Influencing Public Behavior: Takeaways From Public Communication Scholarship
Quick Look

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Prepared for:
Strategic Multilayer Assessment
Integrating Information in Joint Operations (IIJO)

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Summary

- Effective communication is a complex and fragile human process that requires strategic design, careful monitoring, and responsive adaptation (Kreps & Neuhauser, 2010). This report reviews scholarship on public communication campaigns and provides insights into six characteristics of effective communication campaigns.
- SUPPORTED: Communication alone is not enough to change human behavior. Other social change mechanisms (discussed in Takeaway 1) are needed to complement communication efforts.
- TARGETED: Communication that targets specific behavior change is more effective than communication that targets categories of behavior.
- COMMITTED: Effective communication campaigns are committed.
- TAILORED: Effective communication efforts are highly tailored. They aim at first impacting intermediate variables (such as cognitive and affective variables) before attaining behavioral objectives.
- MULTI-DIMENSIONAL: There is no one way of measuring communication effectiveness. Multiple dimensions of effectiveness should be considered (such as contextual, political, ideological, and definitional effectiveness).
- MULTI-STEP: Changing individual behavior is not always the most effective strategy. Sometimes, effective communication campaigns are multi-step: They focus on changing social norms first, and then, through social norm change, influencing individual behavior.

Introduction

Communication is at the center of being human, how we interact with one another, and how we understand the world around us. Consequently, communication is recognized as a central social process within the public sphere, and effective communication is on the forefront of efforts to inform and influence public behaviors pertaining to health, social, safety, environmental, and other issues.

Effective communication is considered a complex and fragile human process which requires strategic design, careful monitoring, and responsive adaptation (Kreps & Neuhauser, 2010). The strategic planning of communication efforts to change population behaviors is often referred to as public communication campaigns. Similar to USG strategic communication (SC), these campaigns are designed to influence behavior in large audiences within a specified timeframe using an organized set of communication activities and featuring a variety of mediated messages. These messages move across multiple channels[1] with the purpose of

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[1] Channels used for public communication campaigns can be conceptualized through several dimensions: reach (proportion of population exposed to the message), specializability (tailoring to individuals or narrowcasting to specific subgroups), personalization (human relational nature of source-receiver interaction), interactivity (receiver participation), decodability (mental effort required for processing stimulus), meaning modalities (array of senses employed in conveying meaning), depth (channel capacity for transmitting complex content), credibility (believability of transmitted material), agenda setting (potency for raising

producing noncommercial benefit to both individuals and society as a whole—that is, these campaigns are not trying to get people to buy something (Rice & Atkin, 2013).

Scholarship on public communication campaigns is abundant, but no one specific theory has emerged to explain and predict all of its intricacies. A number of theoretical perspectives guide our understanding of what constitutes effective communication within the public sphere (refer Appendix A for a list of central theories, major works, and implications for changing behavior). This report presents key takeaways that specifically address behavior change by drawing on a variety of frameworks that are applicable to various aspects of public communication campaigns.

Takeaway 1

Communication is just one mechanism of social change. Other social change mechanisms are to SUPPORT communication efforts.

Communication alone is not a magic bullet for changing and influencing public behavior. Scholars point out three distinct mechanisms of social change: engineering, enforcement, and education (Paisley & Atkin, 2013). The *engineering* solution typically involves the development of technology or innovation, the *enforcement* mechanism implies the use of coercion or other forms of mandated change, and the *education* solution involves modifying attitudes, beliefs, knowledge, and behaviors. The education mechanism is primarily carried

through communication efforts (Paisley & Atkin, 2013).

These three mechanisms are rarely effective on their own and often complement one another. An example of the three mechanisms working together can be found in a public safety campaign for seat belts. The engineering solution includes enhanced seat belt reminder systems, the enforcement mechanism includes seat belt laws and mandated child safety protections, and the education solution is public communication campaigns promoting safety belt messages warning that unbuckled passengers will be injured in a crash.

Communication plays a large role within education mechanisms but can also be effective within enforcement mechanisms. For instance, safety belt campaigns can influence public opinion on buckling laws and motivate policy-makers to aggressively pursue these laws (Paisley & Atkin, 2013).[2] These mechanisms also vary in the degree of public preference: Engineering solutions are often tried first, then education (communication) is engaged. Finally, enforcement is employed as the least popular strategy (Paisley & Atkin, 2013), and it is often difficult to implement. For example, seat belt enforcement by police officers can be complicated by a number of factors including vehicle speed, direction, traffic density, weather, and even clothing (Morgan, 2015).

Communication as one of the mechanisms of power is not a novel idea, and the Joint Concept for Operating in the Information Environment

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salience priority of issues), economy (cost of production and dissemination), and accessibility (easy of transmission) (Salmon & Atkin, 2003).

[2] For more information on influencing individual behavior versus influencing networks and institutional behavior, refer to Takeaway 6.

(JCOIE) already addresses this point. It describes how the Joint Force aspires to build information into operational art to "design operations that deliberately leverage information and the informational aspects of military activities to achieve enduring strategic outcomes" (Joint Concept for Operating in the Information Environment, 2018, p. vii). The information environment (IE), where communication happens, is clearly already viewed as an important piece. The next step is to cohesively integrate strategic communications into military operations. As General Paul Selva writes, "We will develop the necessary mindset through institutionalizing and operationalizing the application of integrated physical and informational power" (Joint Concept for Operating in the Information Environment, 2018, p. iii).

Takeaway 2

Communication that TARGETS specific behavior change is more effective than communication that targets categories of behavior.

Behavior change theory and health behavior theory have traditionally been more focused on changing specific behaviors (such as smoking cessation, paper recycling, condom use, choice of low trans-fat foods, etc.) rather than changing categories of behavior (such as promoting healthy lifestyle, safe sex, pro-environmental behavior, and preventing obesity) (Hornik, 2013). Communication scholarship suggests that campaigns targeting specific behavior have been more successful than those targeting categories of behavior. There are several explanations for this phenomenon.

One explanation is that categories of behavior are hard to define. Specifically, the definition for a coherent set of behaviors by policy advocates may not match with those of ordinary people. In other words, if audiences do not agree with a specific element of the behavior bundle, there is a high chance that they will reject the whole bundle. For example, human rights advocates often lump immigration issues, political participation, prisoners' rights, free speech, and smoke-free homes into one category of human rights issues. Ordinary people, however, may have different ideas on these issues and may support or not support these individual issues. Therefore, a communication campaign to advocate for all human rights might not resonate with targeted audiences.

Another explanation is that individual behavior that appears as one distinct category for outsiders is actually driven by several distinct factors for people who perform these behaviors. The Integrative Theory of Behavior Change (see Table 1) posits that there are three central determinants of behavior: beliefs about good and bad outcomes of behavior, beliefs regarding what others expect of their behavior, and beliefs about skills required to engage in behavior (Fishbein & Ajzen, 2009). When determinants of behavior vary from one person to another, it is difficult enough to appeal to these determinants for individual behavior change. It would be much harder to try to change a category of behavior, as determinants will vary even more.

Within the military context, United States Air Force Doctrine identifies a goal to "affect adversary, neutral, and friendly decision making, which contributes towards a specified set of behaviors" (US Air Force Doctrine—Operational-Level Doctrine—Annex 3-13, 2016, p. 9). A careful and deliberate assessment of specific behaviors (rather than sets of behaviors) might lead to more effective efforts.

Takeaway 3

Effective communication campaigns are linked to long-term COMMITMENTS.

Certain types of communication campaigns have stronger evidence of influence on behavior (Hornik, 2013; Wakefield, Loken, & Hornik, 2010). First, long-term commitments to a communication program are linked to success in changing behavior (Hornik, 2013). These long-lived, high-exposure, multiple-channel programs affect individual preferences as well as social support and institutional policies that encourage these preferences. The United States anti-smoking movement is one of the best examples of such efforts. While short-lived, specific communication interventions had some success (Farrelly et al., 2005). The change in mass behavior is largely attributed to a 50-year span of communication campaigns (Davis et al., 2008), including mass media campaigns and public relations efforts by anti-smoking groups. The Joint Publication 3-13 on Information Operations already addresses the need for long-term information objectives under information operations (IO) planning considerations. For example, "GCC's theater security cooperation guidance contained in the theater campaign plan serves as an excellent platform to embed specific long-term information objectives during phase 0 operations" (Joint Publication 3-13, Information Operations, 2012, p. IV–1).

Second, communication campaigns that are linked to substantial changes in the material environment are positioned to be highly successful in changing behavior. In other words, communication messages that publicize "real"[3] change have major implications for behavior

change (Hornik, 2013). This is achieved through efforts that complement communications (education), such as enforcement and engineering (refer to Takeaway 1 for more details on the Three Es). For example, immunization rates in urban areas of the Philippines doubled in one year due to public communication campaigns targeting parents (communication), as well as preparedness of health clinics to meet the anticipated demand (engineering) and policy changes (enforcement) (Zimicki et al., 1994).

Third, campaigns that focus on low-cost, high-reward behavior are highly successful. A campaign to reduce the Sudden Infant Death Syndrome (SIDS) is a good example of a low-cost, high-reward behavior changing campaign that was determined to be effective. The behavior was simple and easy to adopt (supine sleeping position), the costs associated with changing the behavior were low, and the benefit could not be higher. The "Back-to-Sleep" campaign was determined as effective in changing behavior: The incidence of SIDS in the United States decreased dramatically from 1.4 deaths to 0.8 deaths per 1000 live births in seven years (Kattwinkel et al., 2000).

Takeaway 4

Effective communication campaigns are TAILORED. They aim to first impact intermediate variables along the response chain (such as cognitive and affective variables) before attaining behavioral objectives.

Before influencing behavior, it is important to first impact preliminary (intermediate) variables along the response chain, such as cognitive and affective variables (Atkin & Freimuth, 2013) (see Figure 1 for elaboration). These variables vary depending on the objectives of the campaign and

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[3] By "real" change, we mean changes in the material environment (where behavior happens), not just communication efforts.

the potential obstacles (such as misconceptions, dysfunctional attitudes, and behavioral inhibitions). Researchers recommend isolating the most crucial response stages (see the Transtheoretical Model in the Appendix, Table 2) and understanding characteristics and predispositions of the intended audiences.

For example, a communications campaign promoting increased fruit and vegetable consumption (dietary intervention program) can divide all targeted people into three critical stages.

1. Precontemplation stage: People not perceiving fruits and vegetables as associated with healthy behaviors; people who are not ready to change their behavior.
2. Contemplation/preparation stage: People who do not eat fruits and vegetables but are aware of their health benefits; people who are considering the benefits of eating more fruits and vegetables; people who searched for recipes with more fruits and vegetables.
3. Action/maintenance stage: People who recently started purchasing more fruits and vegetables; people who started making food

choices with more fruits and vegetables; people who have been eating more fruits and vegetables for several weeks.

Within this example, communication strategies during the precontemplation stage might be targeted towards consciousness raising and promoting acceptance for the need to change; the contemplation/preparation stage might focus on self-reevaluation and self-liberation strategies to increase confidence in the ability to increase fruit and vegetable intake, resolve ambivalence regarding commitment to act, and facilitate specific plans to achieve an outcome; and finally, the action/maintenance stage will have a goal of reinforcement management, counter-conditioning, and stimulus control processes for promoting problem-solving in situations that challenge efforts to maintain intake (Di Noia, Contento, & Prochaska, 2008; Di Noia & Prochaska, 2010). The preliminary (intermediate) variables within this example might be lack of knowledge on healthy eating behaviors (knowledge and literacy), a belief that healthy foods are expensive (perceived cognitive barrier), lack of interest in healthy living (salient

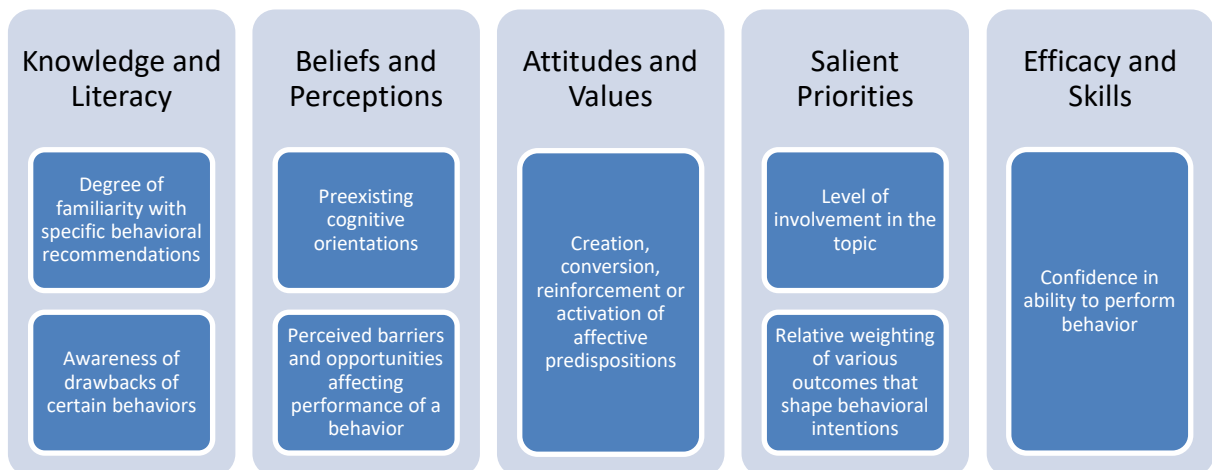| Knowledge and Literacy	Beliefs and Perceptions	Attitudes and Values	Salient Priorities	Efficacy and Skills
Degree of familiarity with specific behavioral recommendations	Preexisting cognitive orientations	Creation, conversion, reinforcement or activation of affective predispositions	Level of involvement in the topic	Confidence in ability to perform behavior
Awareness of drawbacks of certain behaviors	Perceived barriers and opportunities affecting performance of a behavior		Relative weighting of various outcomes that shape behavioral intentions	

Figure 1: Cognitive and affective variables. Adapted from Atkin & Freimuth (2013)

property), and/or lack of confidence in ability to maintain healthy behaviors (efficacy and skills).

Takeaway 5

There is no one way of measuring communication effectiveness. MULTIPLE DIMENSIONS of effectiveness should be considered.

Effectiveness is often conceptualized as the ratio of achievements divided by expectations (Salmon & Murray-Johnson, 2013). In other words, an undertaking is deemed successful or unsuccessful relative to what is desired or expected. When the expectation is high, the outcome will have to be of proportionally greater magnitude to constitute a success. Conversely, when the expectation is low, a much lesser outcome will constitute a success. Communication effectiveness is not dissimilar in that respect. For example, the domestic violence communication campaign can be considered effective since it increased women's perceived severity of domestic violence and raised women's awareness for available services. On the other hand, the same campaign might be considered unsuccessful since men's perceptions either did not change or moved in the opposite direction,

activating gender stereotypes (Keller, Wilkinson, & Otjen, 2010). Depending how one chooses to conceptualize effectiveness, the same campaign can be considered both successful and unsuccessful.

Attempts have been made to conceptualize effectiveness of public communications campaigns, and this report presents six frequently used dimensions. Table 1 provides an overview of each type: definitional, ideological, political, contextual, cost, and programmatic (Salmon & Murray-Johnson, 2013).

In a military context, operational-level evaluation is accomplished through measures of performance (MOPs) and measures of effectiveness (MOEs). MOPs are "criteria used to assess friendly accomplishment of information-related capability tasks and mission execution," while MOEs are "criteria used to assess changes in system behavior, capability, or operational environment to determine whether IO actions being executed are creating desired effects, thereby accomplishing the commander's objectives" (US Air Force Doctrine—Operational-Level Doctrine—Annex 3-13, 2016, p. 4

Table 1: Explicating Public Communication Campaign Effectiveness

Type of effectiveness	Short description	Examples from academic literature
Definitional effectiveness	Corresponds to the success of the group in defining a social phenomenon as a social problem worthy of pursuing (Finnegan & Viswanasth, 1997). Agenda-setting theory (see Table 2 in the appendix) explains how media can shape, change, and reinforce the target audience's perception of the topic. Campaign effectiveness is therefore measured through the extent that the issue penetrates the media's agenda as a pressing social issue.	An example of how media provided the public with a greater understanding of organ donation (Quick, Kim, & Meyer, 2009).
Ideological effectiveness	Refers to how the problem is constructed: on the individual or societal level. The effectiveness is assessed by the extent that the group achieves a consensus on the level of behavioral change that needs to take place (Salmon & Murray-Johnson, 2013).	As an example, unwanted teen pregnancy can be constructed as a problem on the individual level (due to sexual promiscuity or lower rates of contraceptive practices) or social level (due to lack of social services and underfunded youth development programs). For more on this topic, refer to Santelli et al. (2004) and Yang & Gaydos (2010).
Political effectiveness	Public communication campaigns are often politically palatable strategies for social change (Salmon & Murray-Johnson, 2013). They are a type of symbolic politics (Edelman, 1964), presenting government as a caring and capable player to solve social problems. Effectiveness is thus measured to the extent that it inspires confidence in political institutions.	Examples of political effectiveness are documented within studies on government grant-sponsored initiatives to solve public health concerns (diet, obesity, drug use, physical activity, etc.) (Farquhar et al., 1990; Goldman & Glantz, 1998).

Type of effectiveness	Short description	Examples from academic literature
Contextual effectiveness	The synergy of three mechanisms of social change (engineering, education, and enforcement) should be considered when evaluating public communication campaigns (see Takeaway 1 for more details). The focus of evaluation of effectiveness is turned to the analysis of why the decision to use communication was adopted and how to use communication alongside other mechanisms of social change.	An example of how to think through contextual effectiveness lies within anti-drug campaigns. When public communication efforts do not produce intended behavior (stopping illegal drug use), the focus of evaluation should turn to analyses of why the decision to use communication was adopted and how communication was used, especially since enforcement efforts have also previously failed (Kang, Cappella, & Fishbein, 2009). Contextual effectiveness should also be reviewed through mass media lenses, and various factors (such as channel strength, quality, scope, and reach) considered (Jeong & King, 2010; Leshner, Bolls, & Thomas, 2009).
Cost-effectiveness	Refers to the cost benefit model that assesses overall benefits in relations to the overall costs. In other words, it evaluates whether communication campaigns are more or less cost-effective than other forms of intervention (Salmon & Murray-Johnson, 2013).	Elements of cost-effectiveness assessments might include reach and access, message exposure, risk, available resources, policies and procedures. When reviewing cost-effectiveness of mechanisms of social change, researchers find that education is less costly than enforcement (Shanahan, Hughes, McSweeney, & Griffin, 2017).
Programmatic effectiveness	Refers to a direct comparison between stated objectives and observed outcomes of communication campaigns.	The national AIDS campaign, evaluated against stated objectives, was effective because it accomplished what it was designed to accomplish (intended behavior: to call the National AIDS hotline). If evaluated against other criteria (intended behavior: to practice safe sex), the campaign could be deemed ineffective (Salmon & Murray-Johnson, 2013).

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Takeaway 6

Changing individual behavior is not always the most effective strategy. Sometimes, a MULTI-STEP approach works best: First by changing social norms, and then through social norm change influencing individual behavior.

Campaigns targeting individuals are not always the most appropriate (efficient) strategy in influencing individual behavior. In some cases, influencing individuals' social networks is a better strategy (Hornik, 2013). This implies that a communication campaign will focus on changing social norms first, and then, through social norm change, influencing individual behavior.

According to the Theory of Planned Behavior (see Table 2 in the Appendix), perceived subjective norms (beliefs about expected behavior) are major determinants of social behavior. The subjective norms are believed to be influenced by descriptive norms (beliefs of how most people behave in a given situation) and injunctive norms (beliefs about which behaviors are socially approved) (Park et al., 2009). An example of a campaign that targets social norms is the college binge drinking campaign. It focuses on changing the norm (and the perception of the norm) within social networks rather than attempting to change individual behavior (DeJong & Smith, 2013). When accurate information about college alcohol use is presented, misperceptions of drinking norms are reduced, normative pressure to drink is diminished, and, as a consequence, student alcohol consumption is reduced (Perkins & Berkowitz, 1986).

This strategy is especially effective in cases when behavior is substantially influenced by institutional policies and structures (Dorfman & Wallack, 2013). In these cases, communication strategies targeting institutions to change policies regarding specific behaviors are more efficient than efforts at individual persuasion. An example is communication advocacy efforts to change institutional policies around smoking: It is harder for individuals to maintain smoking habits when the barriers to smoking at workplaces are high (Hornik, 2013).

One military unit that is especially equipped in achieving these objectives is Military Information Support Operations (MISO). According to United States Air Force Doctrine, MISO is referred to as "planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals in a manner favorable to the originator's objectives" (US Air Force Doctrine—Operational-Level Doctrine—Annex 3-13, 2016, p. 12).

Appendix A: Theories Applicable to Public Communication Campaigns[4]

Theory/Framework	Major Works	Short Description of the Theory	Implications for Influencing Public Behavior
Message Frames	O'Keefe & Jensen (2007); Quick & Bates (2010)	This framework emphasizes the way appeals are expressed to the intended consumer, specifically through a cost benefit analysis presentation that spurs the consumer to react.	This framework presents how message appeals are packaged in terms of gain-frame promotion of positive behavior versus loss-frame prevention of negative behavior.
Self-Efficacy	Bandura (1997)	The theory addresses the confidence one has in their ability to control their own motivation and behavior.	When attempting to influence the behavior of a target audience, tapping into what triggers their self-efficacy is important in trying to influence behavior.
Social Cognitive Theory	Bandura (1986)	This theory posits that behavior is an interacting three-way model composed of personal factors, behavior, and environmental influence.	The impact of mediated messages can be enhanced through source role models, explicitly demonstrated behaviors, and depiction of vicarious reinforcement.
Theory of Reasoned Action (Theory of Planned Behavior)	Ajzen, Albarracin, & Hornik (2007); Ajzen & Fishbein (1980)	The theory contends there is a definitive and causal relationship between human attitude and behavior.	The theory is based on the expectancy-value equation: attitudes are predicted by beliefs about the likelihood that given behavior leads to certain consequences, multiplied by one's evaluation of those consequences.
Transtheoretical Model	Prochaska & Velicer (1997)	This theory outlines and defines the steps an individual goes through to ready or prepare themselves for a behavioral change (specifically, health behavior). The theory provides strategies to guide the person on their journey through these steps.	The readiness to attempt, adopt or sustain the recommended behavior is shaped by the basis of the person's stage in the process of behavior change.

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[4] Adapted from Atkin & Rice (2013)

Theory/Framework	Major Works	Short Description of the Theory	Implications for Influencing Public Behavior
Uses and Gratification	Katz, Blumler, & Gurevitch (1974); Rubin (2002)	This theory explores the impact media has on consumers, specifically the way people utilize media to satisfy their needs.	Understanding the impact media has on consumers will further help to identify how to reach consumers and influence them in a way that encourages the recommended action properly and successfully.
Agenda Setting	McCombs (2004)	Agenda setting theory rests on the belief that the issues that become important to society are somewhat determined by the media's news coverage.	Agenda-setting can go beyond the transfer of silence to the effect of intended behavior. Understanding what an audience finds as important is crucial in understanding what topics will spur a high possibility of certain behavior.
Diffusion of Innovations	Rogers (2003)	The theory seeks to explain how, why, and at what rate new ideas (and behaviors) spread. It introduces a multistep flow that considers opinion leaders, interpersonal channels, and social networks.	Since innovation is essential to every aspect of society, understanding how it influences the spread of new ideas can provide insight on the best ways to influence people who have a wider reach on their peers to behave a certain way. Also, like-minded (homophilous) individuals engage in more effective communication, and their similarities lead to greater likelihood of attitude or behavior change.
Elaboration Likelihood Model and Heuristic Systematic Model	Eagly & Chaiken (1993); Petty & Cacioppo (1986)	These theories of persuasion seek to explain how people can be persuaded to change their attitudes through central or peripheral routes to persuasion.	Tailoring messages to an audience requires understanding about how to change and influence behaviors. Using this model and relating it to the message can influence behavior through attitude change[5].

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[5] For example, someone who is not heavily invested in a given topic will likely process information via the peripheral route… and thus persuasion strategies that match up with that route will be more effective (ceteris paribus) than ones emphasizing information that would map more closely to someone inclined to use the central route.

Theory/Framework	Major Works	Short Description of the Theory	Implications for Influencing Public Behavior
Extended Parallel Process Model	Stephenson & Whitte (2001)	This framework is intended to determine how people might behave when approached with fear inducing stimuli.	Effectiveness of fear appeals (to influence behavior) is enhanced by understanding cognitive processes that control danger and emotional processes that control fear via denial and coping.
Health Belief Model	Becker (1974); Jones et al. (2015)	This theory posits that six constructs predict health behavior: risk susceptibility, risk severity, benefits to action, barriers to action, self-efficacy, and cues to action.	Messages will achieve optimal behavior change if they successfully target perceived barriers, benefits, self-efficacy, and threat.
Instrumental Learning	Hovland, Janis, & Kelley (1953)	The theory focuses on reinforcement and response in relation to behavior management.	Instrumental conditioning is a type of associative learning process through which the strength of a behavior is modified by reinforcement or punishment.
Integrative Theory of Behavior Change	Cappella, Fishbein, Hornik, Ahern, & Sayeed (2001); Fishbein & Ajzen (2009)	This theory integrates several different concepts to understand how beliefs, personal differences, and other variables combine to influence outcome behaviors, attitudes, and intentions.	Health behaviors are usually related to personal variables that lead someone to establishing beliefs and attitudes. Using this theory to attempt to predict how those variables influence behavior is important in constructing messages.

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