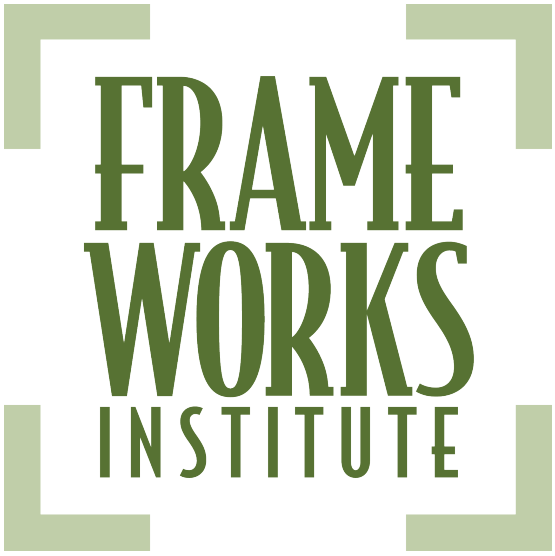

Efficacy:
A brief overview with an eye towards implications and measurement

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Ezra Markowitz

Introduction

Understanding the micro- and macro-level drivers of human behavior—and thus the levers that can be used to shape such behavior—is of critical importance for communicators, advocates and others interested in supporting and motivating large-scale, progressive social change. To this end, behavioral scientists have identified a wide variety of factors that shape individual- and collective-level decision-making, including many of the core constructs that motivate and undergird FrameWorks' current practice. In this paper, I explore just one of these constructs—efficacy—and highlight various implications of past research on this critical driver of behavior for the efforts that FrameWorks is engaged in every day. The primary aims of this paper are three-fold: (1) develop a clear, working-definition of the concept of efficacy, allowing FrameWorks to integrate the concept into its practice in a consistent manner across activities and domains; (2) highlight key implications of extant research on efficacy for promoting positive social change; and (3) provide an overview of measurement considerations.

The paper proceeds in five parts. Part I defines the concept of efficacy from a variety of social scientific perspectives (e.g., political science, sociology, psychology), with a primary focus on social psychological considerations. The distinction between objective and subjective forms of efficacy is discussed (including the distinction between the concepts of efficacy and agency). In Part II, I review theoretical and empirical research on the relationship between efficacy beliefs and deliberative decision-making, including civic and political engagement. I attempt to provide an initial answer to the question, "What does efficacy do?" Part III then digs deeper into the multi-faceted nature of subjective efficacy and its role as a point of intersection among affective, cognitive and social influences on decision-making. I briefly examine the factors that shape our perceptions of efficacy, the mechanisms by which efficacy beliefs influence action, and the dynamic nature of those beliefs. Part IV presents measurement considerations. Finally, Part V discusses implications of the topics reviewed in this paper for FrameWorks' practice, and makes recommendations regarding the inclusion of efficacy measures in future FrameWorks projects.

Part I: Defining efficacy

The term efficacy is widely used across the social sciences and humanities to refer to a number of related yet distinct constructs. Many if not all of these uses of the term share a common focus on the structural, social and psychological factors that support deliberative decision-making and action, with a particular orientation towards both the capacity of actors to take action and the effects of those actions on achieving specific goals. In light of the varied uses of the term, a variety of critical distinctions need to be made and considered when defining efficacy. Four dimensions in particular are of interest in the context of FrameWorks' social change and mobilization work: (1) locus of perspective (objective vs. subjective); (2) focus (capability vs. effectiveness); (3) locus of action (individual vs. collective); and, (4) type of behavioral goal (personal vs. social). Each of these four dimensions is briefly described below.

Locus of perspective (objective vs. subjective)

Perhaps the most critical initial distinction to be made is between objective and subjective conceptualizations of efficacy. Used in the objective sense, the term efficacy simply refers to whether or not an individual or group of individuals possesses the capabilities (i.e., necessary skills, resources, and opportunities) required to complete a task or fulfill a goal by successfully taking some relevant and instrumental action. Defined in this way, efficacy is closely related to the concept of agency, which refers more generally to the capacity of an individual or collective to take any action (efficacious or otherwise with respect to some goal)[1]. Objective efficacy is often treated as a dichotomous phenomenon: an individual (or collective) is viewed as either efficacious or not in a given context. However, there are clearly situations in which efficacy can be treated as something that actors possess to varying degrees (i.e., as a continuous variable). A variety of fields have been particularly oriented towards the objective conceptualization of efficacy, including philosophy and sociology (and to a lesser extent, political science).

In contrast, efficacy as a subjective construct refers to individuals' or collectives' perceptions or judgments of their own capabilities to fulfill goals by performing an action or set of actions. Such perceptions may align closely with objective assessments of an individual's (or group's) level of efficacy in a given situation, but such fidelity between objective and subjective assessments is by no means guaranteed (or necessarily of interest or even importance with respect to motivating behavior). As described further below, social psychological work on efficacy suggests that people's perceptions of their own efficacy are composed of two related yet critically distinct primary sets of beliefs: (1) beliefs regarding their own (or their group's) ability to successfully carry out efficacious behaviors and (2) beliefs regarding the effectiveness of said behaviors to achieve personal or collective goals (see next section). Work in political science makes a similar though somewhat different distinction (see below). Social psychologists and political scientists have traditionally been particularly interested in subjective conceptualizations of efficacy. Given the interest that FrameWorks has shown in this topic thus far, individuals' perceptions of efficacy (subjective) are the focus of this paper[2].

Focus (capabilities vs. effectiveness)

The second key distinction to be made—widely discussed in the social psychological and political science literatures on efficacy (cf., Bandura, 1986; Gecas, 1989; Luszczynska & Schwarzer, 2005)—is between individuals' perceived capabilities to successfully perform a given, desirable action (referred to simply as efficacy) and individuals' beliefs about the effectiveness of that action (or set of actions) in achieving a desired goal (referred to most frequently as outcome expectancies or response efficacy). Using this terminology, judgments of efficacy ask the question, "Can I (we) do this behavior?" In contrast, judgments of outcome

[1] In sociology, *agency* is often used to refer specifically to the capacity of individual actors to act independently of one another and of the social structure in which they are embedded, and thus to the capacity for free choice (Barker, 2005). Of course, whether or not such individual-level agency truly exists is a hotly debated topic among sociologists.

[2] From here on, when I use the term "efficacy" I am referring to the subjective construct unless otherwise noted.

expectancies ask, "Will doing this action achieve my (our) goal?" Judgments of efficacy and outcome expectancies are neither fully independent nor fully redundant with one another: individuals can hold any combination of low versus high efficacy beliefs on the one hand and weak versus strong outcome expectancies on the other. Although a match between levels of efficacy and outcome expectancies (high-strong or low-weak) may be relatively more common (i.e., efficacy and outcome expectancies are positively correlated), other combinations are also possible. For example, an individual who has a particular dieting and weight loss goal may feel capable of engaging in some recommended activity (e.g., not eating after 10 pm; high efficacy) yet also believe that such an action is unlikely to produce significant health improvements (weak outcome expectancy). Such high-efficacy, weak-outcome expectancy combinations may be particularly prevalent and relevant in the context of many collective action and social dilemma problems (i.e., I feel I can successfully do some action but also believe that that action is not likely to make much of a difference).

As discussed in Part IV (Measurement considerations) in more detail, an additional difference between perceptions of capability and those of behavioral effectiveness involves the consideration of particular barriers to action, which are relevant to the former (efficacy) more so than to the latter (outcome expectancies; e.g., "Can we do this behavior, despite these barriers standing in our way"). Although there is some disagreement in the literature regarding the importance of explicitly highlighting barriers to action when measuring efficacy beliefs, it seems likely that the decision to do so or not may have a significant effect on how efficacious individuals (or groups) appear to be in empirical research settings (see below).

Locus of action (individual vs. collective)

A third and critical dimension on which efficacy beliefs differ is whether judgments of efficacy are made in reference to an individual's own abilities versus a collective's abilities to successfully engage in a particular action[3]. In the social psychological literature, individual-level or self-efficacy refers to beliefs about one's own ability to accomplish goals or tasks (e.g., saving money, improving personal health, decreasing one's own impact on the environment); such beliefs generally take the form, "I can do this behavior (despite barriers standing in my way"). While self-efficacy refers specifically to action(s) taken by the individual, the ultimate aim of such behavior can be to bring about either personal or social goals (see the next section).

In contrast, collective efficacy (again, primarily viewed from a social psychological perspective) refers to perceptions (held by individuals) of whether a group of actors has the ability to engage in a particular behavior. Such beliefs generally take one of two forms: (1) "Working together, we will be able to perform this behavior" or (2) "The majority of individuals will be able to take this action." Although both of these forms of collective efficacy are oriented towards collective action, the two differ with respect to their locus of behavior

[3] Note that I use the terms "action" and "behavior" quite liberally in this paper. Thus, actions include not only physical behaviors (e.g., writing letters to elected officials) but also engaging in formal and informal educational activities (i.e., learning more about a particular topic).

(that is, who is performing the action)—in the former the focus is on the group as a single entity whereas in the latter the focus is on a collection of individual actors. Both types of collective efficacy beliefs are potentially important in the context of social change efforts (Koletsou & Mancy, 2011), with one or the other likely being relatively more significant in particular contexts.

Type of behavioral goal (personal vs. social)

The focus on individuals versus collectives also extends to judgments regarding outcome expectancies, as alluded to above. Parallel to efficacy beliefs, outcome expectancies can be oriented towards personal or collective (social) goals. Individual-level outcome expectancies are straightforward and generally take the form, "Doing this behavior will help me achieve my personal goal." At the collective level, however, things are slightly more complicated, as individuals can hold beliefs about the impact of their own action on achieving a collective goal (e.g., "If I do this behavior, it will contribute meaningfully to the collective goal") as well as beliefs about the impact of collective action on the shared goal (e.g., "If many or all of us do this behavior, it will help us achieve our collective goal"). Past research in the social sciences has tended to do a poor job of consistently differentiating these distinct types of outcome expectancies; recently (and somewhat confusingly), Koletsou and Mancy (2011) suggested referring to these as "personal outcome expectancies" and "collective outcome expectancies," respectively. As with the distinct forms of collective efficacy beliefs described above, personal and collective outcome expectancies reflect distinct beliefs (held by individuals) about the likely impacts of their own versus others' behavior on achieving collective goals; thus, these beliefs may diverge from one another in certain contexts (e.g., confronting climate change).

Other definitions of (collective) efficacy

The dimensions of efficacy discussed above are primarily (but not exclusively) derived from the social psychological literature (e.g., Bandura, 1986; Conner & Norman, 2005; Gecas, 1989). As mentioned earlier, however, closely related concepts and distinctions have been discussed at length by political scientists, sociologists and others. Among political scientists, a distinction is often made between internal and external efficacy (cf., Miller, Miller & Schneider, 1980). Internal efficacy refers to beliefs about one's own ability to influence the political process or achieve political goals whereas external efficacy refers to beliefs about the responsiveness of government officials to citizens' concerns (Anderson, 2010). Defined as such, internal efficacy appears to be a domain-specific (i.e., politics) hybrid of self-efficacy and personal outcome expectancy beliefs; external efficacy is more closely related to collective outcome expectancies (where the target goal is political responsiveness and the proposed action is voicing of citizen concerns).

In the vast, overlapping literatures on collective action, social mobilization and social movements (largely dominated by sociological perspectives), efficacy and collective efficacy take on still other meanings, some of which focus on efficacy as a subjective phenomenon and others as an objective one. For example, in the context of resource mobilization and political process theories of collective (political) action, Corcoran and her colleagues (2011)

define efficacy as both an objective and subjective construct related to Rotter's (1954) concept of locus of control; in their model, efficacy and fatalism are "viewed as opposite ends of a continuum of perceived control" over one's life and outcomes (p. 576). Looking at the concept from a very different perspective, Sampson et al. (1997), writing about neighborhood-level social processes, defines collective efficacy as "the linkage of mutual trust and the willingness to intervene for the common good that defines the neighborhood" (p. 919); this is clearly a definition of a (presumably) objective construct, one that is likely closely linked to broader concepts of social capital and cohesion (e.g., Putnam, 2000).

Summary

Efficacy is a multi-faceted, multi-level construct that, at its core, is related to issues of agency, self- and other-appraisal, and goal-directed decision-making and behavior. Whether treated as an objective construct (e.g., something that individuals do or do not possess) or as a subjective phenomenon (e.g., perceptions of one's own capabilities and instrumentality), efficacy involves at least three major components: (1) the distinction between the capacity to perform an action versus the instrumentality or effectiveness of that behavior; (2) the locus of action (individual vs. collective); and, (3) the type of behavioral goal under consideration (personal vs. social). As discussed in the following sections, each of these facets of efficacy play important roles in shaping individual and collective decision-making. For the purposes of the rest of this paper, the following working definition is offered:

> Efficacy refers to individuals' subjective perceptions of their own and others' ability to achieve personal and/or social goals by engaging in a behavior or set of behaviors, acting individually and/or collectively depending on the goal.

Part II: Effects of efficacy on individual and collective action

Given the working definition of efficacy provided above, the first obvious question that arises is, "What do individuals' perceptions of efficacy do?" That is, what function do perceptions of efficacy and outcome expectancies serve? This question has been answered both theoretically and empirically. Within social psychological, education and communications research, social cognitive theory (SCT; Bandura, 1986, 2001) has dominated discussions of efficacy (although other theoretical perspectives and models, including the Theory of Planned Behavior [TPB] and Extended Parallel Process Model (EPPM), also include efficacy-related concepts; Ajzen, 1991; Witte, 1992). According to Bandura (2002), (self)-efficacy beliefs "are the foundation of human agency" (p. 10). In his view, "Unless people believe they can produce desired results and forestall detrimental ones by their actions, they have little incentive to act or to persevere in the face of difficulties" (p. 10). Thus, efficacy beliefs act as both motivators of and gatekeepers to engagement. Efficacy plays a similar role in Witte's EPPM, which posits that threatening messages only induce behavioral change when individuals perceive themselves to possess both high efficacy and strong outcome expectancies, which she refers to as 'response efficacy.' In a related vein, Conner and Norman

(2005) suggest that efficacy beliefs influence action in three critical ways: by affecting whether behavior is initiated, how much effort is expended, and whether engagement is sustained in the face of barriers.

Various rational actor models widely used in social psychology, economics and political science—including TPB and structural-cognitive models (Opp, 2010)—similarly treat efficacy beliefs as a core driver of (rational) decision-making through their effects on individuals' assessments of the relative costs, benefits and risks of taking versus foregoing action (e.g., Finkel, Muller & Opp, 1989). Recently, Corcoran et al. (2011) have further theorized and examined the role that efficacy plays in the realm of political engagement, arguing that efficacy beliefs play a critical role in linking macro-level (situational) drivers of behavior (e.g., institutional structures, opportunities for political engagement) to political decision-making at the individual level (see Part III below for more discussion regarding mechanisms by which efficacy influences action).

Empirical evidence base

Empirical evidence of the effects of efficacy on decision-making is robust and wide-ranging, bearing out many of the predictions made by SCT, TPB, EPPM, resource mobilization and other models of deliberative action. At the individual level (i.e., beliefs about one's own ability to engage in actions that are effective in achieving personal goals; self-efficacy and individual outcome expectancies), a vast array of findings point to the critical role that efficacy plays in motivating and supporting behavioral engagement across many domains of life. For example, high levels of self-efficacy, when coupled with strong individual outcome expectancies, have been tightly (and positively) linked to positive action and behavior change in the context of improving personal health (e.g., Luszczynska, Scholz & Schwarzer, 2005), work-related performance (e.g., Stajovic & Luthans, 1998), academic performance (e.g., Multon et al., 1991), and parenting outcomes (e.g., Ardelt & Eccles, 2001), in addition to many other domains (e.g., reducing household energy consumption).

Past and recent work on collective action has similarly produced strong empirical backing for many of the claims made by SCT and various resource mobilization models of collective action (cf., Brady, Verba & Schlozman, 1995; Kerr, 1996). At the community scale, self- and collective-efficacy beliefs have been shown to correlate significantly with a wide variety of outcomes, from participation in community gardening projects (e.g., Teig et al., 2009) to perceptions of community violence (Sampson et al., 1997). As alluded to previously—and of critical importance in the context of FrameWorks' social change efforts—efficacy and outcome expectancy beliefs (both at the individual and collective levels) have also consistently been shown to positively predict (and indeed, actively motivate and support) a wide variety of political, social and environmental activism and engagement behaviors, including voting (e.g., Solhaug, 2006), contacting elected officials (e.g., Pattie, Seyd & Whiteley, 2003), and participating in rallies and protests (e.g., Finkel et al., 1989; Lubell, 2002)[4].

[4] Although it has been found that participation in extreme forms of political action may undermine perceptions of internal efficacy (Stenner-Day & Fischle, 1992), which makes some sense given that such actions are aimed at

In the environmental domain, for example, a number of recent studies have revealed that weak self- and collective-efficacy beliefs pose a significant barrier to greater engagement in pro-environmental actions (e.g., Lubell, Zahran & Vedlitz, 2007); conversely, people who believe that individuals' environmental actions can "add up" to create significant positive change (and who believe that others are likely to "do their part") are much more likely to take personally costly action when confronted with information about impending environmental threats such as climate change (e.g., Fielding, McDonald & Louis, 2008; Lubell et al., 2007).

Sustaining action in the face of challenges and barriers

Of critical importance in the context of large-scale collective action problems, efficacy beliefs have been shown to play a key role not only in motivating initial action and behavioral change but also in supporting sustained engagement over time and in the face of setbacks and significant barriers (e.g., Conner & Norman, 2005). Strong, positive beliefs about one's own and others' ability to engage in productive collective action provide a sort of backstop that individuals (and groups) rely on when they encounter road bumps or simply long time horizons for achieving collective goals. As discussed in more detail in Part III, these positive effects of efficacy on sustained engagement operate in part through the close connection between efficacy and positive emotions (e.g., hope, pride) as well as via the role that efficacy beliefs play in dissipating negative affective reactions (e.g., anxiety, depression) individuals often experience in the context of social dilemma problems (e.g., climate change).

Summary

Past theoretical and empirical research on efficacy reveals that individuals' perceptions of their own and others' capacity to perform efficacious actions (with respect to fulfilling some personal or social goal) play an outsized and critical role in shaping deliberative decision-making. These core self- and other-appraisals of capability and instrumentality influence how people respond to perceived threats (e.g., Witte & Allen, 2000) and opportunities (e.g., Corcoran et al., 2011) in their environments, affecting initial decisions to engage, how much effort to put forth, and whether or not to persist as challenges arise. Efficacy and outcome expectancy beliefs influence all domains of life, from personal health to political activism to environmental conservation. Of particular significance, the large and multi-disciplinary literature on efficacy and collective action points to the importance of designing communications and other engagement strategies in ways that support and develop individuals' and communities' perceptions of themselves as capable of coming together to solve large-scale political, social, and environmental challenges.

Part III: Digging deeper: Sources, mechanisms and stability

Having defined the concept of efficacy and reviewed the first-order effects that efficacy beliefs have in shaping and motivating (collective) action, this section of the paper digs

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destabilizing the responsive political institutions to which internal and external (political) efficacy are presumably sensitive.

deeper into some of the "mechanics" of subjective efficacy. In particular, I provide brief (and necessarily incomplete) answers to three remaining questions:

(1) What factors influence individuals' perceptions of efficacy?
(2) What are the primary mechanisms and pathways through which efficacy beliefs affect behavior?
(3) How stable or variable are efficacy beliefs over time and across decision-making contexts?

Answers to these three questions provide further insight into the complex, multi-faceted role that perceptions of efficacy play in motivating human behavior. Moreover, they highlight some of the implications that extant research on efficacy holds for FrameWorks' practice.

What factors influence perceptions of efficacy and outcome expectancy?

Individuals' beliefs about their own and others' capability to effect personal and social change are themselves the product of complex interactions between four primary sets of factors: past personal (or vicarious) experiences (and the interpretation of those experiences); characteristics of the individual (including psychological and demographic variables); contextual or situational forces; and, individuals' domain-specific knowledge. Although various disciplinary approaches tend to focus on only a subset of these factors (e.g., psychologists generally overlook social structure whereas sociologists tend to downplay the significance of individual differences factors), looking across relevant literatures strongly suggests that all four sets of influences play critical roles in shaping perceptions of efficacy (cf., Anderson, 2010; Bandura, 2002; Brady et al., 1995; Kerr, 1996; Salanova, Llorens & Schaufeli, 2011; Valentino, Gregorowicz & Groenendyk, 2009).

People's past experiences are the most direct influence on efficacy beliefs (Bandura, 1986, 2002). Numerous studies have shown that individuals' experiences of "enactive mastery" (Bandura's term) in the past are highly predictive of perceptions of efficacy in the present. For example, using a panel design, Finkel (1985) showed that participating in a political campaign increased perceptions of efficacy and system responsiveness in the next election cycle. In contrast, experiences of failure often, but not always, reduce efficacy beliefs[5]. To the extent that experiences of success or failure reflect an individual's or group's objective level of efficacy, then, perceived efficacy can be highly responsive to objective levels of capability and effectiveness. Thus, efforts to engage individuals in social change will likely benefit from both identifying the relevant past activities and outcomes that target audiences have experienced (e.g., attempts to learn about a new issue or to become civically or politically active) as well developing a sense of how individuals interpret those past experiences.

Considerable work has demonstrated that perceptions of efficacy are also significantly influenced both passively and actively by interaction with important others. In fact, Bandura (1986) and others have noted that observations of other people performing actions (so-called

[5] The reasons for failure and how individuals interpret those failures are critical moderators of the extent to which negative past experiences influence efficacy beliefs, outcome expectancies and ultimate motivation to try again in the future.

"modeling" effects) are core inputs to perceptions of one's own efficacy (and perhaps especially in the context of collective action and coordination problems and/or in contexts with which individuals have little personal experience). These findings dovetail nicely with literatures in numerous areas (including social mobilization, collective decision-making, social learning and identity theories, and attribution theories), all of which point to the critical role that observation of and interaction with important others plays in shaping how we perceive ourselves as effective or ineffective agents in the (social) world. Such social influences on perceived efficacy are often passive (i.e., those around us are not intentionally attempting to influence our efficacy beliefs), but they can also be active and intentional. Indeed, this is very much the case when advocates and others attempt to verbally persuade individuals that they are efficacious (or, in some cases, inefficacious) in a given domain. Such persuasive communication attempts reflect the most obvious pathway by which groups such as FrameWorks are able to shape individuals' efficacy beliefs. Although direct persuasion attempts face numerous challenges to being effective (i.e., when they come into conflict with personal experience), it is clearly the case that such efforts can be highly impactful (cf., Zeldin & Pajares, 2000).

Individual differences factors and demographic variables also play important roles in influencing efficacy beliefs, both directly and indirectly. For example, individuals who possess resources that make participation in civic or political activities relatively less costly are likely to view themselves as more efficacious than those who lack such resources (cf., Brady et al., 1995), in large part because they objectively are more efficacious. Thus, individuals who are better educated and have higher incomes tend to report stronger efficacy beliefs across many different domains (cf., Boardman & Robert, 2000). In a related vein, individual differences in broader and more general self-appraisals (e.g., self-esteem, optimism) can also affect efficacy beliefs, largely by influencing how individuals interpret and integrate past experiences, observations of others' actions and direct attempts at persuasion.

Interacting with these individual-level and localized interpersonal factors are broader situational and contextual forces that can either impinge on or enhance perceptions of (and actual) efficacy and outcome expectancies. For example, recent scholarship in sociology and political science theorizes that social and political opportunity structures—e.g., the relative openness or restrictiveness of the political system to minorities and outsiders—influence a variety of cognitive processes that are linked to political action, including efficacy beliefs (e.g., Opp, 2010). Corcoran et al. (2011) find some empirical support for these claims. Specifically, they show that national-level indicators of political opportunity structures (i.e., democratic consolidation and level of women's political representation)—which reflect individuals' ability to participate and be represented in the political system—positively predict cross-national differences in perceptions of political efficacy; that is, people who live in more open societies tend to report higher levels of political efficacy, as we might expect. Other contextual and situational factors that influence perceptions of efficacy include the level of inequality and availability of resources in a community as well as many related aspects of social capital, including neighborhood cohesion, sense of community and mutual trust (Anderson, 2010; Sampson et al., 1997; Teig et al., 2009).

Finally, individuals' knowledge about a particular domain (e.g., climate change; early childhood development; smoking cessation) can have both positive and negative impacts on perceptions of efficacy. On the one hand, being better educated about an issue likely includes knowing relatively more about possible solutions or behavioral changes that could make a positive difference (and thus, should increase perceptions of efficacy); put another way, people who know little or nothing about a topic cannot be expected to (realistically) feel highly efficacious in that domain. On the other hand, however, greater knowledge of an issue (particularly those that involve relatively low levels of objective [collective] efficacy) may in many cases actually lower perceptions of efficacy. Past work on climate change, for example, appears to demonstrate this effect (e.g., Kellstedt, Zahran & Vedlitz, 2008). Thus, advocates and communicators must be extremely careful not to assume that simply making individuals more knowledgeable about an issue will increase perceptions of self- and collective-efficacy; in fact, a message that increases knowledge about the scope of a collective action problem may do just the opposite[6].

How do efficacy beliefs influence action?

In Part II above I highlighted some of the many empirically demonstrated positive effects of efficacy and outcome expectancy beliefs on decision-making and engagement across a wide range of domains, from improving personal health to contributing to public goods. Moreover, I briefly mentioned a number of specific roles that efficacy plays in motivating deliberative behavior, including its roles as a gatekeeper for initiating new (and costly) behaviors, as a moderator of effort, and as a resource for sustaining action in the face of barriers that arise. How do efficacy and outcome expectancy beliefs actually fulfill these and other roles? That is, what are the mechanisms and pathways by which efficacy beliefs operate to shape human behavior, particularly in the context of personally costly collective action problems? Here, I provide some brief answers to these questions, drawing from a variety of theoretical perspectives.

Cognitive mechanisms

In Social Cognitive Theory (Bandura, 1986), Theory of Planned Behavior (Ajzen, 1991), Value Expectancy Theory (Finkel, Muller & Opp, 1989) and other individual-level rational choice models of human (deliberative) behavior, decisions about whether or not to engage in a particular behavior (e.g., protesting in front of the White House) are seen as being driven by individuals' weighing of perceived costs of action versus their expectations of successfully achieving some desired outcome. In these models, individuals' perceptions of efficacy and outcome expectancies are thus seen as playing a critical, conscious role in motivating or inhibiting behavior: when judgments of capability and effectiveness are sufficiently strong, the target behavior is (rationally) performed; when such judgments are absent, no action is taken. As Corcoran et al. (2011) have demonstrated, these models can be extended to examine how efficacy beliefs transmit the effects of situational and environmental factors on

[6] This discussion is parallel in many ways to the one that stems from work on the effect of fear appeals and behavior change.

behavior, likely through a belief updating process. A related line of research (which has a rich history within political science, see Valentino et al., 2009) treats efficacy beliefs as a resource that individuals rely on when confronted with decisions about whether or not to engage in particular (collective) actions. Efficacy-as-resource models are perhaps particularly useful in explaining initial decisions to engage in political or other collective actions (cf., Rosenstone & Hansen, 1993) and are also useful because they can help explain changes over time in engagement (see below).

Affective mechanisms and pathways

In addition to the cognitive mechanisms highlighted above, recent research has revealed important connections between affective processes and efficacy. These processes are not necessarily in conflict with cognitive mechanisms but rather reflect an additional set of pathways by which efficacy influences decision-making (and is itself affected by the outcomes of those decisions). For example, Witte's (1992) well-known Extended Parallel Processing Model (EPPM) extends purely cognitive models of efficacy by specifying when in the appraisal and decision-making process efficacy beliefs influence decision-making. Specifically, the EPPM proposes that when individuals are exposed to potentially threatening messages (e.g., fear appeals, policy threats), they first assess the severity of the threat. When no or little threat is perceived, efficacy beliefs are not relevant to the decision-making process; however, when the threat is initially perceived as serious enough to warrant further consideration, individuals then appraise the effectiveness of possible responses (i.e., outcome expectancies or response efficacy) and their own ability to perform those actions (i.e., self- or collective-efficacy beliefs). When efficacy and outcome expectancies are appraised as sufficiently strong to address the problem, individuals respond by attempting to reduce the "danger" (i.e., engaging); when efficacy and/or outcome expectancies are not perceived as sufficient to meet the demands of the problem, individuals engage in a variety of cognitive and affective processes to distance themselves from the threat (see working paper on emotion, Simon, 2012).

Recent work in political science and psychology has built upon the EPPM, Social Cognitive Theory and Marcus et al.'s (2000) theory of Affective Intelligence to further reveal the moderating effects of efficacy beliefs on individuals' emotional responses to perceived policy (or other) threats. For example, Valentino et al. (2009) recently used panel data to show that efficacy beliefs support habitual political participation in part by facilitating anger (but not fear) in response to perceived policy threats; anger, in turn, motivates individuals to respond aggressively to those threats (whereas fear, as in the EPPM, is much less reliable as a motivator of ameliorative action). Other work has similarly shown that efficacy combines with a variety of negative and positive emotional responses (including anxiety, enthusiasm, hope and pride) to influence both personal and collective action (cf., Nadeau, Niemi & Amato, 1995; Rudolph, Gangl & Stevens, 2000; Williams & DeSteno, 2008). For example, Salanova et al. (2011) recently showed that initial efficacy beliefs influence teachers' and students' work engagement indirectly by increasing positive affect (i.e., enthusiasm); moreover, the researchers found that efficacy, enthusiasm and engagement positively influenced each other in what they termed a "gain spiral," whereby increased engagement due to enthusiasm (due to efficacy) subsequently increased perceptions of efficacy (and so on).

Summary of efficacy pathways and mechanisms

Recent work on efficacy, affect and motivation have begun to move us beyond simple cognitive and resource models of the efficacy-action relationship. Taken together, the findings briefly reviewed above reinforce the conclusion that efficacy beliefs in fact shape engagement (including learning) through multiple pathways, including cognitive, affective, social and motivational ones. In many settings, efficacy beliefs likely affect decision-making quite directly, for example, via their influence on cognitive appraisals of the costs and benefits of action. However, in other cases (and perhaps especially so in the context of political and other collective action contexts), efficacy beliefs appear to influence behavior more indirectly, for example, by moderating (and themselves being influenced by) affective responses to threats and opportunities that then shape decision-making (cf. Kahneman, 2011 for a recent examination of how affective and cognitive processes interact to shape decision-making). Our ever-improving understanding of the diversity of pathways by which perceptions of efficacy influence action should help advocates and communicators generate novel strategies for promoting social change.

How stable or variable are efficacy beliefs over time and contexts?

Given the discussion above, it is immediately obvious that people's efficacy beliefs are dynamic and heterogeneous, changing over time and differing across domains. As individuals gain more (personal or vicarious) experience, interact with important others, and are exposed to persuasive communications attempts, their perceptions of efficacy often change (Bandura, 1986; Salanova et al., 2011; Valentino et al., 2009). Similarly, when the contexts within which individuals are situated change, efficacy beliefs are likely to evolve. Moreover, short-term changes in mood, resource availability, issue salience and many other factors can influence individuals' immediate self-appraisals of efficacy. If efficacy beliefs were static over time, they would be of considerably less interest to researchers, advocates and communicators who are interested in finding ways to improve and support individuals' perceptions of themselves and others as effective agents of (social) change in the world.

That being said, individuals' efficacy beliefs do demonstrate some aspects of consistency and cohesion across time and domains. For example, when different behavioral domains share certain subsets of required skills or resources (e.g., basic problem-solving or emotion regulation capacities), efficacy beliefs specific to those domains tend to positively correlate with one another; similarly, when the same set of experiences simultaneously inform efficacy judgments in multiple domains (e.g., learning math and social skills by going to school), beliefs can become inter-related (Bandura, 2006). Moreover, despite warnings against doing so by Bandura and others, many researchers have tended to treat efficacy as a relatively stable psychological resource (particularly within the political science literature), and some researchers have explicitly argued in favor of conceptualizing subjective efficacy as a stable individual difference factor (cf. Luszczynska et al., 2005).

Looking across disciplines and domains, there appears to be solid evidence in support of both the dynamic and static models of subjective efficacy. On the one hand, domain-specific efficacy beliefs clearly can and do change over time and across domains, as we would expect and hope. On the other hand, it is also clear that individuals differ in systematic (if sometimes noisy) ways with respect to judgments of their own and others' efficacy (i.e., some people perceive themselves as highly efficacious across many domains whereas others perceive themselves as generally inefficacious), suggesting that efficacy beliefs are at least to some degree influenced by relatively more stable individual differences factors.

Part IV: Measurement considerations

Measuring people's efficacy and outcome expectancy beliefs (including self- and collective-efficacy and individual, personal and collective outcome expectancies) is relatively straightforward and can be done reliably (and at essentially zero-cost when measures are added to existing survey or interview instruments). Self-report measures are used almost exclusively, and researchers tend to ask about efficacy and outcome expectancy beliefs in a fairly explicit manner (as opposed to asking indirectly-worded questions). Compared with many other psychological domains (e.g., emotions, attitudes), there is relatively little concern among researchers regarding the validity and interpretation of well-constructed efficacy measures; in general, self-reported efficacy beliefs tend to be weakly or un-affected by impression management motives (Bandura, 2006). That being said, constructing valid and useful measures of efficacy—measures that do not produce strong demand characteristics—requires researchers to carefully consider a number of factors and make a number of important decisions.

Domain-specificity vs. generality

For all types of efficacy-related constructs (e.g., self-efficacy, collective outcome expectancies), a key initial consideration in constructing items involves the level of specificity of the measure. In general, Bandura (2006) and others strongly suggest that researchers construct and use domain-specific measures of efficacy, and that items should be as closely tied to specific behaviors and outcomes as possible. In Bandura's (2006) view, domain-general measures are generally of little value "because most of the items in an all-purpose test may have little or no relevance to the domain of functioning…items in such a measure are usually cast in general terms divorced from the situational demands and circumstances" to which efficacy measures are supposed to refer (p. 307). However, others have shown that in some cases, more domain-general (or at least less specific) measures of efficacy can be useful. For example, in exploring cross-national differences in political activism and the role that efficacy beliefs play in motivating such action, Corcoran et al. (2011) found that using a very high-level, general measure of perceived efficacy allowed for meaningful cross-national comparisons.

For FrameWorks, the challenge will be to find the right balance between measures that are overly domain- and behavior-specific and those that are too domain-general. Overly specific items run the risk of limiting FrameWorks' ability to compare efficacy across content domains,

e.g., climate change vs. ECD, whereas overly general items may not provide sufficient insight into the nature of individuals' efficacy beliefs to inform message refinement or to understand how existing narratives influence perceptions of efficacy. In general, my recommendation is that FrameWorks attempt to err in the direction of the former rather than the latter (i.e., aim for more rather than less domain-specific measures of efficacy and outcome expectancy).

Behavioral specificity

A closely related consideration involves the specificity of target actions, assuming domain-specific items are being constructed. Items can be relatively more or less specific with respect to describing factors such as timing, duration, frequency or intensity of the target action. For example, in the context of parental involvement in children's education, a very specific self-efficacy item might read, "I can read with my child for at least 30 minutes every night during the week." In contrast, a less specific item might read, "I can read with my child in the evenings." In general, items should be as specific as possible with respect to the factors listed above, without inadvertently forcing individuals to report lower levels of efficacy simply due to the onerous and highly specified nature of the target behavior.

Capability versus intention

A third critical consideration is the use of capability- versus intention-oriented verb tenses in item wording (particularly for measures of efficacy). According to social cognitive theory, measures of efficacy beliefs should capture only individuals' perceptions of their own or others' capacity to perform some identified behavior and not capture individuals' intentions to (attempt to) perform the action. Thus, measures should ask "I [we] can do X" as opposed to "I [we] will do X." As discussed below, however, there may be cases in which this general suggestion is relaxed.

Measuring self- and collective-efficacy

Various researchers—including Bandura (2006), Luszcynska and Schwarzer (2005), and Koletsou and Mancy (2011)—have provided guidelines for constructing measures of self- and collective-efficacy. At the individual level, measures of efficacy tend to take one of two generic forms. The first and most common type of efficacy measure directly asks individuals how confident they are in their ability to successfully perform some action. For example, in the context of improving personal health, a self-efficacy item might read, "I am confident that I can spend at least 30 minutes exercising every day," with individuals responding on a Likert-type bipolar scale (e.g., "Strongly disagree" to "Strongly agree"); a closely related format would drop the "I am confident that" component of the item and change the response scale accordingly (i.e., "Extremely confident I can do this" to "No confidence I can do this"). When multiple items will be included in a measure of efficacy, the latter format may be preferred.

Items constructed in either of these ways may or may not also include a second phrase that highlights a specific barrier to engaging in the target action (e.g., "I can turn off all the lights in my house when I leave in the morning, even if I am often running late to work"). Bandura

(2006) suggests including barriers in efficacy items, because "efficacy should be measured against levels of task demands that represent gradations of challenges or impediments to successful performance" (p. 311). In practice, many researchers choose not to explicitly include barriers in efficacy measures; this may be due to the fact that there are often many barriers to engaging in an action, only some of which are relevant to any given individual and all of which may differ with respect to their impact on action. Thus, choosing the appropriate barrier to include may be extremely difficult in any given context due to the outsized effect that doing so may have on how individuals respond to the item.

The second and considerably less popular format for measuring efficacy (not commonly used outside of social psychological research) involves describing the target behavior in the initial item-stem, and then explicitly asking how confident individuals are that they can do that behavior in a wide variety of (challenging) situations. For example, in the context of measuring healthy eating efficacy, Bandura (2006) suggests the following measure: "A number of situations are described below that can make it hard to stick to a diet that is low in fat. Please rate how certain you are that you can stick to a healthy diet on a regular basis…While watching television; When feeling restless or bored; During holiday times" (in addition to another 10-20 items). Responses are given on a "confidence" scale (e.g., 0 = Cannot do at all, 100 = Highly certain can do). This question format clearly lends itself towards explicitly reminding individuals of potential barriers or challenges that may prevent them from performing the target behavior.

As mentioned previously, self-efficacy items are relevant in the context of achieving both personal and collective goals, and wording can often remain identical regardless of the type of goal under consideration (because efficacy items are oriented towards performance of specific behaviors, not achievement of particular goals). For example, individuals may be considering changes in their personal energy use either for personal reasons (e.g., saving money) or in order to achieve some collective goal (e.g., reduce impacts of future climate change). In both cases, however, the same set of efficacy items could be used (e.g., "I can change all the light bulbs in my house to efficient LEDs or CFLs, despite the greater upfront cost"). When the underlying motivation for taking action is not immediately clear (e.g., because the same action can fulfill multiple goals), additional items must be asked if disambiguating personal from social goals is important (which may or may not be the case).

Collective efficacy beliefs are measured using similar types of items, although a number of additional considerations arise. First, as mentioned earlier, collective efficacy can be measured in reference to beliefs about individual actors or else about the actions of a group as a whole. The decision of which form of collective action belief to measure is largely dependent on the nature of the target action: actions that are highly interdependent (i.e., each individuals' actions and the group's outcomes are constrained by the decisions made by all members of the group) should generally be measured by referencing the group as a whole (e.g., "We can win the game if we work together"); in contrast, asking about actions of other individuals

makes more sense when decision-making is relatively independent (e.g., "Most individuals can reduce their household energy consumption by 5%")[7].

An additional consideration involves Bandura's "prohibition" against including judgments of intention to perform an action in measures of efficacy: in the context of collective action, this rule may require relaxing. As various authors have noted (e.g., Lubell, 2002; Van Vugt, 2009), believing that a group of individuals can achieve a collective outcome requires not only belief in (a) the effectiveness of the behavior and (b) the ability of those individuals (or at least some large proportion of them) to engage in that behavior, but also (c) the willingness and likelihood of most individuals to actually take action. That is, collective action involves two critical additional features—trust and coordination—that need to be taken into account when measuring collective efficacy. One obvious way to deal with this issue is to simply add additional items that explicitly ask individuals how confident they are that others can be trusted to "do their part" (indeed, this may be an interesting variable in its own right for FrameWorks). An alternative approach suggested by Koletsou and Mancy (2011) is to slightly change the wording of collective-efficacy (and collective outcome expectancy) items from the present tense of "to be able" to the future tense (e.g., "Most people will be able to turn down their thermostat by 1 degree," see p. 203). They suggest that doing so partially captures the trust aspect of collective efficacy beliefs without requiring individuals to respond to an additional item.

To summarize, there are three widely used ways to ask individuals about their perceptions of self- and collective-efficacy. Self-efficacy is most often measured with items that take the form, "I am confident that I can do behavior X, despite challenge Y." Collective-efficacy is most often measured in one of two ways. For highly interdependent actions and outcome domains (e.g., team sports), items often take the form, "We can do behavior X, despite challenge Y." For more independent actions and outcome domains (e.g., combating climate change through individual-level action), items often take the form, "The majority of individuals (or all individuals) can do behavior X, despite challenge Y." Finally, as noted in Footnote 6, any of these three measures can be aggregated across individuals in order to create a second-order measure of perceived collective efficacy (which might be of interest in the context of conducting group-level comparisons).

Measuring individual, personal and collective outcome expectancies

Measuring individuals' outcome expectancies (or response efficacy beliefs) is relatively straightforward, with just two primary considerations needing to be kept in mind. The first involves combining the level of the goal (personal vs. social) with the actor responsible for the

[7] Note that I am concerned primarily with first-order measurement considerations in this section. A second-order issue, but an important one, arises in the context of collective efficacy with respect not to item construction but to how best to interpret individuals' responses to these sorts of question. For example, if we want to know whether one group of individuals perceives themselves as relatively more or less efficacious than another group, we can look either at aggregated measures of self- or collective-efficacy. That is, we can get one measure of collective efficacy by aggregating across individuals' responses to self-efficacy items; we can get a potentially very different measure by aggregating across individuals' responses to collective-efficacy items. Which of these aggregated measures is of more interest is of course entirely driven by the underlying research questions and domain.

target action (individual vs. group). Since it makes little sense to ask about the effectiveness of a group's actions in accomplishing a personal goal, three possible types of outcome expectancy exist: individual (individual actor, personal goal); personal (individual actor, social goal); and, collective (collective/many actors, social goal). The most common outcome expectancy item constructions focus on the effectiveness of a particular action with respect to achieving a desired outcome or goal. Again taking the dieting example, an individual outcome expectancy item might read: "Not eating after 10pm will help me keep my weight in control." Individual outcome expectancy items can also reference socially-relevant actions yet be focused on individual-level goals, e.g., "Staying away from other smokers will make it easier for me to quit smoking." Personal outcome expectancies (again, using Koletsou and Mancy's typology) reference individual action in the service of social goals, for example, "My writing a letter to my congressperson will help promote a more responsive government." Finally, collective outcome expectancies reference collective action(s) serving social goals. Again returning to climate change, relevant items might include, "If most people in my community renovate their homes to code, our community will be more resilient when the next hurricane hits" or "If everyone in the U.S. reduces their energy use by 10%, we will reduce future impacts of global warming."

The second consideration is whether only positive outcome expectancies are measured (as in the examples above) or whether both possible positive and negative outcomes of taking some particular action (or failing to do so) are presented to respondents. For example, with respect to financial planning for retirement, a possible individual outcome expectancy item might be, "Failing to put aside money each month will force me to retire at a later age than I want to"; such a negative outcome expectancy is expected to serve as an incentive for performing the target action (i.e., "saving money for retirement") when combined with relevant high self-efficacy beliefs. Parallel items can be constructed for personal and collective outcome expectancies. The primary advantage of including some negative outcome expectancies is that it may widen the range of future outcomes that individuals consider when thinking about the effectiveness and attractiveness of any potential course of action (including the option to do nothing). In all cases, note that these measures all explicitly identify potential future outcomes (hence the use of the word "will"). Individuals are generally asked how much they agree with the items or else how confident they are in the veracity of the statement(s).

Combining measures of efficacy and outcome expectancy (hybrid measures)

Although there are numerous benefits to measuring efficacy and outcome expectancy items separately (e.g., persuasive messages may influence one construct but not the other), there may be situations in which there is a desire or need to develop and implement hybrid measures that combine the two constructs (e.g., limited space on a survey instrument). Combining efficacy and outcome expectancy constructs into single items has to be done in an ad-hoc manner, with researchers relying on their own best judgment most of the time (although some mixed items do already exist in various literatures; see next section for one example in the political efficacy domain). One general form for such items is, "We can successfully perform behavior X which will result in positive outcome Y." For example, in the

context of achieving education reform goals, one hybrid item might read as follows: "Together, we can push for and enact meaningful education reform in the U.S." In the case of climate change, an item might read: "Americans can reduce their energy use and reduce the future impacts of climate change."

Internal and external efficacy measures

In political science, internal and external efficacy items take a wide variety of forms, and there tends to be low agreement among political scientists regarding the most appropriate way to measure these constructs; some of these measures are very behavior-specific whereas others refer more generally to the perceptions of one's ability to engage in the political system. Valentino et al. (2009) use the following American National Elections Study item to measure internal efficacy: "Sometimes politics and government seem so complicated that a person like me can't really understand what's going on." This measure is controversial, however, as it appears to mix both internal and external efficacy concepts. External efficacy is measured with two items, "Public officials don't care much what people like me think" and "People like me don't have any say about what the government does." Note that all of these items are negatively worded (higher levels of agreement indicate lower levels of perceived efficacy).

Measuring efficacy in open-ended interviews

All of the measurement-related discussion above is oriented primarily towards measuring efficacy using close-ended measures (generally in the context of survey research settings). Obviously, efficacy beliefs can also be gauged and explored via in-depth interviews (as FrameWorks likely already does). Although such settings provide more flexibility for assessing and probing individuals' efficacy and outcome expectancy beliefs, most of the recommendations above (e.g., regarding specificity, tapping capabilities as opposed to intentions) should generally be followed whenever possible.

Part V: Implications for FrameWorks

As discussed in the pages above, individuals' beliefs about their own and others' ability to enact meaningful changes in their personal and social lives play critical roles in supporting and motivating social change (cf. Gecas, 1989). When individuals feel that their actions can make a positive difference and that they have the ability, resources and freedom of choice necessary to successfully enact those actions, they are much more likely to be engaged and active neighbors and citizens. When people lack strong self- and collective-efficacy beliefs and/or positive outcome expectancies, however, they are much less likely to take action, even (and perhaps particularly) in the face of threats to the self and others[8]. A robust, multi-

[8] One additional note should be made here regarding the relationship between political efficacy and engagement: various studies have shown that the combination of high internal efficacy and *low* external efficacy may be conducive to certain forms of political engagement, namely protest and extreme activism behavior (because low external efficacy reflects the belief that the government is not responsive to citizen concerns, thus "working within the system" is no longer viewed as a plausible conduit for social change). On the other hand, high internal and

disciplinary body of empirical research (which draws from across the social sciences) attests to the effects that our perceptions of capability and effectiveness have on our willingness to engage in personal and shared projects, particularly in the context of collective action problems such as climate change or education reform. That being said, individuals' efficacy and outcome expectancy beliefs are likely necessary but not sufficient to motivate collective action (Brady et al., 1995); people also need to possess the resources required to be an active citizen as well as be situated in cultural and political contexts that provide meaningful opportunities for engagement (Oliver, 1993).

Given the multiple pathways by which efficacy beliefs influence and support action for social change (e.g., via effects on emotional responses to threats; as a motivational resource for sustained action in the face of challenges; by engaging and reinforcing social norms)—as well as the role that persuasive messaging (including modeling) can play in bolstering perceptions of efficacy—it seems likely that FrameWorks' efforts would benefit from more explicitly addressing the various concepts discussed in this paper. Doing so should not be onerous and is very likely to simply require building upon practices in which FrameWorks is already engaged (but potentially not explicitly identifying as related to concepts of efficacy and agency). For example, FrameWorks appears to already informally gauge individuals' objective and subjective efficacy during the in-depth interview process; in addition, many of the items included in FrameWorks' existing experimental work (particularly those included in the metaphor testing experiments) can be treated as measures of individuals' objective efficacy (e.g., the ability to understand and use metaphors to which participants are exposed). Moreover, it is clear that explicitly or not, FrameWorks is already and fundamentally oriented towards developing communications strategies and tools that aim to bolster advocates' and individuals' efficacy, both objective and subjective; all that is missing (and only partially so), it appears, is a formal framework and set of tools for assessing how FrameWorks' efforts influence individuals' perceptions of efficacy.

Moving forward, my primary recommendation is that measures of efficacy and outcome expectancies be included whenever it is feasible to do so and when there is a reasonable expectation that these measures may provide novel insights into how individuals are thinking about and responding to an issue (or message). These conditions seem most likely to hold in the various values, metaphor and narrative testing experiments that FrameWorks conducts on a regular basis, as these are the situations in which individuals' exposure to new and differentially framed information may produce varied effects in terms of perceived efficacy and, ultimately, issue engagement (including desire for social change and mobilization). Measures of self- and/or collective efficacy and issue-appropriate outcome expectancies should of course be matched to the ultimate behavioral and/or learning outcomes in which FrameWorks or the client is interested. In some cases, perceptions of efficacy may themselves be the ultimate dependent variable of most interest; in other cases, such perceptions may be mediators of treatment (experimental) effects on downstream outcome variables.

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external efficacy beliefs support more traditional modes of political and civic engagement (e.g., contacting elected officials, voting, volunteering).

A second recommendation is that FrameWorks explore the possibility of designing and conducting some limited number of two-stage message-testing (i.e., metaphors, values, narratives) experiments in the future. Such studies would involve surveying the same set of participants at two time-points: at Time 1, individuals would only be asked about their pre-existing efficacy and outcome expectancy beliefs (in addition to whatever other baseline measures FrameWorks is interested in); at Time 2, the same individuals would be exposed to the various experimental treatments before again being asked to respond to the same set of outcome measures. Although this type of experimental design obviously increases the cost of conducting the research, such panel study designs would allow FrameWorks to explicitly examine how its various experimental treatments influence specific individuals' efficacy beliefs, mental models, issue knowledge and other outcomes of interest. That is, a two-step study would allow for uncontaminated within and between individual comparisons of treatment effects (as opposed to only between-individual or group-level effects, as is usually the case with single time-point studies[9]). Within-subject analyses of treatment effects provide two primary benefits. First, they are much more sensitive than between-subject analyses, providing a clearer sense of the magnitude of treatment effects. Second, they allow exploration of individual-level variation in treatment effects; that is, within-subject (two-stage) designs provide researchers with the ability to explore who is affected by different stimuli and, to a certain degree, why some people are more affected than others. Although FrameWorks may not always (or perhaps even often) be interested in asking such detailed questions about its treatment effects, there may be times or issues for which such analyses are especially likely to produce novel and actionable insights.

Concluding remarks

FrameWorks potentially stands to gain a number of significant benefits by explicitly measuring efficacy beliefs in future research. First, efficacy is very likely an interesting and salient outcome variable in its own right for many advocates and clients; regardless of any effects that efficacy beliefs have on downstream learning, engagement and decision-making, they are often correctly viewed as intrinsically desirable outcomes of communications efforts. Thus, including explicit measures of efficacy in future research will allow FrameWorks to provide clients with yet another "deliverable." Second, because perceptions of efficacy and outcome expectancies play such an outsized role in influencing issue engagement and social change processes at multiple junctures, understanding how persuasive messaging efforts shape these beliefs may reveal why and whether certain messages will be more effective than others in the long run; that is, measuring efficacy beliefs is very likely to provide instrumental benefits to FrameWorks' practice and ultimate effectiveness as an agent of progressive social

[9] Obviously, items tapping efficacy beliefs, knowledge, affect, etc. could be measured twice in a single experimental session, once before and once after exposure to stimulus materials. Although doing so is likely unproblematic with respect to measuring certain constructs (e.g., emotional states), any measures that are domain-specific and that are asked prior to stimulus exposure run the risk of influencing how individuals engage with the experimental manipulation and/or how they respond to the items the second time around. The possible contamination effects can be tested for, however, by simply asking some participants the target items twice and others once. Comparing the post-treatment scores of these two groups of participants allows us to preliminarily and cheaply rule-out contamination effects.

change. Finally, FrameWorks is already deeply engaged in efforts to boost individuals' and communities' objective and subjective efficacy across every domain in which it works. Moreover, it already actively measures objective efficacy outcomes; developing robust measures of individuals' perceptions of their own and others' efficacy to create positive social change is a logical extension of these ongoing efforts and appears to pose little if any down-side risk moving forward.

References

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes 50, 179-211.

Anderson, M. R. (2010). Community psychology, political efficacy and trust. Political Psychology, 31, 59-84.

Ardelt, M. & Eccles, J.S. (2001). Effects of mothers' parental efficacy beliefs and promotive parenting strategies on inner-city youth. Journal of Family Issues, 22, 944-972.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. Annual Review of Psychology, 52, 1-26.

Bandura, A. (2002). Social cognitive theory in cultural context. Applied Psychology: An International Review, 51, 269-290.

Bandura, A. (2006). Guide for constructing self-efficacy scales. In Urdan, T. & Pajares, F. (eds.) Self-Efficacy Beliefs of Adolescents. Charlotte: Information Age Publishing.

Barker, C. (2005). Cultural Studies: Theory and Practice. London: Sage.

Boardman, J. D. & Robert, S. A. (2000). Neighborhood socioeconomic status and perceptions of self-efficacy. Sociological Perspectives, 43, 117-136.

Brady, H. E., Verba, S. & Schlozman, K. L. (1995). Beyond SES: A resource model of political participation. The American Political Science Review, 89, 271-294.

Conner, M. & Norman, P. (2005). Predicting Health Behavior, 2nd Ed. Buckingham: Open University Press.

Corcoran, K. E., Pettinicchio, D. & Young, J. T. N. (2011). The context of control: A cross-national investigation of the link between political institutions, efficacy and collective action. British Journal of Social Psychology, 50, 575-605.

Fielding, K., McDonald, R. & Louis, W. (2008). Theory of planned behavior, identity and intentions to engage in environmental activism. Journal of Environmental Psych., 28, 318-326.

Finkel, S. E. (1985). Reciprocal effects of participation and efficacy: A panel analysis. American Journal of Political Science, 29, 891–913.

Finkel, S. E., Muller, E. N., & Opp, K. D. (1989). Personal influence, collective rationality, and mass political action. American Political Science Review, 83, 885-903.
Gecas, V. (1989). The social psychology of self-efficacy. Annual Rev of Sociology, 15, 291–316.

Kahneman, D. (2011). Thinking, Fast and Slow. New York: Farrar, Straus and Giroux.

Kellstedt, P. M., Zahran, S., & Vedlitz, A. (2008). Personal efficacy, the information environment, and attitudes toward global warming and climate change in the United States. Risk Analysis, 28(1), 113-126.

Kerr, N. L. (1996). Does my contribution really matter? Efficacy in social dilemmas. European Review of Social Psychology, 7, 209-240.

Koletsou, A. & Mancy, R. (2011). Which efficacy constructs for large-scale social dilemma problems? Individual and collective forms of efficacy and outcome expectancies in the context of climate change mitigation. Risk Management, 13, 184-208.

Lubell, M. (2002). Environmental activism as collective action. Environment and Behavior, 34, 431-454.

Lubell, M. Zahran, S. & Vedlitz, A. (2007). Collective action and citizen responses to global warming. Political Behavior, 29, 391-413.

Luszczynska, A. & Schwarzer, R. (2005). Social-cognitive theory. In M. Conner and P. Norman (eds.) Predicting Health Behavior, 2nd Ed. Buckingham: Open University Press, p. 127-169.

Luszczynska, A., Scholz, U. & Schwarzer, R. (2005). The general self-efficacy scale: Multicultural validation studies. The Journal of Psychology, 139, 439-457.

Miller, W. E., Miller, A. H. & Schneider, E. J. (1980). American National Election Studies Data Sourcebook: 1952-1978. Cambridge, MA: Harvard University Press.

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. Journal of Counseling Psychology, 38, 30-38.

Nadeau, R., Niemi, R. G., & Amato, T. (1995). Emotions, issue importance, and political learning. American Journal of Political Science, 39, 558–574.

Oliver, P. (1993). Formal models of collective action. Annual Review of Sociology, 19, 271-300.

Opp, K. (2010). Theories of political protest and social movements. New York, NY: Routledge.

Pattie, C., Seyd, P., Whiteley, P. (2003). Citizenship and civic engagement: Attitude and behaviour in Britain. Political Studies, 51, 443-468.

Putnam, R. (2000). Bowling Alone: The Collapse and Revival of American Community. New York: Simon & Schuster.

Rosenstone, S. J., & Hansen, J. M. (1993). Mobilization, participation, and democracy in America. New York: Macmillan Publishing Company.

Rotter, J. B. (1954). Social learning and clinical psychology. Englewood Cliffs: Prentice-Hall.

Rudolph, T. J., Gangl, A., & Stevens, D. (2000). The effects of efficacy and emotions on campaign involvement. The Journal of Politics, 62, 1189–1197.

Salanova, M., Llorens, S. & Schaufeli, W. B. (2011). "Yes, I can, I feel good, and I just do it!" On gain cycles and spirals of efficacy beliefs, affect and engagement. Applied Psychology: An International Review, 60, 255-285.

Sampson, R. J., Raudenbush, S., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. Science, 277, 918–924.

Solhaug, T. (2006). Knowledge and self-efficacy as predictors of political participation and civic attitudes: With relevance for educational practice. Policy Futures in Education, 4, 265-278.

Stajovic, A. D. & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. Psychological Bulletin, 124, 240-261.

Stenner-Day, K., & Fischle, M. (1992). The effects of political participation on political efficacy: A simultaneous equations model. Australian Journal of Political Science, 27, 282–305.

Teig, E., Amulya, J., Bardwell, L., Buchenau, M., Marshal, J. A. & Litt, J. S. (2009). Collective efficacy in Denver, Colorado: Strengthening neighborhoods and health through community gardens. Health & Place, 15, 1115-1122.

Valentino, N. A., Gregorowicz, K., & Groenendyk, E. W. (2009). Efficacy, emotions, and the habit of participation. Political Behavior, 31, 307-330.

Van Vugt, M. (2009). Averting the tragedy of the commons: Using social psychological science to protect the environment. Current Directions in Psychological Science, 18, 169-173.

Williams, L. A. & DeSteno, D. (2008). Pride and perseverance: The motivational role of pride. Journal of Personality and Social Psychology, 94, 1007-1017.

Witte, K (1992). Putting the fear back into fear appeals: The extended parallel process model. Communication Monographs, 59, 329-349.

Witte, K. & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. Health Education & Behavior, 27, 591-615.

Zeldin, A. L. & Pajares, F. (2000). Against the odds: Self-efficacy beliefs of women in mathematical, scientific and technological careers. American Educational Research Journal, 37, 215-246.