

Building Our Understanding: Key Concepts of Evaluation

Applying Theory in the Evaluation of Communication Campaigns

Evaluations of communication campaigns provide an opportunity to improve interventions as well as conduct research that is theoretically interesting (Valente, 2001). As health communication campaigns continue to grow in scope and level of sophistication (Lapinski & Witte, 1998), the task of evaluating campaigns becomes increasingly complicated. Researchers evaluating communication campaigns, for example, must decide on what standards to use to measure campaign success, strategies to determine how to separate outcome effects from other sources of influence, and expectations for the type of campaign effects across subpopulations (Hornik, 2002). Many researchers agree that theory-based evaluations are essential for dealing with this complexity. Besides guiding all stages of the evaluation from the formative study to the interpretation of results, theories provide powerful tools for a systematic inquiry of processes, such as behavior change in response to campaign messages that are essentially dynamic and multifaceted.

In order to change behavior, researchers need to understand why people behave the way they do when designing campaigns (Fishbein, Triandis, Kanfer, Becker, Middlestadt & Eichler, 2001). In other words, campaigns need to be based on theory. Providing the campaign with a theoretical base can both support its development and serve as a basis for its implementation and evaluation (Fishbein, Gunther-Grey, Johnson, Wolitski, McAlister, Reitmeijer, O'Reilly & The AIDS Community Demonstration Projects, 1997; Valente, 2001).

Fortunately, in the last decade in particular, much progress has been made on incorporating social science theory into both campaign design and evaluation, primarily in the health field. Indeed, evaluators are being encouraged to engage in theory testing and/or logic model development (Hornik & Yanovitzky, 2003). Findings from recent meta-analyses suggest that newer communication campaigns are increasingly utilizing theory (Noar, 2006). In addition, there has been great diversity in the theories being applied in this area, and many of the theories being used most often, including the Theory of Reasoned Action, Social Cognitive Theory, and the transtheoretical "Stages of Change" model, also are widely studied in the health behavior change literature (Noar & Zimmerman, 2005).

An evaluation research team typically consists of program staff in charge of program planning and a program evaluator. Often, the program evaluator is one of the few behavioral or social scientists on the project. Without a theorist on the team, the theory behind the project is likely to remain implicit from the start. The failure to acknowledge or discuss theory from the beginning risks wasting resources on message strategies that are not adequately linked to psychosocial predictors of behavior, and on performance measures that are off the mark (Yin, 2003; Cole, 1999). Thus, all program personnel should be involved in theory/logic model development so that the theoretical underpinnings of the project are grounded in more than evaluator assumptions (Noar, 2006).

Overview of Behavioral and Social Science Theories

The following theories and models have been used from the public health, social psychological, communications, and clinical disciplines. Many are theories about behavior change and the variables

that affect behavior change. While the theories are not described in great detail, this provides a brief overview of those that are available. It is important to note that an evaluation does not need to rely on just one theory. They can be used in combination, and many evaluations have integrated more than one of these into their designs (Cappella, Fishbein, Hornik, Ahern, & Sayeed, 2001; Fishbein et al., 1997).

Theory of Reasoned Action (Ajzen & Fishbein, 1980): This theory suggests that performance of a given behavior is primarily determined by the intention to perform that behavior. Two major factors influence those intentions—a person’s attitude toward the behavior and a person’s subjective norms about the behavior, or belief that the people important to the person think he or she should or should not perform the behavior. Attitudes and subjective norms are in turn influenced by behavioral and normative beliefs. This theory is one of the most frequently used in campaign evaluations. For example, it helped guide the large-scale evaluation of the *National Youth Anti-Drug Media Campaign* (Westat & the Annenberg School for Communication, 2001).

Social Cognitive Theory (Bandura, 1992): This theory suggests that self-efficacy—the belief that one has the skills and abilities necessary to perform the behavior under various circumstances—and motivation to perform the behavior, are necessary for behavior change. In other words, a person has to believe that he or she can perform the behavior in various circumstances and have some incentive, whether positive or negative, to do it. This theory also factored into the *National Youth Anti-Drug Media Campaign*, in which it was modeled along with attitudes and subjective norms to have a direct relationship with behavioral intentions for future drug use (Westat & the Annenberg School for Communication, 2001).

Health Belief Model (Becker, 1974): This model has been used extensively in public health. It says that two factors influence the adoption of a health protective behavior: (1) a feeling of being personally threatened by a disease, and (2) a belief that the benefits of adopting the protective health behavior will outweigh the perceived costs of adopting that behavior. This model has been incorporated into a number of public health campaigns to prevent AIDS (e.g., Fishbein et al., 2001) and in international infant health campaigns (Rice & Fotte, 2001).

Stages of Change Model (Prochaska, DiClemente, & Norcross, 1992): This model views behavior change as a sequence of stages. It identifies the five main stages a person goes through on the way to behavior change. The model holds that to get people to change their behaviors, it is necessary to determine where they are on the continuum of behavior change and then to develop interventions that move them along from stage-to-stage, noting that individuals may recycle some stages and therefore the process is not necessarily linear. The types of interventions needed are expected to be different at different stages. This model was incorporated in the *Campaign for Tobacco-Free Kids* and researchers have noted the usefulness of this theory for social marketing design and research (Andreasen, 1997; Novelli, 1998).

The above theories and models can be used for both individual change and public will campaigns. Public will campaigns attempt to mobilize public action for policy change. Because they also factor in the relationship between media coverage and public awareness and attitudes, and the relationship between public will and policy change, additional bodies of research and theory are applicable. These include:

Agenda Setting (McCombs & Shaw, 1973): This theory emphasizes that the media does not necessarily instruct what people think, but what people should think about. The media acts as a “gatekeeper” of information and determines what issues are important. The theory holds that

information or issues that appear more often in the media become more salient for the public and determine political and social priorities.

Framing (Tversky & Kahneman, 1981): Generally, framing theory is concerned with how the organization and packaging of information (in messaging or in the media, for example) affects people's preferences. Simply put, framing refers to the construct of a communication—its language, visuals and messengers—and the way it signals to the listener or observer how to interpret and classify new information. In other words, frames trigger meaning. Many campaigns are grounded in this theory and attempt to affect how the public thinks about an issue by changing the way that the media frames it. For example, the Violence Prevention Initiative aimed to stop violence against and involving youth by reframing handgun violence as a public health issue and shifting the focus to youth as victims of violence rather than the perpetrators.

Priming (Iyengar & Kinder, 1987): Priming is the process in which the media attend to some issues and not others and thereby alter the standards by which people evaluate issues, people, or objects. For example, the more the media pays attention to the issue of airplane safety, the more the public will use that issue to evaluate whether they should fly or not. This theory is based on the assumption that people do not have elaborate knowledge about a lot of things and do not take into account all of what they do know when making decisions. Rather they make decisions based on what is foremost in their mind.

Framework for Effective Campaigns (Weiss & Tschirhart, 1994): While not a theory or model in the traditional sense, this work identifies four tasks that make campaigns more likely to produce their intended policy results. The four tasks/characteristics are: (1) To capture the attention of the right audience; (2) To deliver an understandable and credible message; (3) To deliver a message that influences the beliefs or understanding of the audience; and (4) To create social contexts that lead toward desired outcomes. This can be used in the same way that a theory can—as a framework for evaluating public communication campaigns. For example, the framework could serve as a guide for the design of an outcome evaluation or it could serve a role in formative evaluation or during pre-evaluation stages. Henry & Gordon (2002) used this framework to examine the Atlanta Voluntary Ozone Action Program to determine whether the plausibility of the campaign's success was high enough to warrant an evaluation of its impacts. It was found that the centerpiece of the information campaign—air quality alerts—was effective in raising awareness and reducing driving in a segment of the population. When the overall information campaign was moderated by employers' participation in programs to improve air quality, drivers significantly reduced the number of miles they drove and the number of trips they took by car on days when air quality alerts were sounded.

Selecting a theory for the campaign

Each of the questions discussed below leads to the specification of a theory of the campaign. Once a theory is identified, it leads directly to a set of related methodological considerations. Some evaluation designs will be consistent with a particular theory of campaign effects; however, not all will follow so easily. The evaluation research team will need to determine the appropriate unit (individual, social network, community) for expected effects, although they may decide to work at more than one of those levels. They will need to specify the appropriate lag between exposure and effects and whether the effects will slowly increase over time, and also decide whether to focus on specific outcomes or on generalized effects. In the context of other factors that make individuals more or less vulnerable to campaign effects, the evaluation research team should decide what subpopulations need to be the focus of the evaluation. For example, researchers may conclude that the effects a campaign is expected to have is consistent with a controlled experimental design with deliberate manipulation of

exposure levels, or they may decide that they can rely only on natural variation in exposure (i.e., observation in natural surroundings) among individual or larger social units if they decide not to control the important effects on which some programs may rely (Hornik & Yanovitzky, 2003). These decisions are made easier by answering the following five questions:

1. What are the routes of effect? There are at least three general paths through which media campaigns may influence behavior. The first involves direct exposure of individuals to the persuasive messages generated by the campaign, whether through ads placed in the media, educational programs, or other formats. The second path concerns the diffusion of campaign themes to other social institutions, such as the mass media, the executive and legislative branches of government, the justice and law enforcement system, and religious organizations (Yanovitzky & Bennett, 1999). Some campaigns include a media advocacy component that is designed to attract media and policy attention to the campaign goals (Wallack, 1990) while others attract institutional attention (e.g., Rogers, Dearing & Chang, 1991). The third path of influence relates to campaign-induced processes of social diffusion. Through social interaction with family members, peers, and other members in the community, people learn about practices that are socially approved and those that are not. They also become aware of the costs and benefits, in social terms, of performing each behavior. This social information, in turn, helps to shape their behavioral attitudes, beliefs, and intentions (Hornik & Yanovitzky, 2003).

2. What is the expected lag between initiation of campaign exposure and effects? Some campaigns may expect immediate effects while others expect delayed responses because they are dependent on a social or institutional model of message diffusion rather than a direct-learning model. Generally, social or institutional diffusion would be expected to take longer than individual persuasion. Campaigns may take longer because they address behaviors with a deeper social or cultural anchoring, and individuals will take repeated convincing before they are ready to change. In addition, some effects may take longer to appear because the opportunities to engage in a new behavior are themselves delayed. It is important to note that evaluations that measure outcomes too soon may easily come to the wrong conclusion about effects (Hornik & Yanovitzky, 2003).

3. What is the nature of expected outcomes? Whether your campaign has a well-focused behavioral objective, an objective that can be satisfied by the adoption of any of a set of behaviors, or a focus on messages relevant to one behavior but expect that the target audience will generalize to related behaviors, the evaluation research team needs to know exactly what to measure (Hornik & Yanovitzky, 2003).

4. What variation in effects is expected across subpopulations? It is rare that everyone in a population is included in the target population for a campaign. An evaluation that does not restrict its samples to those considered vulnerable to effects will likely make a mistake in its estimates of effects. For example, an evaluation of an antidrug campaign in Kentucky found clear effects but only when they focused on high-sensation seeking adolescents, who were the only ones at risk of marijuana use (Palmgreen, Donohew, Puzles Lorch, Hoyle & Stephenson, 2001). For these high sensation seeking youth, the Kentucky intervention was associated with an overall drop of nearly 9 percentage points in past 30-day marijuana use. However, if all youth had been included, the drop would have been about half that size, largely because low sensation-seeking youth were not at risk of marijuana use at all. If the researchers had studied the whole population, rather than the group of high sensation seekers whom they had specified a priori as the susceptible group, they would have concluded that there was no effect (Hornik & Yanovitzky, 2003).

5. **How much exposure and how much time?** Simple information diffusion campaigns may be able to depend on a few exposures to a message through single channels. The theory of such a campaign assumes that there is a ready audience for new information that solves an accepted problem. The more typical campaign may depend on operating through multiple channels, diffusion of messages repeatedly over time, and supportive actions from institutions and social networks (Hornik & Yanovitzky, 2003).

Tips for Incorporating Theories within Campaigns

1. Develop a theory of the campaign that respects how behavior can really be affected and evaluate the campaign consistent with that theory of effect (Hornik & Yanovitzky, 2003).
2. The way that campaigns can affect behavior is often complex, and if that complexity is not reflected in the evaluation design, many of the effects may go undetected (Hornik & Yanovitzky, 2003).
3. A messy “kitchen sink” type campaign forces evaluators to give up randomized control groups and to look at units of analysis larger than the individual if the theory of the campaign is to be respected in the evaluation (R. Hornik, personal communication with S. Sargent Weaver, November 9, 2009).
4. Communication programs can operate through a variety of processes; evaluations which assume that the only way communication programs have an effect is through individual quick persuasion may underestimate their effects through other routes. In other words, your campaign may impact individuals through indirect or secondary exposures to the information. This can occur through interactions with social institutions and organizations (i.e., learning of a campaign discussing the risks of abusing alcohol from religious leaders in the community) or through interactions with family members, peers, and other members in the community (Hornik & Yanovitzky, 2003).
5. Inadequate or incomplete theorizing may lead researchers who conduct evaluations of communication campaigns to erroneous conclusions concerning campaigns’ influence on targeted behaviors. Poor campaign theory may lead evaluators to look at the wrong outcomes, may lead them to expect behavior changes prematurely, or may lead them to use the wrong units of analysis or make comparisons between inappropriate groups (R. Hornik, personal communication with S. Sargent Weaver, February 6, 2009).
6. The failure to find effects can reflect an inadequately theorized, and thus inadequately realized, evaluation design in addition to poorly chosen behavioral objectives, poorly designed messages, and insufficient exposure to campaign messages. Failure to match the evaluation design with the theory of the program will likely result in underestimating the success of communication campaigns (R. Hornik, personal communication with S. Sargent Weaver, November 9, 2009).
7. In general, communication campaigns operate in a complex environment and researchers need to take into account the other factors likely to limit or magnify the effects of the campaign. These other factors include demographics, personality traits, characteristics of the social environment, and prior experience with the behavior or similar behaviors that may influence the target behavior, behavioral expectations, and intentions, as well as the propensity of being exposed to the campaign. It is prudent to identify and control for such confounding influences when estimating campaign effects (Hornik & Yanovitzky, 2003).

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