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A Framework for Understanding the Effects of Strategic Communication Campaigns

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Decades of research on strategic communication campaigns has generated myriad insights. However, this valuable knowledge is often fragmented across many fields and topic areas, making it difficult for researchers and practitioners to distill this knowledge and map the key strategic considerations. In this article, we present an overarching framework for understanding the effects of strategic communication campaigns. We define the *driving force* as all the efforts, contexts, and systems that advance the campaign's goals, and the *restraining force* as those that restrict the campaign's goals. The total impact of any driving or restraining force can be understood as the product of its *reach*, *effect*, and *durability*. Reach refers to the proportion of people in the target population that are exposed to the corresponding driving or restraining force. Effect refers to the size of the impact of that force, among those who are exposed. Durability refers to the extent to which the effect of that force lasts over time and/or resists opposing forces. We highlight how this framework can be used to distill, connect, and interpret large amounts of extant research and theory, and how it can be used by researchers to design research programs and identify persisting knowledge gaps.

Keywords: strategic communication, mass communication, intervention, campaign, theoretical framework

When people or organizations decide to use strategic communication to accomplish their goals, they must decide how to allocate limited resources, design effective messages, anticipate barriers, and diagnose problems. Although a mountain of empirical and theoretical insights has been produced, these insights are fragmented and siloed in different fields and tend to each address individual pieces of a broader system. In this article, we present a high-level framework for understanding key components that determine the impacts of strategic communication campaigns. While this framework aims to guide practical decision-making, it also serves as a conceptual map of the research landscape—highlighting crucial relationships, interdependencies, and knowledge gaps.

Strategic communication is essential for individuals and organizations to achieve their goals and engage in conversations of strategic importance (Zerfass et al., 2018, p. 493). *Strategy* is needed to deal with the fact that these decisions entail complexity and

uncertainty (Freedman, 2015; Zerfass et al., 2018). Indeed, in his book on the history of strategy, Freedman (2015) notes “There is a call for a strategy every time the path to a given destination is not straightforward or whenever judgments are required on resources needed, their effective application, and their appropriate sequence” (pp. ix-x). *Communication* is vital for constructing and negotiating meaning as situations develop and change (van Ruler, 2018).

While traditional conceptualizations of strategic communication were often limited to a prototypical context of unidirectional messaging to external stakeholders, the field has since evolved to encompass more diverse contexts, relationships, methods, and goals (Werder et al., 2018; Zerfass et al., 2018). For precision, it is vital to clarify the specific context that we engage with in the present article, because the framework we propose and argumentation we provide are far more relevant to some domains of strategic communication than others.

In particular, the present article engages primarily with the domain of public communication campaigns aimed at accomplishing strategic goals via large-scale communication interventions. Throughout the article, we refer to these as “strategic communication campaigns,” and we offer diverse examples and applications in politics, health, science, and business. Our focus is also on *the factors that determine the outcomes* of such campaigns (rather than, for example, their ethics or rhetoric). Therefore, we focus on research and applications regarding communication that seeks to impact public knowledge, attitudes, and behaviors.

In this set of foci, the importance of strategic communication campaigns is widely appreciated, and the processes and effects of campaigns are widely researched. For example, research has shown campaigns can be used to reduce prejudice (Broockman & Kalla, 2016; Kalla & Broockman, 2020; Mousa, 2020), increase adoption of public health behaviors (Abaluck et al., 2021; Bokemper et al., 2021; Goldberg, Gustafson, Maibach, et al., 2020), and inform people about the harms of climate change (Goldberg et al., 2021). Decades of research have produced mountains of empirical findings and myriad theories about various components, variables, processes, and outcomes of such campaigns.

However, many of these insights remain fragmented and siloed across different fields (Werder et al., 2018). Some vital insights are spread across many fields (e.g., research on the effects of message framing is dispersed across communication, behavioral economics, political science, psychology, marketing and advertising, sociology, and more). Other vital insights are well-developed in one field but almost absent in another. This state of affairs makes it difficult for applied researchers and public-facing communicators to develop a well-organized view of the factors that are important to consider when it comes to the impacts of strategic communication campaigns, or how to distill and contextualize the research insights that they encounter. Thus, there is a need for a comprehensible and practical framework rooted in the growing field of strategic communication that integrates insights from diverse fields and centers strategic decision-making as the defining, unifying perspective (Zerfass et al., 2018). We offer this framework to help fill this need. Our overarching goal in developing this strategic communication framework is to provide a practical guide for *doing* strategic communication while also providing an organizing

framework for *understanding* the landscape of insights about the effects of strategic communication campaigns.

More specifically, this framework for understanding strategic communication campaigns has three central goals: to distill, design, and diagnose. First, it aims to *distill* a large body of research, by providing a conceptual map under which many extant theories and empirical findings can be situated, connected, and contextualized. As such, this framework can also serve as a tool that helps researchers identify knowledge gaps and open questions that merit greater attention. Second, it aims to help *design* communication campaigns that maximize success, functioning as a prescriptive guide. Third, it aims to help *diagnose* why strategic communication campaigns succeed or fail in achieving their goals, functioning as a diagnostic tool for post hoc evaluations.

Our Approach to Constructing This Framework

When building a theoretical framework, there is often a tradeoff between scope and precision. That is, there is a tradeoff between how *precisely* to define the framework and *how much ground the framework covers*. Or, aptly put by McGrath (1982), there is a *precision versus scope dilemma*. This is not necessarily a forced tradeoff, as in a zero-sum system, because precision and scope are separate continua. A few theories achieve remarkable degrees of both precision and scope.

In the field of communication, many well-known theoretical frameworks are excellent at maximizing scope, but do not aim to describe precise explanatory mechanisms or processes. For example, the two-step flow model of mass communication (Katz & Lazarsfeld, 1955) explains a wide range of phenomena but places less focus on precision. Conversely, there are also important theories that maximize precision, but are applicable only to a relatively narrow range of communication situations. For example, the extended parallel process model (Witte, 1992) provides an excellent explanation of how threat and efficacy interact in a very specific communication context: fear appeals. Although it is common for theories, models, and frameworks to prioritize either precision or scope, there are some that achieve both. For example, the elaboration likelihood model of persuasion (Petty & Cacioppo, 1986) and the theory of reasoned action (Fishbein & Ajzen, 2011) elaborate on detailed processes that underlie a large swath of human communication and psychology.

Given that the strategic communication framework detailed in this article aims to allow myriad other theories to be situated within it and/or to interact with it, our approach is to maximize the scope of the framework while leaving efforts in precision to the many individual theories that can be placed within its structure. That is, when organizing concepts and explaining phenomena we default to “lumping” because of its practical utility, and we “split” only when necessary (see McGuire, 1993). This approach allows this framework to be flexible enough to accommodate a wide variety of communication situations, objectives, and solutions.

Further, we encourage the reader to adopt the mentality that “all models are wrong, but some are useful” (Box, 1976). That is, we do not claim that theories, models, and frameworks of communication are depictions of some objective reality. Rather, we see them as tools that are intended—with varying degrees of success—to help us predict, make

sense of, organize, and interact with the world. In this sense, many models are quite useful, and we designed the present framework with this aspiration in mind.

According to Van Lange (2013), good theories use (or are the product of) *abstraction*. That is, they collect phenomena and events and turn them into concepts, assumptions, and principles. Kruglanski (2004) argues that abstraction is an essential objective of science, and that abstraction acts as a bridge between phenomena: “It is as if one were standing on a tall observation tower affording a far-reaching view of the lay of the land. Such vista may sharpen one’s perception of commonalities that seemingly distinct phenomena may share and that might be missed by narrower formulations” (p. 161). Distilling diverse instances and mechanisms into shared properties and processes is a key benefit of theories, frameworks, and models.

Social science theories often function like maps. A geographical map describes reality in an intentionally non-literal way, making sweeping omissions of details and even adding imaginary elements (colors, boundary lines, labels) to improve its usefulness to the map user (Fried, 2020). In the same way, theoretical frameworks are often a non-literal abstraction of reality, in which reality is purposefully distorted or simplified to make them more useful to the user. In fact, these abstractions are what make them useful and user-friendly. The framework we describe in this article prioritizes these abstractions, in order to maximize usability.

A Framework for Understanding the Effects of Strategic Communication Campaigns: The Gist

In the sections that follow, we explain each component of the framework, how they function, and the justification for including each component. But first, it is important to orient the reader to the general ideas of the framework before diving into the details of each component. Thus, in this section we explain the core concepts of the framework by working through an example of a strategic communication campaign situation.

Strategic communication decisions must take the perspective of a focal entity because judgments about what holds strategic importance are in the eye of the beholder (Zerfass et al., 2018). Consider a hypothetical advocacy organization whose mission is to motivate parents in a local community to vaccinate their children, and the organization wants to implement a communication campaign to help achieve this mission. The communication efforts of this organization take place via various channels (social media advertisements, phone calls, door-knocking, etc.) and can be thought of as having some collective effect (of zero or a non-zero amount) on the vaccination behavior of people in that local community. The television and social media advertisements reach quite a large proportion of the community, the phone conversations are quite persuasive, and the conversations with door-knocking canvassers are memorable and moving. Overall, we can imagine how these efforts might lead to increased vaccinations in this community over the coming weeks and months.

Yet, the net effect on vaccination behavior is not determined exclusively by the efforts of the advocacy organization. Rather, the momentum toward more vaccinations that is

generated by this communication campaign is met by a variety of headwinds. For example, countervailing forces might include prevalent misinformation, structural inequities, physical and psychological barriers to behavior, and even purposeful oppositional communication efforts by “anti-vax” individuals and groups. Designing and implementing a successful communication campaign to increase vaccination requires an understanding of the ways in which the organization’s efforts lead to positive effects, the situational context and audience characteristics, and also the countervailing forces or barriers that stand in the way.

Adding a layer of complexity, the total impact of the pro-vaccination campaign can be described as a product of its reach (how many people), effect (to what degree), and durability (for how long). Overlooking any one of these components can lead to misguided advice about which interventions to adopt. For example, research conducted prior to the campaign may have indicated that Message A boosts parents’ vaccination intentions by a substantial degree, but fails to measure how long this treatment effect lasts. If Message A is implemented and the positive effect of the campaign is fleeting, then the actual total behavior change will fall far short of the research-based estimates. In contrast, if Message A and Message B have the same size of immediate effect on vaccination intentions, but the effect of Message B is more durable, then—all else being equal—Message B should be implemented. As such, the *durability* of an effect is integral to understanding the campaign’s true impact.

Further, there is often a tradeoff between the campaign’s effect and its reach (Smith, 2017). For example, get-out-the-vote (GOTV) campaigns often include door-to-door canvassing, phone-banking, and/or emails. These outreach methods differ not only in the size or degree of the effect on each person contacted, but also in the breadth of their reach (how many people can be contacted, given resource and time constraints). Recent research provides estimates that door-to-door canvassing produces about one new vote per 14 contacts, volunteer phone-banking produces about one new vote per 35 contacts, and email has no detectable effect (Green & Gerber, 2019). Considering these effect sizes alone, it seems that knocking on people’s doors to encourage them to vote is the best tactic. However, because door-to-door canvassing is substantially more effort- and time-intensive, a campaign can reach far more potential voters via phone than by door-to-door canvassing. This would make volunteer phone-banking the preferred strategy if it could leverage its greater reach to overcome its smaller per-contact effect. This tension between door-knocking (higher effect, lower reach) and phone-banking (lower effect, higher reach) was the basis of important strategic decisions in the lead up to the 2020 United States presidential election (Matthews, 2020). Our proposed framework for strategic communication highlights the importance of considering more than just the size of the effect among people reached. Although it is informative to learn about the effects of a given intervention, leaving reach and durability unknown—or only considering them implicitly—misses important opportunities to optimize the overall strategy.

In the same way that the positive effects of the hypothetical organization’s vaccination campaign must be considered in terms of reach, effect, and durability, we must consider the same aspects of the countervailing forces. These countervailing forces are diverse,

including purposeful opposition by malignant actors (e.g., coordinated disinformation campaigns) and contextual characteristics (e.g., structural barriers to behavior), but the impact of each can still be understood as a product of their respective reach, effect, and durability. Perhaps in this hypothetical scenario, much of the target audience of the pro-vaccination campaign are exposed to the countervailing force of anti-vaccination communication (i.e., it has a wide reach), but this oppositional communication has a weak effect and weak durability. Thus, it has only a small negative net effect on the total pro-vaccination impact of the campaign. In contrast, perhaps structural barriers (e.g., no nearby vaccination centers, lack of health insurance) also affect a large portion of the community, but unlike the disinformation efforts these structural barriers happen to have a large negative effect and high durability. Unlike the anti-vaccination communication on social media, the structural barriers would likely be a substantial obstacle. They might severely inhibit or entirely negate even the most well-crafted pro-vaccination messages deployed through the campaign.

As visualized in Figure 1, the net change in vaccination resulting from the communication campaign in the above scenario can be understood as the sum of the positive forces (the product of reach, effect, and durability) and negative forces (the product of reach, effect, and durability). We refer to these relationships in mathematical terms (“product” and “sum”) to metaphorically express the nature of the relationships between concepts (i.e., some relationships resemble multiplicative relationships, some resemble additive relationships). These relationships and their implications will be explicated more deeply in the following sections. Despite the mathematical language, readers should not assume this framework can be used as an equation to calculate the actual effect of a campaign. Yet, we recognize there might be some special circumstances—particularly when there are precise and valid measures of reach, effect, and durability of all (or many) applicable driving and restraining forces—that might enable an estimate of the net effect of an intervention by using this framework.

Overall, thinking through this hypothetical scenario of an organization’s vaccination communication campaign highlights the importance of considering positive and negative forces, as well as the reach, effect, and durability of each. Often, communication campaigns are informed only by research that estimates an intervention’s *effect*, and far less research (or none at all) estimates an intervention’s *reach* and *durability*. Still less research is devoted to the reach, effect, and durability of the restraining forces that campaigns encounter. In the strategic communication campaign framework proposed here, we make these factors explicit by defining each of them, explaining their relationships, and summarizing extant evidence on how they interact.

Further, we acknowledge that myriad communication theories and research findings have addressed individual components of this broader structure (e.g., on reach, effect, or durability). One of the central goals of this article is to highlight how this mountain of insights can be organized and understood within this overarching structure. In the following sections, we reference a wide variety of relevant theory and research to illustrate their fit within this general framework.

Figure 1. A framework for understanding the effects of strategic communication campaigns

Note. The driving force is made of the efforts, contexts, and systems that advance the campaign's goals, whereas the restraining force is made of the efforts, contexts, and systems that compete with or restrict the campaign's goals. The magnitude of the driving and restraining forces (in total and their components) are the product of their reach, effect, and durability. The reach of the driving or restraining force (and of any of their components) refers to the proportion of people in the target population that are exposed to that force. Effect refers to the size of the impact of that force, among those who are exposed. Durability refers to the extent to which the effect of that force lasts over time and/or resists opposing forces.

Components of the Framework

Driving and Restraining Forces

We describe two general forces that determine the outcomes of a communication campaign: the *driving* force and *restraining* force¹. The driving force is made of the efforts, contexts, and systems that advance the campaign's goals, whereas the restraining force is made of the efforts, contexts, and systems that compete with or restrict the campaign's goals. A communication intervention (e.g., door-to-door canvassing) is often a primary component of the total driving force, but other important components include contextual factors, audience characteristics, and social or physical systems that also aid the campaign's goals. Net impact is proportional to the difference between the driving force and the restraining force. The magnitude of the driving and restraining forces (in total and their components) are each determined by their respective reach, effect, and durability. We describe each of these inputs in greater detail below, and highlight relevant research to inform how scholars and practitioners might integrate existing findings into this framework.

Although we focus this article on the many paths to implementing successful communication campaigns, we believe it is important to note three inherent advantages of

¹These concepts, as applied to opposing forces acting on individuals, were first developed by Lewin (1951) and were expanded by researchers that followed (e.g., Kruglanski et al., 2012; Latané, 1981). We decided on the terms "driving force" and "restraining force" based on a framework developed by Kruglanski et al. (2012), but apply them to different content and at a different level of abstraction.

restraining forces. First, there are many restraining forces that preexist in nearly every situation, by default. For example, people have limited memory, often behave unpredictably, have competing goals, have limited resources, face physical barriers, and are constrained by laws and institutions—and many of these are legitimate and reasonable. These default, pre-existing restraining forces may often affect the whole population (i.e., high reach) to a large degree (i.e., high effect) all of the time (i.e., high durability). Even absent any direct purposeful oppositional efforts by an opposing entity (e.g., counter-messaging campaign), these default restraining forces alone often present a towering set of obstacles for a communication campaign to overcome. We should not assume that communication can always overcome these forces.

Second, restraining forces have the advantage of inertia. Research on decision-making repeatedly supports this sentiment: people often display a bias towards the status quo, making it a greater challenge to change people's behavior than to convince them to continue the same behavior (Samuelson & Zeckhauser, 1988). It is usually easier to *not* accomplish the campaign's desired effect than to accomplish it. As with inertia, equal driving forces and restraining forces (even if both are zero) will result in zero change, which in most situations would mean that the campaign does not achieve its goals. Essentially, equal driving and restraining forces is usually a victory for the status quo.

Third, it is usually easier to be destructive than constructive, and easier to muddy the waters than to clear things up. For example, a recent meta-analysis shows that interventions aiming to induce more negative climate change beliefs had significantly larger effect sizes than interventions aiming to induce more positive climate change beliefs (Rode et al., 2021). Because of these inherent advantages of restraining forces, it is important to consider them carefully when designing, implementing, and evaluating communication campaigns.

Reach

The reach of the driving or restraining force (and of any of their respective components) refers to the proportion of people in the target population that are exposed to it—either directly or indirectly. Reach could be operationalized as binary (e.g., whether or not someone saw an advertisement) or as a continuum (e.g., the frequency or depth of exposure to the intervention). The specific operationalization of reach in a given study will depend on the outcome of interest and the goals of the project.

Regardless of the specific operationalization, the importance of reach is evident when we consider the proposition that extremely persuasive messages will have zero real-world impact if they do not reach any of the target audience. For example, efforts to deploy persuasive messages that encourage vaccination are wasted if the messages are noticed by zero people, or only by people outside the target audience—such as those who have already been vaccinated. Similarly, the success of get-out-the-vote phone calls depends heavily on how many people answer the phone, and whether those people otherwise would not have voted, absent the intervention.

The importance of reach becomes even clearer when we consider how resources should be allocated when thinking about who to target as part of an intervention, and the potential for downstream effects. For example, consider the impact of partisan media on the

American public. Some research suggests that the effects of partisan media are quite limited because only about 10-15% of the American population consumes such media (Prior, 2013). However, we know that consumers of partisan media tend to be highly engaged and influential in their own networks, potentially expanding the influence of partisan media far beyond direct consumption. Causal evidence for this proposition emerged when researchers experimentally manipulated whether respondents were exposed to partisan media, and also manipulated whether respondents engaged in discussion with others afterwards (Druckman et al., 2018). The results showed strong evidence for a two-step flow of communication (Katz & Lazarsfeld, 1955): people exposed to partisan media are persuaded by it and, in turn, persuade others who were not directly exposed to the media content. Further, there was strong evidence that indirect effects of media exposure (i.e., via discussion with people exposed to it) can even be larger than the effects of direct exposure.

Other research provides additional evidence for the proposition that interventions can reach beyond people who are exposed directly. In two get-out-the-vote field experiments, for example, Nickerson (2008) found that about 60% of the experimentally induced voting spilled over to someone else in the household. That is, the intervention reached beyond people who were directly treated, giving a better sense of the total impact of the intervention. These insights are supported by theories such as agenda-setting (McCombs et al., 2014; McCombs & Shaw, 1972) and diffusion of innovations (Rogers et al., 2014; Rogers & Shoemaker, 1971), both of which highlight the role of “horizontal” communication in the spread of ideas, information, and behavior. The reach and speed of information diffusion is substantially increased by the nascent ubiquity of online social networks (Bakshy et al., 2012).

Considering the *reach* of a given intervention—and the processes by which messages spread—may unlock important strategic insights that would otherwise be missed. Although it might be desirable for interventions to reach the greatest number of individuals in the target population, in some situations it might be more strategically advantageous to target fewer, highly-influential people (Iyengar et al., 2011). Consider the persuasive effects of newspaper op-eds. Research shows that op-eds can have large persuasive effects on both laypeople and elites (Coppock et al., 2018). The theoretical framework proposed here makes clear that, although persuasive effects might be smaller among elites (Coppock et al., 2018), the real-world impact of op-eds is likely to be substantial both because elites are more likely to read op-eds, and because elites play an important role in influencing public discourse and opinion (Gabel & Scheve, 2007; McCombs & Shaw, 1972; Zaller, 1992).

This framework argues that reach must be explicitly considered when designing a strategic communication campaign, and that the target population can be understood as containing individuals with different levels of influence on others. That being said, reach fails to carry any weight if the message has no effect on those that receive it. Thus, the effect of a message (or set of messages) plays an equally important role in the overall net impact, so we turn to message effects next.

Effect

The effect of a driving or restraining force (or any of their components) refers to the size of the impact of that force, among those who are reached by it. For example, the effect

of a message is often operationalized as the change in beliefs, attitudes, or behaviors that is caused by exposure to it. Yet we must also consider that other driving forces and restraining forces also contribute effects that determine the total impact of a campaign. Although the size of these effects varies greatly among individuals (i.e., effects are not uniform), the average effect in a target population is often conveyed as a summary. Estimating the average effects of messages and other forces is one of the most common foci of research on persuasion and behavior change, and is often done by comparing differences in the key outcome variable(s) before and after an intervention and/or between experimental conditions.

However, our proposed framework pushes the researcher and practitioner to also consider reach and durability. When we focus on effects in isolation, we miss important questions about the scalability of an intervention, and how it might fare compared to alternative interventions. For example, in most lab experiments, reach is 100% by design: everyone in the treatment group is treated. Often, efforts are made to ensure this is the case, such as by excluding inattentive respondents (Berinsky et al., 2014; Hauser & Schwarz, 2016; Kane & Barabas, 2019; Oppenheimer et al., 2009). By forcing 100% reach, this approach enables a precise estimation of a message's effect, but does not provide knowledge about the message's (in)ability to reach the target audience in the real world. Considering reach and effect at the same time makes clear that, for example, even if two messages have the same effect, one should be preferred if people are more likely to share it with friends and family or on social media.

Further, most research testing the effects of communication interventions exclusively measures *immediate* effects. For example, the dominant paradigm in lab experiments is to expose participants to a treatment and then immediately administer the post-test measure of the outcome variables. As such, we have amassed a large amount of knowledge about people's immediate responses to messages, but far less knowledge about how, when, and why those effects persist or decay over time and across multiple exposures (Goldberg, Gustafson, & van der Linden, 2020). Next, we consider this often-neglected aspect of strategic communication interventions: durability.

Durability

The durability of a driving or restraining force (or any of their respective components) refers to the extent to which its effect lasts over time and/or resists opposing forces. These are two important, but conceptually distinct elements of durability. First, a treatment effect can vary in the extent to which it lasts over time, due to memory decay or some factor related to the intervention (e.g., whether the message was emotionally-moving). Second, a treatment effect can vary in the extent to which it resists opposing forces, such as competing information.

Durability is essential to strategic communication campaign research. If a research program focuses only on reach and effect, it will be unable to determine whether the campaign is successfully moving towards their long-term goals. Further, failing to consider durability leaves unknown how well a persuasive treatment resists oppositional messaging or other restraining forces. Explicit consideration of durability can help distinguish between

two approaches that might have similar immediate effects, but different long-term effects.

Theoretical frameworks that examine durability suggest that persuasion effects are more likely to last longer when the information is deeply and deliberately processed (Chong & Druckman, 2010, 2013; Petty & Cacioppo, 1986). Thus, durability can be enhanced by creating messages or situations that facilitate deliberate processing, or by reaching people who are generally more inclined to deliberately process information. The durability of messaging effects can also be enhanced in the message itself by introducing new information (as opposed to emphasizing existing considerations; Coppock, 2016), or by having personal relevance or consequence (Petty & Cacioppo, 1986).

Placing the above insights into the current framework, there is much to gain from explicitly considering durability and the greater informational context (e.g., counter-campaigns) when identifying target audiences and choosing messaging tactics. If messages are more likely to have durable effects for certain people (e.g., Chong & Druckman, 2010), then a campaign's use of resources can become much more efficient through the use of targeting—provided that the cost of accurate targeting is not greater than its benefits. Further, some campaigns may face a tradeoff between intervention strategies that differ in their reach and effect, as in the above get-out-the-vote example. The durability of the intervention options should be an additional factor that guides such decisions.

The current framework provides an approach to help researchers and practitioners explicitly consider these important factors in combination. Now that we have detailed the role of reach, effect, and durability, we now consider how these different components interact and inform broader strategy.

Reach, Effect, and Durability Determine the Driving and Restraining Forces

The total driving and restraining forces are each determined by the *product* of their reach, effect, and durability (i.e., $\text{reach} \times \text{effect} \times \text{durability}$). That is, if any of the inputs of reach, effect, or durability is zero, the resulting total driving or restraining force drops to zero. For example, a campaign that has convincing messages (effect) but is unable to reach anyone from the targeted population (reach = 0), the total driving force falls to zero. Similarly, if a campaign has high reach but the message has zero effect, then the total driving force is zero. And finally, if a campaign has high reach and effect but zero durability, the driving force drops to zero. The same logic applies to any restraining forces.

Each input (reach, effect, durability) can itself be disaggregated into subcomponents. For example, much research has investigated how the “effect” input into the driving force of a campaign is determined largely by the strength of the arguments made and the source of the message. We propose that the inputs that form each value of reach, effect, and durability are *additive* such that each new factor has its own contribution to determining reach, effect, or durability but is unlikely to make the corresponding total value drop to zero, or flip signs (Figure 2).

Figure 2. Strategic communication campaign framework with examples

Note. Reach, effect, and durability are each determined by many factors that have been the focus of much existing research. The examples shown in the figure are nowhere near an exhaustive list. Further, the factors listed here are not exclusive to the component they are listed under. For example, although “Source” (the source of the message) is listed under “Effect,” it may also contribute to reach and durability. The purpose of this figure is to show the functional relationships between potential factors under consideration.

Implications of the Framework

The first implication of this organizing framework is the widely recognized principle that messaging effects do not occur in a vacuum, and are determined in part by contextual factors external to the message itself, its source, and its audience. That is, although it is informative to test the persuasive effects of message content, it is crucial to anticipate restraining forces such as counter-communication efforts and structural or resource barriers, in order to incorporate the entire contextual and communicative environment into the strategic plan.

Consider, for example, the issue of climate change. Although nearly all scientific evidence (97%) strongly supports the finding that human-caused climate change is happening (Cook et al., 2016), a popular misconception is that scientists still disagree about its existence and causes (Gustafson & Goldberg, 2018; Leiserowitz et al., 2021). There is extensive evidence that many fossil fuel companies and their allies participated in a coordinated effort to undermine public perceptions of the scientific consensus on climate change (Oreskes & Conway, 2011; Supran & Oreskes, 2017). Thus, an important part of a strategic communication campaign to increase public acceptance of climate science should anticipate and counteract these restraining forces (e.g., Cook et al., 2017; van der Linden et al., 2017).

Another key implication of the proposed framework is that driving and restraining forces are functionally interchangeable in their net effect. That is, decreasing the restraining force can be functionally equivalent to increasing the driving force (see Kruglanski et al., 2012, for the same logic applied to motivated cognition). Similarly, the components of reach, effect, and durability are also functionally interchangeable. That is, a communication campaign can compensate for weaker effects if it can reach a greater number of people than an alternative campaign. This has important practical implications for choosing which issues to target in a communication campaign, and how. For example, all else being equal, it is easier to make forward progress in a communication campaign when there are little or no restraining forces generated by counter-campaigns. This derivation also raises the

important strategic question of how much to focus one's efforts on increasing driving forces versus decreasing restraining forces. For instance, in some cases it may be an efficient strategy to spend some resources on preemptively refuting common misinformation or tactics (Compton, 2013).

Consider, again, the GOTV intervention example to illustrate the relationship between reach and effect (assuming equal durability, for now). If door-to-door canvassing produces one new vote per 14 contacts and volunteer phone-banking produces one new vote per 35 contacts (Green & Gerber, 2019), a campaign would need to make 2.5 times the number of contacts ($((1/14)/(1/35) = 2.5)$) via phone in order to produce the same number of new votes as door-to-door canvassing. Although this example leaves other factors out (e.g., the cost of training volunteers, getting access to phone-banking software, etc.), they could easily be incorporated into the framework and help researchers and practitioners decide on their strategic course of action. Our main point here is that reach and effect are *interchangeable* such that a campaign could achieve the same outcome by reaching more people with lesser effect, or by reaching fewer people with greater effect.

The role of durability is more complicated because (in)adequate durability is determined by the intervention and outcome of interest. For example, once an intervention has caused someone to vote in an election, no more resources should be spent on that person if the only goal of the intervention was that single act of voting. However, for get-out-the-vote campaigns with long-term goals, it's important to know whether treatment effects last, and to incorporate an estimate of durability into the overall strategic plan. The value of this information is evident in research showing that, once someone has been experimentally induced to vote in an election, they are much more likely to vote in later elections, even without a continued treatment (see Coppock & Green, 2016; Gerber et al., 2003). Thus, all else equal, if two interventions are equal in effect and reach, durability should guide the overall strategy and the decision to take one route over another.

Durability is not equally important in all situations. The framework raises the important question of *when* the intervention happens relative to the outcome of interest. That is, in order to meaningfully count towards the driving or restraining forces, effects must last until the deciding point of success or failure that is specific to that context (election day, a vaccination appointment, etc.). Consider an example of the following approach to fighting misinformation about COVID-19: researchers showed that people share false information about the disease because they fail to think about accuracy (Pennycook et al., 2020). When social media posts included a nudge to think about the accuracy of posts about COVID-19, people were substantially less likely to share false claims. Thus, because the intervention was implemented directly before people's decision about whether to share information, it need not last longer than a few seconds. This type of built-in, on-platform intervention also has the advantage of high reach: it can be automatically attached to millions of posts. However, this type of on-platform intervention is subject to the potential restraining force of social media companies' resistance to implementing it. An alternative strategy to fighting misinformation would be to teach digital media literacy directly to the public (Guess et al., 2020). This alternative strategy might circumvent the potential restraining force of opposition from social media companies, but the tradeoff is that it would require a much

more durable effect on each individual in order to be successful. The effect would have to continuously remain with the individuals as they go on to engage with media long after the intervention. Such tradeoffs are essential to strategic decision-making in the context of communication campaigns.

The importance of durability becomes clearer when a communication campaign has multiple interdependent goals (e.g., raise awareness, increase policy support), or when the campaign faces restraining forces such as opposing communication efforts (Goldberg, Gustafson, & van der Linden, 2020). When substantial restraining forces are expected, durability is essential to guiding strategy because any positive treatment effects could be continually canceled out by ongoing opposing efforts. Consider two different messaging strategies that yield the same estimate for reach $\times$ effect: Intervention A that reaches fewer people with greater effect, and Intervention B that reaches more people with lesser effect. Suppose that Treatment A has larger effects because there was deeper engagement with the information through careful, deliberate thought, as opposed to shallow, heuristic processing induced by Treatment B. Much research indicates that persuasion via deep, careful processing is more durable (e.g., Chong & Druckman, 2010, 2013; Petty & Cacioppo, 1986). Without considering durability, Intervention A and B appear to have the same net effect. But, in this example, Treatment A is substantially more likely to have durable treatment effects and therefore should guide the preferred strategy.

The importance of durable interventions is further highlighted by the research on counter-framing effects. Chong and Druckman (2013) manipulated whether respondents formed weak or strong attitudes about a political topic (i.e., the Patriot Act) and tested after 10-14 days how they responded to information that contradicted their position at time 1. Results showed that attitudes that were induced to be formed more strongly were substantially more resistant to later challenges to those attitudes. Attitudes that were weakly formed at time 1 remained highly malleable, and hence much more vulnerable to counter-persuasion effects (also see Chong & Druckman, 2007, 2010). These results are especially important when interpreting them through the lens of our framework for strategic communication campaigns. Across the different levels of processing depth, time 1 attitudes were very similar, which gives the impression that both approaches are equally effective. However, for people who formed strong initial attitudes, the time 1 effect was mostly retained, whereas for people who formed weak initial attitudes, most of the time 1 effect diminished. This means that, when considering reach $\times$ effect $\times$ durability of each intervention, the intervention that leads to the formation of stronger attitudes at the outset is more resistant to counter-persuasion and is therefore the preferred long-run approach.

Together, the implications of this framework focus on the interplay of reach, effect, and durability in determining the driving and restraining forces, which in turn determine the total effect of a strategic communication campaign. For practical and strategic settings, this framework also emphasizes the importance of the myriad tradeoffs that are necessary to consider when allocating limited resources to the implementation of a communication campaign. Regarding scientific research, this framework can identify and specify important knowledge gaps that are left vacant when researchers only focus on immediate

measurements of effects in experiments that artificially force 100% reach within a sample. Related, this is why longitudinal field experiments are uniquely valuable: they incorporate durability through longitudinal measurement, reach through a field setting, and effect through an experimental design.

Looking Back and Looking Forward: Case Uses of the Framework

Thus far, we have distilled impacts of strategic communication campaigns into key components: driving and restraining forces, each comprising the interplay between reach, effect, and durability. Two additional goals of this framework are to 1) make it easier to diagnose the reasons for success or failure of a communication campaign, and 2) serve as a guide for the design and implementation of future campaigns. These goals are consistent with two types of approaches to strategy: learning by testing (i.e., *emergent strategy*) and *a priori* planning (i.e., *deliberate strategy*; van Ruler, 2018). In this section, we first use the framework to assess a previous anti-tobacco campaign (“looking back”), and then we describe how the framework can be applied as a strategic guide to climate change communication (“looking forward”). We use these issues as case studies that illustrate how researchers and practitioners might use this framework to guide their own efforts.

Looking Back: The Case of an Anti-Tobacco Campaign

Tobacco use has been an enormous public health problem for decades, and continues to be one of the leading causes of death around the world. The World Health Organization estimates that more than seven million people die each year because of tobacco use (World Health Organization, 2017). Thus, it is urgent to implement effective interventions that reduce smoking, or prevent people from starting.

Interventions can reduce the number of smokers in many different ways, such as providing pharmacological drugs, increasing regulations or taxes on tobacco products, educational campaigns, and more. Clearly, strategic communication campaigns are just one piece to a much larger public health challenge. Thus, any case study will give an incomplete picture of the challenge at hand. However, we find a strategic communication campaign approach helpful for illustrating how researchers and practitioners might use our proposed framework.

We focus on one analysis of the Teen Reach program—a campaign in the late 1990s that aimed to reduce tobacco use among teens in two cities in the United States (Hollis et al., 2005). Teens were approached during a visit to their doctor, and those who chose to participate were randomly assigned to the treatment or control group. The treatment started with brief clinician advice that encouraged smoking teens to quit smoking and nonsmoking teens to avoid starting. Then teens participated in a computer program that assessed their susceptibility to begin smoking (for nonsmokers) or their readiness to quit smoking (for smokers). The program then delivered a tailored message that aimed to motivate teens to avoid smoking. The final part of the intervention included a short motivational counseling session with a health counselor.

The intervention was successful in reducing the proportion of teen smokers, compared to non-smokers. After one year, the proportion of smokers in the treatment group dropped by about four percentage points. This effect size remained about the same at the two-year

follow-up.

Although the intervention was successful in several respects, our framework can help raise important additional questions, identify areas for improvement, and contextualize the findings. To do this, let's first examine the details of this intervention through the lenses of reach, effect, and durability.

Reach refers to the proportion of the target population that are actually treated with the intervention. This motivates us to consider how this intervention might be applied beyond this study's sample by scaling the intervention up to target the full population of interest. Precisely defining the target population already raises important considerations. If it is defined as teens living in the United States (or in select cities), we see that this intervention, as currently designed, can only reach a smaller subsample of this population: teens living in the United States *who visit the doctor*. It's plausible to expect that treatment effects might differ for teens who do versus do not visit their healthcare provider. Additionally, access to a healthcare provider at all can be an important factor in understanding who could stand to gain the most from the intervention. Further, understanding the potential reach of this intervention makes clearer how this intervention might compare to alternative interventions (e.g., public service announcements in mass media, outreach at high schools, messaging in stores where cigarettes are sold).

Further clarifying the proportion of the target population that received the Hollis et al. (2005) intervention, we see in the study that 67% of the teens approached at the doctor opted to participate in the study. This raises another important research question: are teens who opted into the study more willing to be persuaded by the intervention? Further, what are the best ways to maximize participation in the intervention? Asking and answering these important questions about reach helps to contextualize the potential for broader impacts of this type of intervention. Although no single study could answer all of these questions simultaneously, our strategic communication framework makes it easier to identify the most important questions that need answering.

Effect, in the current Hollis et al., (2005) study context, refers to the proportion of the people who receive the intervention that become (or remain) smoke-free as a result. A common effect-based question is whether the intervention was more effective for some people than others. The study found that, among teens who were nonsmokers at baseline, the proportion of those who remained smoke-free was three percentage points higher for teens in the treatment group compared to those in the control group. The effect was much larger for teens who were smokers at baseline: the intervention led to a 15 percentage point increase in those who were smoke-free at the one year follow-up. There was no effect at all among teens who described themselves as experimenters—those who reported at baseline that they had smoked in the past 30 days but did not consider themselves to be smokers. These large differences in treatment effects raises the important question of why, and what we can do about it. The authors raise an interesting potential explanation for the non-effect among teens experimenting with smoking: they fail to appreciate how addicting it is. If this is the case, interventions can be designed for this subgroup that specifically addresses the gap between the perceived and actual vulnerability to smoking addiction. Identifying explanations for why studies like this find different treatment effects among subgroups is

an important step toward further refining interventions to maximize their impact, depending on the person's baseline smoking status.

One component of durability is how long the intervention effects last. By this definition, the treatment effects observed by Hollis et al. (2005) were durable. Among the full sample and among subgroups for which an effect was observed, the treatment effects observed after one year were very similar to those observed after two years. Considering the time points of the study—initial treatment administration, and follow-ups at one and two years—raises research questions about the trajectory of the treatment effect durability. Clearly, there was little decay between one and two years, as the effect sizes were very similar. However, the study leaves unknown whether the intervention had stronger effects in the days immediately following the treatment, and whether there was a discernible rate of decay between the treatment and the follow-up at one year. Again, there are limitations to what one could do in any given study. But the current framework raises important research and strategic questions about whether the intervention is more likely to last for some teens than others, and whether it is because the treatment wears off, because of restraining forces (e.g., peer influence, pro-tobacco messaging), or some combination of both.

An important step towards building on interventions like the Teen Reach program is to more fully consider the role of restraining forces. Bans on advertising and marketing tobacco products in the United States were likely influential steps because they mitigated key restraining forces (tobacco advertising). That is, they significantly reduced tobacco companies' ability to counteract campaigns like the Teen Reach program. Of course, though, other restraining forces remain. Some include the inherent difficulty in beating addiction, peer pressure, and role models. In any case, the current framework makes clear that a campaign's degree of success (or lack thereof) depends in part on the strength of the restraining forces. If a person were to consider only driving forces, that could lead them to believe that a campaign failed because the treatment is not effective, when it could have been that the restraining forces were too strong.

We realize that every study has practical, time, and financial constraints, so it is not reasonable to expect any study to simultaneously address all considerations raised by this framework. However, our goal in this section was to illustrate how we can use this framework to distill and contextualize research findings in order to raise important research and strategic questions. Next, we examine how the framework could also be used as a forward-looking tool for helping a hypothetical advocacy organization anticipate barriers, allocate resources, and incorporate strategic assessments as they design a communication campaign on the topic of climate change.

Looking Forward: The Case of Climate Change Communication

Climate change is one of the most significant and universal threats that humans currently face, as it presents severe environmental, geo-political, economic, social justice, and public health risks. Although we possess enough scientific knowledge and technological solutions to mitigate the worst of these dangers, the issue has become largely a *social* problem—such that the primary obstacles are ignorance, apathy, politicization, disinformation, competing goals, or some combination thereof. Therefore, effective communication is needed to inform, persuade, and motivate individuals and key decision-makers. Many nonprofit

organizations, political groups, companies, and scientists are actively seeking to use public communication campaigns to accomplish these goals.

Imagine a hypothetical environmental advocacy organization, Climate Collaborators, that aims to increase public awareness, support, and action on climate change. Let's say they plan to launch a communication campaign designed to motivate residents of a large metropolitan area in the United States to take action in the form of voting for an upcoming local pro-climate ballot initiative. Their target audience is adults with mild or latent pro-environmental views, not those who are already highly engaged or those who overtly reject climate science. Climate Collaborators plans to use phone-banking by community members to highlight the local-level impacts of climate change on public health and the local economy, and to present the upcoming ballot initiative as an important solution to these local problems. Their team has already designed some nonpartisan, apolitical scripts and talking points emphasizing that taking action on climate change is about improving life for your community, your family, yourself, and the future. As with many campaigns, they have set a clear definition for what success would look like: 5,000 new pro-climate votes on the ballot initiative. Although this message content and the campaign's goal may be well-crafted, this article's strategic communication campaign framework identifies several other important aspects of the campaign that Climate Collaborators must consider.

Climate Collaborators is already focused on understanding the effect of the messages among those who are reached. Prior research may have shown them that their intervention positively affects voting intentions. However, they should also consider that actual behavior is more difficult to influence than attitudes or intentions. Further, the precise size of the effect on actual voting behavior is an integral consideration when planning the campaign. On average, phone-banking might create one new vote per 35 contacts (Green & Gerber, 2019). But is this effect large enough to achieve the goal of the campaign, given this campaign's reach?

As such, Climate Collaborators must also consider the reach of the campaign. How many people must be reached to achieve the campaign's success conditions? This can be found by working backwards from the desired goal (5,000 votes), using the anticipated effect of the intervention per person reached (1 vote per 35 contacts) to estimate that 175,000 people in the target audience should be contacted. This level of reach might be difficult to achieve, given limited time and resources of Climate Collaborators and given limited time and attention of their audience. However, perhaps horizontal, networked, and viral communication patterns could be leveraged to increase reach. Or, perhaps Climate Collaborators will decide the best way to reach their goal is to supplement the phone-banking with online advertisements, which might have a smaller effect per contact but might overcome this limitation with its much larger reach and precise targeting capabilities. By incorporating these strategic considerations before implementing the campaign, Climate Collaborators is more likely to achieve their goals than if they mostly focused on crafting the message content.

Further, Climate Collaborators must consider the durability of these effects. For the campaign to achieve its goals, it is necessary for the persuasive effect to persist to the time at which votes can be cast. This might be days, weeks, or months from the moment of the

intervention. Without a durable effect, the intervention (and the resources spent) is wasted—because an effect that fades before a vote can be cast ultimately accomplishes nothing for the total impact of the campaign (aside from potential horizontal communication in the interim).

When researching and developing possible scripts and talking points prior to the campaign, Climate Collaborators could use a longitudinal experiment to evaluate—after a delay of some time—how memorable the intervention was, how much of the persuasive effect lasts, and whether the effect is resistant to competing information. Such testing might help them decide between options for the message. Imagine Message A that presents an emotional, fear-based appeal that has substantial immediate effects but low durability once the emotions fade, while Message B that emphasizes community identity and stewardship values has moderate immediate effects but high durability. If durability were not considered in the message development phase of this campaign, then Climate Collaborators might mistakenly decide that Message A is the best option, being unaware of the transience of its effect. This could cause the campaign to fail if the effect is not durable enough to produce actual votes on the ballot initiative sometime in the future.

Climate Collaborators should also consider that the driving force of the campaign comprises much more than just the intervention itself. There may be other forces that function as tailwinds that may boost the campaign toward its goals. For example, current events like extreme weather, the broader political context, or news of innovations in sustainable technology could all have positive effects on the target audience's voting behavior, and each of these has their own reach, effect, and durability. Similarly, factors internal to members of the target audience can contribute to the driving force, such as perceived pro-environmental social norms and pre-existing beliefs, values, or ideologies that support pro-environmental action.

In addition to all of these opportunities for maximizing the driving force, Climate Collaborators must also consider the restraining forces at play. A potential restraining force might be a coordinated oppositional communication campaign, as was the case when the fossil fuel industry spent millions of dollars to successfully defeat pro-environmental ballot initiatives in three states (Aronoff, 2018). A situation like this would necessitate a strategic decision of how much effort to spend on offense versus defense. If such a misinformation campaign has high reach, effect, and durability (resulting in a substantial total impact), then defense may be more important than offense. That is, it may be more important to allocate resources to reducing this restraining force through “prebunking” or “inoculation” efforts (e.g., Lewandowsky & van der Linden, 2021; Roozenbeek & van der Linden, 2019; van der Linden et al., 2017) than to increase one's own driving force. A helpful analogy is that in some situations it may be more important to release the brake than to press harder on the accelerator. It may also be that the necessary mix of offense and defense varies within the target audience, since some segments of the audience might have higher exposure or susceptibility to the oppositional communication campaign, thus needing a stronger defensive approach than other audience segments.

Further, there are also inherent restraining forces that tend to have high reach and durability. For example, Gifford (2011) describes many “dragons of inaction”—human

psychological tendencies that hinder action on environmental issues, such as judgmental discounting (downplaying future or distant threats) and technosavation (the assumption that future technological innovations will save us from our problems). In addition to these internal barriers, there are also external barriers that comprise the restraining force. For example, even among those who are persuaded to have a strong desire to vote on the pro-climate ballot initiative, some portion of them will be unable to follow through due to limited time or inability to actually go to vote.

Without explicitly considering these many driving and restraining forces, and the reach, effect, and durability of each, it would be very easy for Climate Collaborators to design and deploy their campaign with a flawed estimate of its likely impact. Assuming that a persuasive message will result in a successful campaign may lead to a large overestimation of the campaign's impact if there is low reach, low durability, and/or high restraining forces. Similarly, assuming that high reach (e.g., content that goes viral on social media) equates to success may also be inaccurate if there is low effect, low durability, and/or high restraining forces.

When using this framework to design strategic communication campaigns, a broad interacting ecosystem of factors is illuminated.

Caveats

What We Do Not Claim

In addition to explaining the framework and its implications, it is important to make clear what we are *not* claiming, and to note important caveats for readers to consider. First and foremost, this framework is not an attempt to perfectly describe reality, but rather is designed to serve as a tool for navigating practical strategic problems. That is, in many ways, this framework reflects our pragmatist approach to conducting science. Theories, frameworks, and models are tools for human use, and part of their value is determined by the user experience. Shoemaker et al. (2003) note that—in addition to their truth value—theories can be evaluated for their heuristic value, idea-generation, aesthetics, and feasibility, which are largely in the eye of the beholder (Dennett, 1991; Yarkoni, 2020). Such considerations help remind us that one of the central purposes of theories is to provide value to *people* in our various activities and pursuits, not necessarily to maximize performance as a description of an objective reality. This does not necessarily mean that nothing is real or that we should not pursue empirical work. Rather, much like maps, many theoretical frameworks can be used to solve real-world problems despite themselves not literally mirroring reality—and sometimes even *because* they are not.

Following this same pragmatist logic, we emphasize that, although we discuss the relationship between concepts using mathematical operators (i.e., multiplication and addition), we do not claim that this framework serves as a mathematical formula for calculating the outcomes of strategic communication campaigns. In some special situations it might make sense to use the mathematical operators discussed in this framework to make strategic decisions, as in our get-out-the-vote example explained above. But the larger point is that these mathematical expressions are metaphors to describe the relationships between

components of the framework.

Another important caveat to consider is that this framework is not meant to replace specific content-area expert knowledge. That is, this framework cannot identify the best arguments to include in a message, the specific barriers that stand in the way, which tactics to consider, or which forms of opposition a campaign will face. Identifying these elements is an important goal for formative, content-specific research. This step—analyzing the situation—is usually seen as a first step that informs strategy (e.g., Smith, 2017; van Ruler, 2018). We anticipate that the best use of this framework is to work in combination with context-specific insights to solve strategic problems.

Further, we recognize that the applicability and value of this framework will vary across contexts and situations. We mainly draw on strategic approaches to *public science communication* because these are contexts in which strategic communication campaigns are particularly important, considering the harmful consequences of communication that is misguided, inaccurate, or missing (Lewis & Wai, 2020). However, we anticipate the components and processes presented in this framework are widely applicable in many other contexts. For example, strategists and stakeholders in business and politics can similarly use this theoretical framework to distill the extant research, identify which open questions remain, explain the success or failure of past communication campaigns, and develop successful campaigns for the future. But the degree of this framework's applicability and usefulness may vary greatly across diverse strategic communication situations.

Falsifiability

It is important to keep in mind that some aspects of this framework have low testability and therefore low falsifiability. For example, the claim that driving and restraining forces are each determined by their respective reach, effect, and durability may be unfalsifiable because reach, effect, and durability are themselves defined as being aspects of those forces. Further, some of the key uses of the framework might often focus on claims that are unfalsifiable. For example, if a communication campaign fails to achieve its goals, this framework may be helpful as an interpretive guide for identifying potential reasons for its failures (e.g., low durability, high restraining forces), even though such post-hoc explanations are rarely falsifiable. For these—and other—reasons, we specifically avoid referring to this framework as a formal “theory.” Further, we continue to emphasize that this framework is best used as a map for situating extant theory and research, and as a general framework for understanding the interacting forces that determine the overall effects of strategic communication campaigns. That is, this framework is useful for many practical purposes despite some elements being difficult to test or falsify.

Conclusion

To successfully design, implement, evaluate, and/or study strategic communication campaigns, researchers and practitioners must consider a variety of interacting forces. The framework presented in this article constitutes a guide for understanding the key forces and the nature of their relationships. Specifically, this framework explains how the reach, effect, and durability of the driving and restraining forces, respectively, collectively determine the total impact of a strategic communication campaign. Key theoretical contributions include

the functional interchangeability between driving and restraining forces, and between reach, effect, and durability. For practical applications, this framework can help diagnose potential reasons for the degree of success or failure of past campaigns, and can also guide the design of future campaigns.

Further, this framework provides an organizing tool that distills and clarifies the relationships between a large amount of existing research on the effects of strategic communication campaigns that has been conducted across many fields. For example, a single experiment testing the effect of a communication intervention can be understood as plugging into a specific location in the framework (the effect of a driving force), while another study on the spread of disinformation can be understood as speaking to a different component of the system (the reach of a restraining force). The framework makes explicit the conceptual relationships between these and many other diverse areas of research. Also, reviews of the effects of communication (e.g., Banas & Rains, 2010; Gustafson & Rice, 2020; Noar et al., 2009) could use this framework to identify the ways in which a body of research has or has not been addressing both driving and restraining forces, as well as reach, effect, and durability. Such insights can highlight persisting knowledge gaps or understudied questions.

As such, this framework can also guide the questions researchers choose to ask and answer. Most empirical research on the impact of strategic messaging only measures effects immediately after the message (therefore not considering durability), artificially forces 100% reach in the audience of study participants (therefore not considering reach), and most does not consider the many restraining forces that exist in noisy, complex, and competitive real-world environments. Although there are notable exceptions to this paradigm (e.g., Allcott, 2011; Broockman & Kalla, 2016; Chong & Druckman, 2013; Gerber & Green, 2012; Goldberg et al., 2021; Goldberg et al., 2022; Gustafson et al., 2022; Kalla & Broockman, 2020; Maertens et al., 2020; Mousa, 2020; Paluck, 2009), they are relatively uncommon. The present framework highlights the importance of explicitly considering these elements in research and practice by explaining how the reach, durability, and restraining forces are just as essential as the campaign's "effect" in determining the true impact of a strategic communication campaign.

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References

- Abaluck, J., Kwong, L., Styczynski, A., Haque, A., Kabir, Md. A., Bates-Jefferys, E., Crawford, E., Benjamin-Chung, J., Benhachmi, S., Raihan, S., Rahman, S., Zaman, N., Winch, P., Hossain, Md. M., Reza, H. M., Luby, S., & Mobarak, A. M. (2021). Normalizing community mask-wearing: A cluster randomized trial in bangladesh. *National Bureau of Economic Research*. <https://doi.org/10.3386/w28734>
- Allcott, H. (2011). Social norms and energy conservation. *Journal of Public Economics*, 95(9), 1082–1095. <https://doi.org/10.1016/j.jpubeco.2011.03.003>
- Aronoff, K. (2018, November 7). *The Fossil Fuel Industry Spent \$100 Million to Kill Green Ballot Measures in Three States—And Won*. The Intercept. <https://theintercept.com/2018/11/07/midterm-elections-green-ballot-measures-fossil-fuel/>
- Bakshy, E., Rosenn, I., Marlow, C., & Adamic, L. (2012). The role of social networks in information diffusion. *Proceedings of the 21st International Conference on World Wide Web - WWW '12*, 519–528. <https://doi.org/10.1145/2187836.2187907>
- Banas, J. A., & Rains, S. A. (2010). A meta-analysis of research on Inoculation Theory. *Communication Monographs*, 77(3), 281–311. <https://doi.org/10.1080/03637751003758193>
- Berinsky, A. J., Margolis, M. F., & Sances, M. W. (2014). Separating the shirkers from the workers? Making sure respondents pay attention on self-administered surveys. *American Journal of Political Science*, 58(3), 739–753. <https://doi.org/10.1111/ajps.12081>
- Bokemper, S. E., Cucciniello, M., Rotesi, T., Pin, P., Malik, A. A., Willebrand, K., Paintsil, E. E., Omer, S. B., Huber, G. A., & Melegaro, A. (2021). Experimental evidence that changing beliefs about mask efficacy and social norms increase mask wearing for COVID-19 risk reduction: Results from the United States and Italy. *PLOS ONE*, 16(10), e0258282. <https://doi.org/10.1371/journal.pone.0258282>
- Box, G. E. P. (1976). Science and statistics. *Journal of the American Statistical Association*, 71(356), 791–799. <https://doi.org/10.1080/01621459.1976.10480949>
- Broockman, D., & Kalla, J. (2016). Durably reducing transphobia: A field experiment on door-to-door canvassing. *Science*, 352(6282), 220–224.
- Chong, D., & Druckman, J. N. (2007). A theory of framing and opinion formation in competitive elite environments. *Journal of Communication*, 57(1), 99–118. <https://doi.org/10.1111/j.1460-2466.2006.00331.x>
- Chong, D., & Druckman, J. N. (2010). Dynamic public opinion: Communication effects over time. *American Political Science Review*, 104(4), 663–680. <https://doi.org/10.1017/S0003055410000493>
- Chong, D., & Druckman, J. N. (2013). Counterframing effects. *The Journal of Politics*, 75(1), 1–16. <https://doi.org/10.1017/S0022381612000837>
- Compton, J. (2013). Inoculation theory. *The Sage Handbook of Persuasion: Developments in Theory and Practice*, 2, 220–237.
- Cook, J., Lewandowsky, S., & Ecker, U. K. H. (2017). Neutralizing misinformation through inoculation: Exposing misleading argumentation techniques reduces their influence. *PLOS ONE*, 12(5), e0175799. <https://doi.org/10.1371/journal.pone.0175799>
- Cook, J., Oreskes, N., Doran, P. T., Anderegg, W. R. L., Verheggen, B., Maibach, E. W., Carlton, J. S., Lewandowsky, S., Skuce, A. G., Green, S. A., Nuccitelli, D., Jacobs, P., Richardson, M., Winkler, B., Painting, R., & Rice, K. (2016). Consensus on consensus: A synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, 11(4), 048002. <https://doi.org/10.1088/1748-9326/11/4/048002>
- Coppock, A. E. (2016). *Positive, small, homogeneous, and durable: Political persuasion in response to information* [Columbia University]. <https://doi.org/10.7916/D8J966CS>
- Coppock, A., Ekins, E., & Kirby, D. (2018). The long-lasting effects of newspaper op-eds on public opinion. *Quarterly Journal of Political Science*, 13(1), 59–87. <https://doi.org/10.1561/100.00016112>
- Coppock, A., & Green, D. P. (2016). Is voting habit forming? New evidence from experiments and regression discontinuities. *American Journal of Political Science*, 60(4), 1044–1062. <https://doi.org/10.1111/ajps.12210>
- Dennett, D. C. (1991). Real patterns. *The Journal of Philosophy*, 88(1), 27–51. <https://doi.org/10.2307/2027085>
- Druckman, J. N., Levendusky, M. S., & McLain, A. (2018). No need to watch: How the effects of partisan media can spread via interpersonal discussions. *American Journal of Political Science*, 62(1), 99–112. <https://doi.org/10.1111/ajps.12325>
- Fishbein, M., & Ajzen, I. (2011). *Predicting and changing behavior: The reasoned action approach*. Taylor & Francis.
- Freedman, L. (2015). *Strategy: A history*. Oxford University Press.
- Fried, E. I. (2020). Theories and models: What they are, what they are for, and what they are about. *Psychological Inquiry*, 31(4), 336–344. <https://doi.org/10.1080/1047840X.2020.1854011>
- Gabel, M., & Scheve, K. (2007). Estimating the effect of elite communications on public opinion using instrumental variables. *American Journal of Political Science*, 51(4), 1013–1028. <https://doi.org/10.1111/j.1540-5907.2007.00294.x>
- Gerber, A. S., & Green, D. P. (2012). *Field experiments: Design, analysis, and interpretation*. WW Norton.

- Gerber, A. S., Green, D. P., & Shachar, R. (2003). Voting may be habit-forming: Evidence from a randomized field experiment. *American Journal of Political Science*, 47(3), 540–550. <https://doi.org/10.1111/1540-5907.00038>
- Gifford, R. (2011). The dragons of inaction: Psychological barriers that limit climate change mitigation and adaptation. *American Psychologist*, 66(4), 290–302. <https://doi.org/10.1037/a0023566>
- Goldberg, M. H., Gustafson, A., Maibach, E. W., Ballew, M. T., Bergquist, P., Kotcher, J. E., Marlon, J. R., Rosenthal, S. A., & Leiserowitz, A. (2020). Mask-wearing increased after a government recommendation: A natural experiment in the U.S. during the COVID-19 pandemic. *Frontiers in Communication*, 5(44). <https://doi.org/10.3389/fcomm.2020.00044>
- Goldberg, M. H., Gustafson, A., Rosenthal, S. A., & Leiserowitz, A. (2021). Shifting Republican views on climate change through targeted advertising. *Nature Climate Change*, 11(7), 573–577. <https://doi.org/10.1038/s41558-021-01070-1>
- Goldberg, M. H., Gustafson, A., & van der Linden, S. (2020). Leveraging social science to generate lasting engagement with climate change solutions. *One Earth*, 3(3), 314–324. <https://doi.org/10.1016/j.oneear.2020.08.011>
- Goldberg, M. H., Gustafson, A., van der Linden, S., Rosenthal, S. A., & Leiserowitz, A. (2022). Communicating the scientific consensus on climate change: Diverse audiences and effects over time. *Environment and Behavior*, 00139165221129539. <https://doi.org/10.1177/00139165221129539>
- Green, D. P., & Gerber, A. S. (2019). *Get out the vote: How to increase voter turnout*. Brookings Institution Press.
- Guess, A. M., Lerner, M., Lyons, B., Montgomery, J. M., Nyhan, B., Reifler, J., & Sircar, N. (2020). A digital media literacy intervention increases discernment between mainstream and false news in the United States and India. *Proceedings of the National Academy of Sciences*, 117(27), 15536–15545. <https://doi.org/10.1073/pnas.1920498117>
- Gustafson, A., & Goldberg, M. (2018). *Even Americans highly concerned about climate change dramatically underestimate the scientific consensus*. Yale University. New Haven, CT: Yale Program on Climate Change Communication. <https://climatecommunication.yale.edu/publications/even-americans-highly-concerned-about-climate-change-dramatically-underestimate-the-scientific-consensus/>
- Gustafson, A., Goldberg, M. H., Bergquist, P., Lacroix, K., Rosenthal, S. A., & Leiserowitz, A. (2022). The durable, bipartisan effects of emphasizing the cost savings of renewable energy. *Nature Energy*, 1–8. <https://doi.org/10.1038/s41560-022-01099-2>
- Gustafson, A., & Rice, R. E. (2020). A review of the effects of uncertainty in public science communication. *Public Understanding of Science*, 0963662520942122. <https://doi.org/10.1177/0963662520942122>
- Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, 48(1), 400–407. <https://doi.org/10.3758/s13428-015-0578-z>
- Hollis, J. F., Polen, M. R., Whitlock, E. P., Lichtenstein, E., Mullooly, J. P., Velicer, W. F., & Redding, C. A. (2005). Teen reach: Outcomes from a randomized, controlled trial of a tobacco reduction program for teens seen in primary medical care. *Pediatrics*, 115(4), 981–989. <https://doi.org/10.1542/peds.2004-0981>
- Iyengar, R., Van den Bulte, C., & Valente, T. W. (2011). Opinion leadership and social contagion in new product diffusion. *Marketing Science*, 30(2), 195–212. <https://doi.org/10.1287/mksc.1100.0566>
- Kalla, J. L., & Broockman, D. E. (2020). Reducing exclusionary attitudes through interpersonal conversation: Evidence from three field experiments. *American Political Science Review*, 114(2), 410–425. <https://doi.org/10.1017/S0003055419000923>
- Kane, J. V., & Barabas, J. (2019). No harm in checking: Using factual manipulation checks to assess attentiveness in experiments. *American Journal of Political Science*, 63(1), 234–249. <https://doi.org/10.1111/ajps.12396>
- Katz, E., & Lazarsfeld, P. F. (1955). *Personal influence: The part played by people in the flow of mass communications*. Free Press.
- Kruglanski, A. W. (2004). The quest for the gist: On challenges of going abstract in social and personality psychology. *Personality and Social Psychology Review*, 8(2), 156–163. https://doi.org/10.1207/s15327957pspr0802_9
- Kruglanski, A. W., Bélanger, J. J., Chen, X., Köpetz, C., Pierro, A., & Mannetti, L. (2012). The energetics of motivated cognition: A force-field analysis. *Psychological Review*, 119(1), 1–20. <https://doi.org/10.1037/a0025488>
- Latane, B. (1981). The psychology of social impact. *American Psychologist*, 36(4), 343–356.
- Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Carman, J., Wang, X., Goldberg, M., Lacroix, K., & Marlon, J. (2021). *Climate change in the American mind: December 2020*. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication.
- Lewandowsky, S., & van der Linden, S. (2021). Countering misinformation and fake news through inoculation and prebunking. *European Review of Social Psychology*, 1–38. <https://doi.org/10.1080/10463283.2021.1876983>
- Lewis, N., & Wai, J. (2020). Communicating what we know and what isn't so: Science communication in psychology. *Perspectives on Psychological Science*, 16(6), 1242–1254.

- Maertens, R., Roozenbeek, J., Basol, M., & van der Linden, S. (2020). Long-term effectiveness of inoculation against misinformation: Three longitudinal experiments. *Journal of Experimental Psychology: Applied*. <https://doi.org/10.1037/xap0000315>
- Mathews. (2020, October 1). *Does knocking on doors really help get out the vote in elections?* <https://www.vox.com/21366036/canvass-ground-game-turnout-gotv-phone-bank-tv-ads-mailers>
- McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36(2), 176–187.
- McCombs, M. E., Shaw, D. L., & Weaver, D. H. (2014). New directions in agenda-setting theory and research. *Mass Communication and Society*, 17(6), 781–802. <https://doi.org/10.1080/15205436.2014.964871>
- McGrath, J. E. (1982). *Dilemmas: The study of research choices and dilemmas*. Beverly Hills, CA: Sage.
- McGuire, W. J. (1993). The big one. *Psychological Inquiry*, 4(4), 370–378.
- Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, 369(6505), 866–870. <https://doi.org/10.1126/science.abb3153>
- Nickerson, D. W. (2008). Is voting contagious? Evidence from two field experiments. *American Political Science Review*, 102(1), 49–57. <https://doi.org/10.1017/S0003055408080039>
- Noar, S. M., Palmgreen, P., Chabot, M., Dobransky, N., & Zimmerman, R. S. (2009). A 10-year systematic review of HIV/AIDS mass communication campaigns: Have we made progress? *Journal of Health Communication*, 14(1), 15–42. <https://doi.org/10.1080/10810730802592239>
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45(4), 867–872. <https://doi.org/10.1016/j.jesp.2009.03.009>
- Oreskes, N., & Conway, E. M. (2011). *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming*. Bloomsbury Publishing USA.
- Paluck, E. L. (2009). Reducing intergroup prejudice and conflict using the media: A field experiment in Rwanda. *Journal of Personality and Social Psychology*, 96(3), 574–587. <https://doi.org/10.1037/a0011989>
- Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., & Rand, D. G. (2020). Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy-nudge intervention. *Psychological Science*, 31(7), 770–780. <https://doi.org/10.1177/0956797620939054>
- Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model of Persuasion. In R. E. Petty & J. T. Cacioppo (Eds.), *Communication and Persuasion: Central and Peripheral Routes to Attitude Change* (pp. 1–24). Springer. https://doi.org/10.1007/978-1-4612-4964-1_1
- Prior, M. (2013). Media and political polarization. *Annual Review of Political Science*, 16(1), 101–127. <https://doi.org/10.1146/annurev-polisci-100711-135242>
- Rode, J. B., Dent, A. L., Benedict, C. N., Brosnahan, D. B., Martinez, R. L., & Ditto, P. H. (2021). Influencing climate change attitudes in the United States: A systematic review and meta-analysis. *Journal of Environmental Psychology*, 76, 101623. <https://doi.org/10.1016/j.jenvp.2021.101623>
- Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of Innovations; A Cross-Cultural Approach*.
- Rogers, E. M., Singhal, A., & Quinlan, M. M. (2014). *Diffusion of innovations*. Routledge.
- Roozenbeek, J., & van der Linden, S. (2019). Fake news game confers psychological resistance against online misinformation. *Palgrave Communications*, 5(65), 1–10. <https://doi.org/10.1057/s41599-019-0279-9>
- Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1(1), 7–59. <https://doi.org/10.1007/BF00055564>
- Shoemaker, P. J., Jr, J. W. T., & Lasorsa, D. L. (2003). *How to Build Social Science Theories*. SAGE Publications.
- Smith, R. D. (2017). *Strategic Planning for Public Relations*. Routledge.
- Supran, G., & Oreskes, N. (2017). Assessing ExxonMobil's climate change communications (1977–2014). *Environmental Research Letters*, 12(8), 084019. <https://doi.org/10.1088/1748-9326/aa815f>
- van der Linden, S., Leiserowitz, A., Rosenthal, S., & Maibach, E. (2017). Inoculating the public against misinformation about climate change. *Global Challenges*, 1(2), 1600008. <https://doi.org/10.1002/gch2.201600008>
- Van Lange, P. A. M. (2013). What we should expect from theories in social psychology: Truth, abstraction, progress, and applicability as standards (TAPAS). *Personality and Social Psychology Review*, 17(1), 40–55. <https://doi.org/10.1177/1088868312453088>
- van Ruler, B. (2018). Communication theory: An underrated pillar on which strategic communication rests. *International Journal of Strategic Communication*, 12(4), 367–381. <https://doi.org/10.1080/1553118X.2018.1452240>
- Werder, K. P., Nothhaft, H., Verčič, D., & Zerfass, A. (2018). Strategic communication as an emerging interdisciplinary paradigm. *International Journal of Strategic Communication*, 12(4), 333–351. <https://doi.org/10.1080/1553118X.2018.1494181>

- Witte, K. (1992). Putting the fear back into fear appeals: The extended parallel process model. *Communication Monographs*, 59(4), 329–349. <https://doi.org/10.1080/03637759209376276>
- World Health Organization. (2017). *WHO report on the global tobacco epidemic, 2017: Monitoring tobacco use and prevention policies*. World Health Organization.
- Yarkoni, T. (2020). *Implicit realism impedes progress in psychology: Comment on Fried (2020)*. 31(4), 326–333.
- Zaller, J. R. (1992). *The Nature and Origins of Mass Opinion*. Cambridge University Press.
- Zerfass, A., Verčič, D., Nothhaft, H., & Werder, K. P. (2018). Strategic communication: Defining the field and its contribution to research and practice. *International Journal of Strategic Communication*, 12(4), 487–505. <https://doi.org/10.1080/1553118X.2018.1493485>