitate the mental simulation of new situations (cf. Oatley, 2002). This ease of imagining can help change beliefs and behavior (Gregory, Cialdini, & Carpenter, 1982; Sherman, Cialdini, Schwartzman, & Reynolds, 1985). For example, if individuals find it easier to imagine themselves suffering from cancer, they may form a stronger behavioral intention to engage in actions to prevent cancer (changing diet or exercise habits). To the extent that the story can provide specific pathways to goals (e.g., showing how a character quit smoking or integrated sunscreen use into their daily routine), it may be especially effective in motivating individuals to reach a desired future self, and may increase individuals' optimism about their ability to achieve their goal and their feelings of self-efficacy (e.g., Taylor & Schneider, 1989).

Mental simulation can serve as a form of behavioral rehearsal, which can be a means of increasing self-efficacy. If individuals can imagine themselves going through the steps to get a mammogram, they may feel more confident in their ability to do so in real life.

Mental simulations could also be useful postdiagnosis as individuals try to decide among various treatment options. Patients may be faced with an overload of information, and a narrative can serve as a simplifying or organizing structure. Narratives that help patients imagine what life would be like after surgery versus chemotherapy might aid decision making. For example, the Comprehensive Health Enhancement Support System (CHESS), an interactive health support system for cancer patients, provides some narrative tools (stories from others, opportunities for journaling) among other informational and social support resources. CHESS has been effective

at improving quality of life and satisfaction with treatment decision making; however, the contribution of the specifically narrative components is unknown (Gustafson et al., 2001).

### Attitude strength

Because the end goal of health communication is behavior change, it is essential that cancer communications lead to strong attitudes. Strong attitudes are persistent over time and resistant to counterpersuasion; these attitudes are held with certainty and are highly accessible (see Petty & Krosnick, 1995). Transportation is likely to lead to strong attitudes for several reasons. First, transportation focuses an individual completely on the narrative; the transported state is one of high cognitive engagement. The more thought or attention an individual has given to the attitude issue, the stronger the attitude should be. Second, transportation into narratives can meld affective and cognitive reactions, going beyond simple learning. Attitudes that have both cognitive and affective bases are likely to be stronger.

The narrative structure itself may also contribute to enduring attitudes. Specifically, if individuals recall one part of a story (perhaps a particularly striking mental image or compelling character), they are likely to also recall the rest of the story due to the cause-and-effect structure of the narrative message. In contrast, if a rhetorical persuasive message presents a set of arguments that are relatively independent of one another, recalling one argument may not aid in bringing others to mind. Of course, argument recall is not a necessary condition for attitude change, but repetition or rehearsal of the primary message is likely helpful in maintaining the persuasive impact.

### Fiction

Unlike other kinds of persuasive messages, narratives are often fictional or “made up.” Because information about cancer screening, prevention, and treatment can literally be a matter of life and death, communicators have a clear ethical responsibility to ensure that the information conveyed is accurate. However, this responsibility does not preclude including cancer-related information in fictional communications. Indeed, fiction may be an especially effective way of reaching audiences that otherwise might avoid such information.

#### Meaning and impact of fiction

Individuals do not typically interpret the term “fiction” to mean “false” (at least when they are referring to narratives). Rather, fiction refers to products of imagination, which may be based on reality to a greater or lesser degree; there is no explicit claim of accuracy. Even though most fiction is a mix of truth and creative invention, both anecdotal and empirical evidence indicate that individuals readily adopt information from fictional programs as truth. For example, writers on the popular

television program *ER* regularly include health information as part of the drama of the show, and indeed, viewers learn from the program. For example, after an episode focusing on a teenage girl with HPV, more viewers were aware of the connection between HPV and cervical cancer (Brodie et al., 2001). A breast cancer story line and public service announcement on *The Young & the Restless*, a popular soap opera, led to viewer calls to the Cancer Information Service hotline (Beck, 2004). Laboratory studies also provide support for the persuasive power of fiction (Green & Brock, 2000; Green, Garst, Brock, & Chung, in press; Prentice, Gerrig, & Bailis, 1997; Strange & Leung, 1999; Wheeler, Green, & Brock, 1999). Extent of belief change does not differ when individuals read materials labeled fiction versus those labeled as fact.

Entertainment education is a prime example of how fictional vehicles can be used to convey real health information (see Singhal, Cody, Rogers, & Sabido, 2004; Slater, 2002). This approach may involve creating entirely new television or radio programs or altering the story lines of existing programs to integrate health themes. Entertainment education has been used around the world to address a variety of health issues (although one of the most frequent themes has been family planning, particularly in developing nations) and has resulted in both attitude and behavior change. Like other forms of narrative persuasion, entertainment education efforts must strike a delicate balance; if they do not include enough health information, the message may not be effective, but if they include too much didactic content, viewers may tune out.

Stories in general, but perhaps fictional stories in particular, may seem less complicated or less threatening to recipients. Oatley (1999), following Scheff (1979), suggested that narratives provide a middle ground where emotions are experienced enough for their meaning to be understood, but, at the same time, these emotions do not overwhelm the reader. Narratives provide a safe space for individuals to explore the implications of their experiences. These opportunities may be particularly valuable in the cancer domain. Individuals may not be prepared to confront fears about their own illness or mortality but can explore these issues in the context of a fictional other person.

One additional function that fictional stories may serve is by sparking real-world discussions of issues raised in the narrative. For example, in-depth interviews of viewers indicated that an ovarian cancer event on the popular ABC series *thirty-something* stimulated peer discussions of cancer (Sharf, Freimuth, Greenspon, & Plotnick, 1996). Postdiagnosis, viewing a fictional narrative together may help individuals raise sensitive issues with partners or family members.

### Separating fact and fiction

A failure of source monitoring (e.g., Johnson, Hastroudi, & Lindsay, 1993; Mares, 1996) may be one explanation for fictional influence. Source monitoring refers to keeping track of where a piece of information originated. If individuals forget whether a particular claim came from a sitcom versus a documentary, fictional

information may carry more weight than it should. That is, the recalled fictional material may be treated as factual because individuals mistakenly believe that the information came from a factual source.

However, the studies cited above show that fiction's power persists even when individuals are fully aware that the material they are reading or watching comes from the mind of an author, with no responsibility to journalistic standards of truth. Determining how readers or viewers separate real information from a fictional context is an important question. Readers appear to be using a plausibility rather than an accuracy criterion; what is important is whether the characters act like real people would act, rather than whether a particular event actually took place (see Strange, 2002). Recipients also may compare fictional information to their prior knowledge on a topic. Slater (1990) suggests that fiction has a greater effect on beliefs when the topic is unfamiliar rather than familiar. Readers or viewers may be more willing or able to discount fictional sources when they have other knowledge about an issue. Thus, fictional communications may be more effective for aspects of cancer communication that are relatively less well known, such as the details of screening procedures or treatment options, rather than for issues that individuals believe they already know about (benefits of exercise or a healthy diet).

### Fiction as a cue to processing style

My collaborators and I have proposed that fiction or narrative may serve as a cue to a reader to engage in a less critical, more immersive form of mental engagement (Green, Garst, & Brock, 2004). The idea that stories are treated differently from scientific or logical argument, and may be held to different truth standards than rhetorical messages, is not new (see, e.g., Bruner, 1986). Prentice and Gerrig (1999) suggested that individuals typically do not take a critical, elaborative approach to fiction, and that fiction has its greatest influence when readers respond experientially (i.e., with immersion and emotion) rather than rationally.

We further propose that this less critical processing may take a strong or a weak form. In the weak form of fictional processing, an individual may simply disengage critical or evaluative processing. The person may be focused on relaxation, may feel that the material is not particularly important, or may simply wish to be entertained. Thus, they may be passively influenced by the communication. The strong form of fictional processing is transportation into a narrative world. The Elaboration Likelihood Model suggests that attitudes that are formed through extensive thinking (the central route to persuasion) are stronger than those formed with only shallow processing (the peripheral route); similarly, attitudes formed or changed via transportation will likely be stronger than those formed through a more passive exposure to fictional material.

Although the weak form of fictional processing may be useful when individuals are particularly resistant to cancer-relevant information, it will generally be most helpful to encourage the higher levels of processing created by transportation.

### Transportation and behavior change models

The discussion of transportation theory thus far has touched upon elements related to behavior change theories; this section will briefly highlight some of these links more explicitly. The integrated theoretical model states that a behavior is likely to occur if a person has a strong intention and the skills and abilities to perform the behavior, and there are no environmental constraints preventing the performance. Fishbein notes an implication of this model is that different approaches may be needed for individuals who have formed relevant behavioral intentions (e.g., to eat more healthy foods or to quit smoking) and those who have not (Fishbein & Yzer, 2003).

For people who have not yet formed behavioral intentions, stories may provide the motivation to do so. Stories can also change attitudes, by presenting emotionally powerful information along with vivid mental images, while reducing counterarguing (Green & Brock, 2000).

Schank suggests that stories may be most effective for learning (which, by extension, may include forming behavioral intentions) when individuals have encountered a surprise or an expectation failure (e.g., Schank & Berman, 2002). For example, individuals who have just found out about a risk factor for cancer or those who have gotten a test result suggesting the presence of disease may be particularly open to stories related to cancer treatment. (Of course, they may be particularly open to other forms of cancer communication as well.) This perspective suggests that one of the challenges of narrative persuasion is to create expectation failures and convince people that their previous models of the world need to be revised, which is precisely what good narratives are capable of doing.

If people have already formed appropriate intentions, stories may be an aid to mental simulation that helps them translate the intentions to actual behavior, as described above. People may have increased feelings of efficacy after seeing a character like them perform the appropriate behavior (e.g., going for a mammogram, giving up fatty foods).

Models of behavior change, such as the theory of reasoned action, emphasize the importance of identifying the beliefs that contribute to behavioral intentions. This step is important in narrative persuasion as well; once these beliefs have been determined, narratives can be constructed to address the appropriate beliefs.

### Beyond public narratives

Thus far, this paper has focused primarily on public narratives—health messages conveyed through narrative advertisements, entertainment education products, or video stories. However, personal narratives can also be important in cancer prevention, treatment, and survivorship, and may be especially powerful postdiagnosis. A full review of this literature is beyond the scope of the current paper, but two areas are especially relevant.

### Writing and health

A large body of evidence now supports the idea that writing about traumatic or emotional events in one's life can lead to improved health. The expressive writing paradigm, pioneered by Pennebaker (e.g., Pennebaker, 2000; see Niederhoffer & Pennebaker, 2002, for a review), typically involves writing about the event or experience for 20 minutes on 3 consecutive days. (However, it is possible that other forms of writing, such as keeping a journal or participating in online support groups, may have similar benefits.) A study of prostate cancer patients suggested that individuals who engaged in expressive writing showed improvements in physical symptoms and health care utilization compared to a control group, but did not show greater immunocompetence (Rosenberg et al., 2002). Further research with cancer survivors might help identify when and for what outcomes writing will be most useful.

### Narratives for making meaning

A cancer diagnosis is a life-changing event. Cancer patients must deal with fear, an altered sense of the future, and often a reevaluation of relationships and priorities. Constructing personal illness and/or recovery narratives can be a key step in coming to terms with and making sense of what has happened. These narratives may help give individuals some distance from their illness and allow them to better cope with the emotional experiences that accompany it (Carlick & Biley, 2004). Narratives may help provide meaning and deepen one's self-knowledge.

The form of these illness narratives can also matter; narratives that include hope for the future can aid coping (Folkman, 1997). These narratives need not come from completely within an individual. Cognitive behavioral interventions (which include a narrative component) with breast cancer patients have been shown to increase social support and immune function (Cruess et al., 2000; McGregor et al., 2004). These effects are attributed to benefit finding (e.g., cancer leading to a greater sense of meaning, reorganized life priorities, or stronger relationships). Because studies of cognitive behavioral interventions and illness narratives frequently include both narrative and other elements (optimism, positive imagery, skill building, etc.), more research is needed to identify the role of narrative per se in creating these benefits.

## Challenges

Although narrative has the potential to be a powerful tool in the fight against cancer, communicators also face important challenges, including differing levels of literacy (with lower literacy among traditionally underserved populations), health disparities, and a crowded media environment.

### Literacy/health disparities

One issue that cancer communicators face is that the individuals who may be most in need of information about screening, prevention, or treatment may be the ones who are most difficult to reach due to socioeconomic factors, limited literacy, or distrust

of authorities. To overcome some of these barriers, health communicators using narrative approaches have taken advantage of oral traditions or personal narratives. For example, the Witness Project brings African American breast and cervical cancer survivors into church groups and local organizations to share their stories (Erwin et al., 1992). This approach not only targets otherwise hard-to-reach audiences but also adds the power of personal contact and modeling. Relying on these in person narratives does entail some loss of control; however, a pamphlet or video can be carefully designed to convey particular messages, whereas an individual person's story may be more likely to also include idiosyncratic or erroneous beliefs about cancer.

Another option is to use technology such as videotaped stories (e.g., Borrayo, 2004, who created a brief video about breast cancer screening aimed at low-literacy Latina women). The use of video presentations requires that recipients have access to a television (and possibly a VCR/DVD player); however, the large majority of American homes do have televisions. Stories can also be presented on computers or over the Internet, which has the further benefit of allowing interactivity. A study of an interactive breast cancer education CD-ROM showed that even low-income, minority women with little computer experience had positive reactions to the hypermedia health education program (Slater et al., 1994), so such interventions are not limited to high-socioeconomic status populations (see also Rogers, 2004, for a description of ongoing web-based cancer interventions among Hispanics in the southwest United States).

When targeting specific populations, especially those that have traditionally been underserved, it is important to be culturally appropriate. For narratives as with other types of communications, formative research (surveys, focus groups) can be essential in identifying beliefs and barriers in the target populations.

### Competing messages

Like other persuasive messages, narratives face a crowded media environment. This may be a particularly important challenge for cancer prevention messages because of the millions of dollars spent advertising fast food, cigarettes, and other consumer products that increase rather than decrease cancer risk. Not surprisingly, then, the effects of any single message may be quite small. For example, a survey study of reactions to a special program on testicular cancer showed that viewers had stronger behavioral intentions to perform testicular self-examination than nonviewers, but this effect was quite weak (Trumbo, 2004). However, one advantage that narratives have is that viewers may be motivated to seek them out, especially when they are presented as entertainment (e.g., an episode of *ER* or a favorite soap opera).

### Coordinating approaches

Entertainment education efforts often combine narratives with other kinds of interventions—discussion groups, nonnarrative information services (such as cancer hotlines), improved access to health services, one-on-one communications from

physicians, and so on. Although such efforts may be logistically challenging, the effects of narrative cancer interventions may be especially powerful when they are combined with other efforts to make cancer information and services available in communities.

## Conclusions

In sum, narratives have the potential to both change cancer-related beliefs and motivate health behaviors. Effective narratives should be well written, have engaging characters (perhaps matched to recipients on relevant dimensions), and evoke mental imagery; they should be able to transport their readers. Even when the narratives are fictional, the health information provided should be as accurate as possible. Formative research on the existing beliefs of the target audience can also be used to help shape narrative content and ensure that the narrative will not be rejected by the audience. The transportation experience can lead to attitude change through connections with characters, reduction of counterarguing, and increases in perceptions of realism, as well as providing role models for health-promoting behavior.

Transportation theory extends current message effects theories with its specific focus on narratives and fiction. It complements theories such as the Elaboration Likelihood Model, which focus on argument-based messages, and incorporates aspects of other theories, such as exemplification theory. Narratives can be useful both in leading people to form appropriate behavioral intentions and in motivating them to act on those intentions.

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## Notes

- 1 Although transportation is described as a pleasurable state, the narrative events that evoke transportation do not have to be positive. Indeed, many of the most powerful stories across the ages have been about human suffering, and it is likely that stories with negative elements or outcomes can be influential in changing attitudes toward cancer-related behaviors. The enjoyment of a transportation experience does not necessarily lie in the valence of the emotions evoked by a narrative but in the process of temporarily leaving one's one reality behind. For a more detailed discussion of this issue, see Green, Brock, et al. (2004).
- 2 Although these social norm changes may occur through narrative means, as a result of identifying with characters or becoming immersed in a story, it is also possible that some portion of these effects may also be due to simple exposure to certain patterns of behavior.

3 Counterarguments to nonnarrative persuasive messages are usually assessed through a thought-listing procedure. Thoughts listed by participants are coded as positive, negative, or neutral toward the message. However, because the points conveyed by narratives are often implied rather than directly stated, thought listing is not always an appropriate measure. Green and Brock (2000) presented a "Pinocchio circling" technique for assessing negative responses to parts of a narrative. In this procedure, participants circle parts of the story that did not ring true to them ("false notes").

## References

- Anderson, R. B. (2000). Vicarious and persuasive influences on efficacy expectations and intentions to perform breast self-examination. *Public Relations Review*, 26, 97–114.
- Anderson, R. B., & McMillion, P. Y. (1995). Effects of similar and diversified modeling on African American women's efficacy expectations and intentions to perform breast self-examination. *Health Communication*, 7, 327–343.
- Baesler, E. J., & Burgoon, J. K. (1994). The temporal effects of story and statistical evidence on belief change. *Communication Research*, 21, 582–602.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Beck, V. (2004). Working with daytime and prime-time television shows in the United States to promote health. In A. Singhal, M. J. Cody, E. M. Rogers, & M. Sabido (Eds.), *Entertainment-education and social change: History, research, and practice*. Mahwah, NJ: Erlbaum.
- Block, L. G., & Keller, P. A. (1997). Effects of self-efficacy and vividness on the persuasiveness of health communications. *Journal of Consumer Psychology*, 6(1), 31–54.
- Borrayo, E. A. (2004). Where's Maria? A video to increase awareness about breast cancer and mammography screening among low-literacy Latinas. *Preventive Medicine*, 39, 99–110.
- Brodie, M., Foehr, W., Rideout, V., Baer, N., Miller, C., Flournoy, R., et al. (2001). Communicating health information through the entertainment media. *Health Affairs*, 20, 192–199.
- Bruner, J. S. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press.
- Carlick, A., & Biley, F. C. (2004). Thoughts on the therapeutic use of narrative in the promotion of coping in cancer care. *European Journal of Cancer Care*, 13, 308–317.
- Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society*, 4, 245–264.
- Cox, D., & Cox, A. D. (2001). Communicating the consequences of early detection: The role of evidence and framing. *Journal of Marketing*, 65(3), 91–103.
- Cuess, D. G., Antoni, M. H., McGregor, B. A., Kilbourn, K. M., Boyers, A. E., Alferi, S. M., et al. (2000). Cognitive-behavioral stress management reduces serum cortisol by enhancing benefit finding among women being treated for early stage breast cancer. *Psychosomatic Medicine*, 62, 304–308.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper and Row.
- Dal Cin, S., Zanna, M. P., & Fong, G. T. (2004). Narrative persuasion and overcoming resistance. In E. S. Knowles & J. Linn (Eds.), *Resistance and persuasion* (pp. 175–191). Mahwah, NJ: Erlbaum.

- Dalton, M. A., Sargent, J. D., Beach, M. L., Titus-Ernstoff, L., Gibson, J. J., Ahrens, M. B., et al. (2003). Effect of viewing smoking in movies on adolescent smoking initiation: A cohort study. *Lancet*, *362*, 281–285.
- Deighton, J., Romer, D., & McQueen, J. (1989). Using drama to persuade. *Journal of Consumer Research*, *16*, 335–343.
- Erwin, D. O., Spatz, T. S., & Turturro, C. L. (1992). Development of an African American role model intervention to increase breast self-examination and mammography. *Journal of Cancer Education*, *7*, 311–319.
- Fabrigar, L. R., & Petty, R. E. (1999). The role of the affective and cognitive bases of attitudes in susceptibility to affectively and cognitively based persuasion. *Personality and Social Psychology Bulletin*, *25*, 363–381.
- Fazio, R. H., & Zanna, M. P. (1981). Direct experience and attitude-behavior consistency. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 14, pp. 162–202). New York: Academic Press.
- Fishbein, M., & Yzer, M. C. (2003). Using theory to design effective health behavior interventions. *Communication Theory*, *13*(2), 164–183.
- Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science and Medicine*, *45*, 1207–1221.
- Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1994). Growing up with television: The cultivation perspective. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 17–41). Hillsdale, NJ: Erlbaum.
- Gerrig, R. J. (1993). *Experiencing narrative worlds: On the psychological activities of reading*. New Haven, CT: Yale University Press.
- Gilbert, D. T. (1991). How mental systems believe. *American Psychologist*, *46*(2), 107–109.
- Green, M. C. (2004). Transportation into narrative worlds: The role of prior knowledge and perceived realism. *Discourse Processes*, *38*, 247–266.
- Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, *79*, 701–721.
- Green, M. C., & Brock, T. C. (2002). In the mind's eye: Transportation-imagery model of narrative persuasion. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 315–341). Mahwah, NJ: Erlbaum.
- Green, M. C., Brock, T. C., & Kaufman, G. F. (2004). Understanding media enjoyment: The role of transportation into narrative worlds. *Communication Theory*, *14*, 311–327.
- Green, M. C., Garst, J., & Brock, T. C. (2004). The power of fiction: Persuasion via imagination and narrative. In L. J. Shrum (Ed.), *The psychology of entertainment media: Blurring the lines between entertainment and persuasion* (pp. 161–176). Mahwah, NJ: Erlbaum.
- Green, M. C., Garst, J., Brock, T. C., & Chung, S. (in press). Fact versus fiction labeling: Persuasion parity despite heightened scrutiny of fact. *Media Psychology*.
- Gregory, W. L., Cialdini, R. B., & Carpenter, K. M. (1982). Self-relevant scenarios as mediators of likelihood estimates and compliance: Does imagining make it so? *Journal of Personality and Social Psychology*, *43*(1), 89–99.
- Gustafson, D. H., Hawkins, R., Boberg, E. W., McTavish, F., Owens, B., Wise, M., et al. (2002). CHESS: Ten years of research and development in consumer health informatics

- for broad populations, including underserved. *International Journal of Medical Informatics*, 65(3), 169–177.
- Hammond, D., Fong, G. T., McDonald, P. W., Brown, S., & Cameron, R. (2004). Graphic Canadian cigarette warning labels and adverse outcomes: Evidence from Canadian smokers. *American Journal of Public Health*, 94, 1442–1445.
- Johnson, M. K., Hastroudi, S., & Lindsay, D. S. (1993). Source monitoring. *Psychological Bulletin*, 114, 3–28.
- Knowles, E. S., & Linn, J. (Eds.). (2004). *Resistance and persuasion*. Mahwah, NJ: Erlbaum.
- Kreuter, M. W., Strecher, V. J., & Glassman, B. (1999). One size does not fit all: The case for tailoring print materials. *Annals of Behavioral Medicine*, 21, 276–283.
- Mares, M. L. (1996). The role of source confusions in television's cultivation of social reality judgements. *Human Communication Research*, 23, 278–297.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, 41, 954–969.
- Marsh, K. L., Johnson, B. T., & Scott-Sheldon, L. A. (2001). Heart versus reason in condom use: Implicit versus explicit attitudinal predictors of sexual behavior. *Zeitschrift für experimentelle Psychologie*, 48(2), 161–175.
- McCool, J. P., Cameron, L. D., & Petrie, K. J. (2005). The influence of smoking imagery on the smoking intentions of young people: Testing a media interpretation model. *Journal of Adolescent Health*, 36, 475–485.
- McGregor, B. A., Antoni, M. H., Boyers, A., Alferi, S. M., Blomberg, B. B., & Carver, C. S. (2004). Cognitive-behavioral stress management increases benefit finding and immune function among women with early-stage breast cancer. *Journal of Psychosomatic Research*, 56(1), 9–11.
- Nell, V. (1988). *Lost in a book: The psychology of reading for pleasure*. New Haven, CT: Yale University Press.
- Niederhoffer, K. G., & Pennebaker, J. W. (2002). Sharing one's story: On the benefits of writing or talking about emotional experience. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 573–583). London: Oxford University Press.
- Nisbett, R., & Ross, L. (1980). *Human inference: Strategies and short-comings of social judgment*. Englewood Cliffs, NJ: Prentice Hall.
- Oatley, K. (1999). Why fiction may be twice as true as fact: Fiction as cognitive and emotional simulation. *Review of General Psychology*, 3(2), 101–117.
- Oatley, K. (2002). Emotions and the story worlds of fiction. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 39–69). Mahwah, NJ: Erlbaum.
- Pechmann, C. (2001). A comparison of health communication models: Risk learning versus stereotype priming. *Media Psychology*, 3(2), 189–210.
- Pechmann, C., & Knight, S. J. (2002). An experimental investigation of the joint effects of advertising and peers on adolescents' beliefs and intentions about cigarette consumption. *Journal of Consumer Research*, 29, 5–19.
- Pechmann, C., & Shih, C. F. (1999). Smoking scenes in movies and antismoking advertisements before movies: Effects on youth. *Journal of Marketing*, 63(3), 1–13.
- Pechmann, C., Zhao, G., Goldberg, M. E., & Reibling, E. T. (2003). What to convey in antismoking advertisements for adolescents: The use of protection motivation theory to identify effective message themes. *Journal of Marketing*, 67(2), 1–18.

- Pennebaker, J. W. (2000). Telling stories: The health benefits of narrative. *Literature & Medicine*, 19(1), 3–18.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Classic and contemporary approaches*. Dubuque, IA: Brown.
- Petty, R. E., & Krosnick, J. A. (Eds.). (1995). *Attitude strength: Antecedents and consequences*. Mahwah, NJ: Erlbaum.
- Petty, R. E., Ostrom, T., & Brock, T. C. (1981). *Cognitive responses in persuasion*. Hillsdale, NJ: Erlbaum.
- Potter, W. J. (1986). Perceived reality and the cultivation hypothesis. *Journal of Broadcasting and Electronic Media*, 30(2), 159–174.
- Prentice, D. A., & Gerrig, R. J. (1999). Exploring the boundary between fiction and reality. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 529–546). New York: Guilford.
- Prentice, D. A., Gerrig, R. J., & Bailis, D. S. (1997). What readers bring to the processing of fictional texts. *Psychonomic Bulletin & Review*, 5, 416–420.
- Rimer, B. K., & Kreuter, M. W. (2006). Advancing tailored health communication: A persuasion & message effects perspective. *Journal of Communication*, 56, S184–S201.
- Rogers, E. M. (2004). Delivering entertainment-education health messages through the Internet to hard-to-reach U.S. audiences in the Southwest. In A. Singhal, M. J. Cody, E. M. Rogers, & M. Sabido (Eds.), *Entertainment-education and social change: History, research, and practice* (pp. 281–298). Mahwah, NJ: Erlbaum.
- Rogers, E. M., Vaughan, P. W., Swalehe, R. M. A., Rao, N., Svenkerud, P., & Sood, S. (1999). Effects of an entertainment-education radio soap opera on family planning behavior in Tanzania. *Studies in Family Planning*, 30, 193–211.
- Rosenberg, H. J., Rosenberg, S. D., Ernstoff, M. S., Wolford, G. L., Amdur, R. J., Elshamy, M. R., et al. (2002). Expressive disclosure and health outcomes in a prostate cancer population. *International Journal of Psychiatry in Medicine*, 32(1), 37–53.
- Rubin, A. M. (2002). The uses-and-gratifications perspective of media effects. In D. Zillmann & J. Bryant (Eds.), *Media effects: Advances in theory and research* (2nd ed., pp. 525–548). Mahwah, NJ: Erlbaum.
- Sargent, J. D., Dalton, M. A., Beach, M. L., Mott, L. A., Tickle, J. J., Ahrens, B., et al. (2002). Viewing tobacco use in movies: Does it shape attitudes that mediate adolescent smoking? *American Journal of Preventative Medicine*, 22(3), 137–145.
- Schank, R. C., & Abelson, R. P. (1995). Knowledge and memory: The real story. In R. S. Wyer, Jr. (Ed.), *Advances in social cognition* (Vol. VIII, pp. 1–85). Hillsdale, NJ: Erlbaum.
- Schank, R. C., & Berman, T. (2002). The pervasive role of stories in knowledge and action. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 287–313). Mahwah, NJ: Erlbaum.
- Scheff, T. J. (1979). *Catharsis in healing, ritual, and drama*. Berkeley: University of California Press.
- Sharf, B. F., Freimuth, V. S., Greenspon, P., & Plotnick, C. (1996). Confronting cancer on *thirtysomething*: Audience response to health content on entertainment television. *Journal of Health Communication*, 1, 157–176.
- Sheehan, P. W. (1967). A shortened form of the Betts' questionnaire upon mental imagery. *Journal of Clinical Psychology*, 23, 386–389.

- Sherman, S. J., Cialdini, R. B., Schwartzman, D. F., & Reynolds, K. D. (1985). Imagining can heighten or lower the perceived likelihood of contracting a disease: The mediating effect of ease of imagery. *Personality and Social Psychology Bulletin*, 11(1), 118–127.
- Singhal, A., Cody, M. J., Rogers, E. M., & Sabido, M. (Eds.). (2004). *Entertainment-education and social change*. Mahwah, NJ: Erlbaum.
- Slater, M. D. (1990). Processing social information in messages: Social group familiarity, fiction versus nonfiction, and subsequent beliefs. *Communication Research*, 17, 327–343.
- Slater, M. D. (2002). Entertainment education and the persuasive impact of narratives. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 157–181). Mahwah, NJ: Erlbaum.
- Slater, M. D., & Rouner, D. (1996). Value-affirmative and value-protective processing of alcohol education messages that include statistical evidence or anecdotes. *Communication Research*, 23, 210–235.
- Slater, M. D., Zimmerman, D. E., Tipton, M. L., Halverson, H., Kean, T., & Rost, J. D. (1994). Delivering health information to the disadvantaged: Assessing a hypertext approach. *Hypermedia*, 6(2), 67–86.
- Smith, S. M., & Shaffer, D. R. (2000). Vividness can undermine or enhance message processing: The moderating role of vividness congruency. *Personality and Social Psychology Bulletin*, 26, 769–779.
- Strange, J. J. (2002). How fictional tales wag real world beliefs: Models and mechanisms of narrative influence. In M. C. Green, J. J. Strange, & T. C. Brock (Eds.), *Narrative impact: Social and cognitive foundations* (pp. 315–341). Mahwah, NJ: Erlbaum.
- Strange, J. J., & Leung, C. C. (1999). How anecdotal accounts in news and in fiction can influence judgments of a social problem's urgency, causes, and cures. *Personality and Social Psychology Bulletin*, 25, 436–449.
- Swanson, J. E., Rudman, L. A., & Greenwald, A. G. (2001). Using the Implicit Association Test to investigate attitude-behaviour consistency for stigmatised behaviour. *Cognition and Emotion*, 15, 207–230.
- Taylor, S. E., & Schneider, S. K. (1989). Coping and the simulation of events. *Social Cognition*, 7, 174–194.
- Taylor, S. E., & Thompson, S. C. (1982). Stalking the elusive “vividness” effect. *Psychological Review*, 89, 155–181.
- Tellegen, A., & Atkinson, G. (1974). Openness to absorbing and self-altering experiences (“absorption”): A trait related to hypnotic susceptibility. *Journal of Abnormal Psychology*, 83, 268–277.
- Trumbo, C. W. (2004). Mass-mediated information effects on testicular self-examination among college students. *Journal of American College Health*, 52, 257–261.
- Wheeler, S. C., Green, M. C., & Brock, T. C. (1999). Fictional narratives change beliefs: Replications of Prentice, Gerrig, & Bailis (1997) with mixed corroboration. *Psychonomic Bulletin & Review*, 6, 136–141.
- Zillmann, D. (2002). Exemplification theory of media influence. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (2nd ed., pp. 19–41). Mahwah, NJ: Erlbaum.