

## Cultivating Positive Emotions to Optimize Health and Well-Being

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### ABSTRACT

This article develops the hypothesis that intervention strategies that cultivate positive emotions are particularly suited for preventing and treating problems rooted in negative emotions, such as anxiety, depression, aggression, and stress-related health problems. [Fredrickson's \(1998\)](#) *broaden-and-build model* of positive emotions provides the foundation for this application. According to this model, the form and function of positive and negative emotions are distinct and complementary. Negative emotions (e.g., fear, anger, and sadness) narrow an individual's momentary thought-action repertoire toward specific actions that served the ancestral function of promoting survival. By contrast, positive emotions (e.g., joy, interest, and contentment) broaden an individual's momentary thought-action repertoire, which in turn can build that individual's enduring personal resources, resources that also served the ancestral function of promoting survival. One implication of the broaden-and-build model is that positive emotions have an undoing effect on negative emotions. By broadening the momentary thought-action repertoire, positive emotions loosen the hold that negative emotions gain on an individual's mind and body by undoing the narrowed psychological and physiological preparation for specific action. Indeed, empirical studies have shown that contentment and joy speed recovery from the cardiovascular aftereffects of negative emotions ([Fredrickson & Levenson, 1998](#)). Stepping off from these ideas and findings, a range of intervention and coping strategies are reviewed, including relaxation therapies, behavioral therapies aimed at increasing rates of pleasant activities, cognitive therapies aimed at teaching optimism, and coping strategies marked by finding positive meaning. These strategies optimize health and well-being to the extent that they cultivate positive emotions. Cultivated positive emotions not only counteract negative emotions, but also broaden individuals' habitual modes of thinking and build their personal resources for coping.

Experiences of negative emotion are inevitable and at times useful. Even so, when extreme, prolonged, or contextually inappropriate, negative emotions can trigger a wide array of

problems for individuals and for society. Fear and anxiety, for instance, fuel phobias and other anxiety disorders (Ohman, 1993) and together with acute and chronic stress may compromise immune functioning and create susceptibilities to stress-related physical disorders (O'Leary, 1990). For some individuals, sadness and grief may swell into unipolar depression (Nolen-Hoeksema, Morrow, & Fredrickson, 1993), which when severe can lead to immunosuppression (O'Leary, 1990), loss of work productivity (Coryell, Scheftner, Keller, & Endicott, 1993), and suicide (Chen & Dilsaver, 1996). Anger and its poor management have been implicated in the etiology of heart disease (Barefoot, Dahlstrom, & Williams, 1983; Fredrickson, Maynard, et al., 1999; Scheier & Bridges, 1995; Williams et al., 1980) and some cancers (Eysenck, 1994; Greer & Morris, 1975), as well as in aggression and violence, especially in boys and men (Buss, 1994; Lemerise & Dodge, 1993).

Given the suffering and loss that stem from negative emotions, the press to understand these emotions is immense. In part reflecting this press, the scientific literature on emotions includes far more publications on negative emotions, like fear, anger, and sadness, than on positive emotions, like joy, interest, and contentment. One could argue that efforts to understand positive emotion should be postponed while psychologists learn more about preventing and treating the disease and suffering caused by negative emotions. But what if positive emotions could help to solve some of the problems that negative emotions generate? What if positive emotions could help people overcome negative emotions faster and build their resilience to future adversities?

This article takes these possibilities seriously. I begin by presenting a model that describes the form and function of positive emotions (Fredrickson, 1998). I next provide a brief overview of studies that test the implications of this model for the role of positive emotions in regulating negative emotions (Fredrickson & Levenson, 1998; Fredrickson, Mancuso, Branigan, & Tugade, 1999). My ultimate aim is to illustrate the implications that this new model has for counteracting—both preventing and treating—individual and societal problems that stem from negative emotions. This is not a tautological endeavor: Preventing or alleviating problematic negative emotions does not in itself cultivate positive emotions. Positive emotions are more than the absence of negative emotions.

The capacity to experience positive emotions remains a largely untapped human strength. The possible benefits of positive emotions seem particularly undervalued in cultures like ours that endorse the Protestant ethic, which casts hard work and self-discipline as virtues and leisure and pleasures as sinful. Departing from this ethic, I will argue that the best solutions to problems stemming from negative emotions are ones that capitalize on positive emotions. An important feature of positive emotions is that their effects do not end once suffering is prevented or alleviated. The repercussions of experiencing positive emotions resonate further: I hypothesize that positive emotions, when tapped effectively, can optimize health, subjective well-being, and psychological resilience. This outlook concurs with the emerging view that psychology should examine, both theoretically and empirically, the positive aspects of human experience as rigorously as it does the negative aspects (Ryff & Singer, 1998; Seligman, 1998).

## Current Perspectives on Emotion

A brief review of current perspectives on emotions provides an important backdrop. Working definitions of emotions vary somewhat among researchers. Even so, a consensus is

emerging that emotions are multi- component response tendencies that unfold over relatively short time spans. Typically, an emotion process begins with an individual's assessment of the personal meaning of some antecedent event—what [Lazarus \(1991\)](#) called the "person–environment relationship," or "adaptational encounter." This appraisal process triggers a cascade of response tendencies, which may be manifest across loosely coupled component systems, such as subjective experience, facial expressions, and physiological changes. Emotions differ from moods in that they are about some personally meaningful circumstance (i.e., they have an object), whereas moods are often free-floating or objectless ([Oatley & Jenkins, 1996](#)). Emotions also differ from affective traits, such as hostility, neuroticism, or optimism: Enduring affective traits predispose individuals toward experiencing certain emotions, and so affective traits and emotional states represent different levels of analysis ([Rosenberg, 1998](#)).

Current models of emotion are typically intended to explain emotions in general. Despite this aim, most models are built to the specifications of prototypic negative emotions (e.g., anger and fear) with positive emotions (e.g., joy and contentment) squeezed in later, as an afterthought. As one critical example, key to many models of emotions, is the idea that emotions are, by definition, associated with *specific action tendencies* ([Frijda, 1986](#); [Frijda, Kuipers, & Schure, 1989](#); [Lazarus, 1991](#); [Levenson, 1994](#); [Oatley & Jenkins, 1996](#); [Tooby & Cosmides, 1990](#)). Fear, for example, is linked with the urge to escape, anger with the urge to attack, disgust the urge to expel, and so on. No theorist would argue that people invariably act out these urges when feeling particular emotions. But rather, people's ideas about possible courses of action narrow in on a specific set of behavioral options. A key idea in these models is that having these specific action tendencies come to mind is what makes emotions evolutionarily adaptive: These are among the actions that worked best in getting our ancestors out of life-or-death situations. Another key idea is that specific action tendencies and physiological changes go hand- in-hand. So, for example, when you have an urge to escape when feeling fear, your body reacts by mobilizing appropriate autonomic support for the possibility of running ([Levenson, 1992, 1994](#)).

[Fredrickson and Levenson \(1998\)](#) noted that negative and positive emotions are not isomorphic in this regard. Instead, the specific action tendencies identified for positive emotions are vague and underspecified. Joy, for instance, is linked to aimless activation, contentment with inactivity, and interest with attending ([Frijda, 1986](#)). These tendencies, in our view, are far too general to be called specific. This is an example of how theorists have tended to squeeze positive emotions into the same theoretical mold as negative emotions. Whereas others before me have noted that the fit for positive emotions is poor ([Ekman, 1992](#); [Lazarus, 1991](#)), to my reading of the literature, this acknowledgment had not yet been productive. The need for a better way to make sense of positive emotions was clear.

## Taking Positive Emotions Seriously

The first question is: If many positive emotions do not share the hallmark feature with the negative emotions of promoting and supporting specific actions, then what is their form and possible function? To answer this, ideas about positive emotions need to be uncoupled from ideas about negative emotions. There is good reason to retain models based on specific action tendencies for negative emotions but to start fresh for positive emotions.

In making this fresh start, I propose discarding two common presumptions ([Fredrickson, 1998](#)). The first is that emotions must necessarily yield specific action tendencies. Although

positive emotions often produce urges to act, they appear to be less prescriptive than negative emotions about which particular actions should be taken. The second is that emotions must necessarily spark tendencies for physical action. Some of the positive emotions seem instead to spark changes primarily in cognitive activity. So, in place of action tendencies, I refer to *thought–action tendencies*. Additionally, instead of presuming these thought–action tendencies are specific, I discuss the relative breadth of the momentary thought–action repertoire.

Using this new terminology, traditional action-oriented models can be paraphrased for negative emotions as follows: Negative emotions narrow a person's momentary thought–action repertoire. They do so by calling to mind and body the time-tested, ancestrally adaptive actions represented by specific action tendencies. This effect is clearly adaptive in life-threatening situations that require quick action to survive. Because positive emotions are not linked to threats requiring quick action, an alternative model seems warranted: I have proposed that positive emotions broaden a person's momentary thought–action repertoire (Fredrickson, 1998). In the following sections, I build the case for this proposal by describing three distinct positive emotions: joy, interest, and contentment.<sup>1</sup> For each, I touch on (a) the circumstances that tend to elicit the emotion (b) apparent changes in the momentary thought–action repertoire, and (c) the consequences or outcomes of these changes.

## *Joy*

Joy arises in contexts appraised as safe and familiar (Izard, 1977), as requiring low effort (Ellsworth & Smith, 1988), and in some cases, by events construed as accomplishments or progress toward one's goals (Izard, 1977; Lazarus, 1991). Frijda (1986) offered the clearest statement on the action tendency associated with joy, which he termed free activation: "[it] is in part aimless, unasked-for readiness to engage in whatever interaction presents itself and in part readiness to engage in enjoyments" (p. 89). In other words, joy creates the urge to play and be playful in the broadest sense of the word, encompassing not only physical and social play, but also intellectual and artistic play. Play, especially imaginative play, is to a large degree unscripted. It involves exploration, invention and just plain fooling around. Pointing to no single set of actions, play takes many forms. To my mind, then, the urge to play represents a quite generic, nonspecific thought–action tendency. Joy and related positive emotions (e.g., exhilaration and amusement) can thus be described as broadening an individual's thought–action repertoire.

Even though play is often aimless, it does appear to have reliable outcomes. Certainly, social play builds and strengthens friendships and attachments. In addition, ethologists have long argued that play promotes skill acquisition: Physical skills are developed and practiced in rough-and-tumble play, manipulative–cognitive skills are developed and practiced in object play, and social–affective skills are developed and practiced in social play (Boulton & Smith, 1992; Dolhinow & Bishop, 1970). More recently, Panksepp (1998) proposed that childhood play drives brain development, especially in the frontal lobes responsible for executive functions and implicated in attention deficit hyperactivity disorder. Joy, then, not only broadens an individual's momentary thought–action repertoire through the urge to play, but also, over time and as a product of recurrent play, can have the incidental effect of building an individual's physical, intellectual, and social resources. Importantly, these new resources are durable, and can be drawn on later, long after the instigating experience of joy has subsided.

## ***Interest***

Interest, [Izard \(1977\)](#) proposed, is the emotion experienced most frequently. Interest and related affective states (e.g., curiosity, wonder, excitement, intrinsic motivation, and flow) arise in contexts appraised as safe and as offering novelty, change, a sense of possibility ([Izard, 1977](#)), challenge ([Csikszentmihalyi, 1990](#)), or mystery ([Kaplan, 1992](#)). These contexts also tend to be appraised as important and requiring effort and attention ([Ellsworth & Smith, 1988](#)). Some theorists have posited that the momentary thought–action tendency of interest is to simply attend (e.g., [Frijda, 1986](#)). Yet to my mind this stops short of fully describing the impact of interest. Instead, I favor Izard's (1977) treatment of interest, which builds on earlier work by [Tomkins \(1962\)](#). The momentary thought–action tendency sparked by interest, according to Izard (1977), is exploration, explicitly and actively aimed at increasing knowledge of and experience with the target of interest. Interest generates "a feeling of wanting to investigate, become involved, or extend or expand the self by incorporating new information and having new experiences with the person or object that has stimulated the interest" (Izard, 1977, p. 216). Although interest may or may not be accompanied by overt physical action, it is nonetheless associated with feeling animated and enlivened; Tomkins (1962) characterized interest as thinking with excitement. Importantly, the openness to new ideas, experiences, and actions is what characterizes the mindset of interest as broadened, rather than narrowed.

Although interested individuals explore for intrinsic reasons, to satisfy their own inner curiosity, such exploration has reliable outcomes. Most obviously, interest-inspired exploration increases an individual's knowledge ([Deci, Vallerand, Pelletier, & Ryan, 1991](#); [Hazen & Durrett, 1982](#); [Renninger, Hidi, & Krapp, 1992](#)). Beyond simply incrementing knowledge, interest and related states also appear to foster "psychological complexity," defined by [Csikszentmihalyi and Rathunde \(1998\)](#) as the ability to integrate and differentiate complex relationships with people and among concepts and strivings. Similarly, [Izard \(1977\)](#), again building on [Tomkins \(1962\)](#), wrote that interest is the primary instigator of personal growth, creative endeavor, and development of intelligence. Interest, then, not only broadens an individual's momentary thought–action repertoire as the individual is enticed to explore, but over time and as a product of sustained exploration, interest also builds the individual's store of knowledge and cognitive abilities. Again, these become durable resources that can be accessed in later moments, and in other emotional states.

## ***Contentment***

Contentment and related emotions (e.g., serenity, tranquillity, and relief) arise in situations appraised as safe and as having a high degree of certainty and a low degree of effort ([Ellsworth & Smith, 1988](#)). This emotion is distinct from mere satisfaction, or the pleasure that derives from a good meal or otherwise meeting bodily needs. It may also be the positive emotion least appreciated in Western cultures. In part, contentment is captured by the Japanese emotion term *amae*, which refers to the sense of being accepted and cared for by others in a passive relationship of reciprocal dependence ([Markus & Kitayama, 1991](#)).

At first blush, to the extent that inactivity is not an action, contentment appears to have no real action tendency. It may be, however, that the changes sparked by contentment are more cognitive than physical. A closer look at theoretical writings on contentment and related states suggests that this emotion prompts individuals to savor the moment or recent experiences, feel "oneness" with others or the world around them, and integrate current and

recent experiences into their overall self-concept and world view ([Izard, 1977](#); [de Rivera, Possel, Verette, & Weiner, 1989](#)). Contentment is not simply behavioral passivity but rather a reflective broadening of a person's self-views and world views.

< a name="8">Contentment, according to this analysis, is a mindful emotion. It involves full awareness of, and openness to momentary experiences; it carries the urge to savor and integrate those experiences, which in turn creates a new sense of self and a new world view. These links to mindfulness, receptivity, integration, self-complexity, and insight characterize contentment as an emotion that broadens individuals' momentary thought–action repertoires, and builds their personal resources.

## Positive Emotions Broaden and Build

A parallelism has emerged here: Not only do joy, interest, and contentment share the feature of broadening an individual's momentary thought–action repertoire, but they also share the feature of building the individual's personal resources, ranging from physical and intellectual resources to social resources. Importantly, these resources are more durable than the transient emotional states that led to their acquisition. By consequence, then, the often incidental effect of experiencing a positive emotion is an increment in enduring personal resources that can be drawn on later, in other contexts and in other emotional states. I call this the *broaden–and–build model* of positive emotions ([Fredrickson, 1998](#)).

A wide range of empirical evidence supports specific predictions drawn from the broaden–and–build model: Positive emotions and related positive states have been linked to broadened scopes of attention, cognition, and action and enhanced physical, intellectual and social resources (for a review, see [Fredrickson, 1998](#)). The work of Alice Isen and her colleagues is exemplary: Their experiments have demonstrated that positive emotions produce patterns of thought that are notably unusual ([Isen, Johnson, Mertz, & Robinson, 1985](#)), flexible ([Isen & Daubman, 1984](#)), creative ([Isen, Daubman, & Nowicki, 1987](#)), and receptive ([Estrada, Isen, & Young, 1997](#)). In general terms, Isen suggested that positive affect "enlarges the cognitive context" ([Isen, 1987](#), p. 222), an effect recently linked to increases in brain dopamine levels ([Ashby, Isen, & Turken, in press](#)). This body of evidence is consistent with the broadening effects of positive emotions that I have proposed. Importantly, the broaden–and–build model does not predict that persons experiencing positive emotions become unfocused, scattered, or shallow thinkers. In contrast, it suggests that these persons typically maintain their focus within the emotion-relevant domain (e.g., the specific love relationship, playful episode, or target of interest), but are at the same time generative of, or receptive to, a wide range of ideas and actions within the domain of their focus.

Moreover, positive emotions have relational repercussions. Even though positive emotions broaden thought–action repertoires within individuals, such broadening can impact interpersonal relationships, especially enduring ones. Observations of married couples, for instance, reveal that the interaction patterns of unhappy couples are structured, predictable, and rigid. Happy couples, by contrast, interact in more unpredictable ways ([Gottman, 1998](#)), a finding consistent with the proposed broadening effects of positive emotions. In addition, Gottman (1998) contended that members of happy couples build up a surplus (or "bank account") of positive sentiments for their partner and their marriage. Over time, this surplus functions as a social resource: Couples that have it are less likely to escalate each other's negative emotions when faced with conflict. Here again the analysis is consistent with the

proposal that positive emotions build enduring social resources.

## **An Evolutionary Functional Analysis of Positive Emotions**

Before taking up the implications of this new model, I would like to discuss it in the context of human evolution. One route to arguing that a particular psychological phenomenon is an evolved adaptation is to take a form-to-function approach: First one notes the form of some existing psychological phenomenon, then thinks back to the lives of our hunter-gatherer ancestors and tries to locate the sort of adaptive problem that might have been solved by this form ([Tooby & Cosmides, 1992](#)). The form that characterizes positive emotions, I have argued, is a momentarily broadened thought-action repertoire. The common denominator across the contexts that elicit positive emotions is perceived safety and satiation. The ability to recognize and take advantage of the opportunities inherent in safe and satiated moments is, at face value, of obvious importance. Of all the things a hunter-gatherer could do in a such a moment—sleep, sit around, continue to run, attack, be vigilant—why might being playful or exploratory have led to a reproductive advantage?

The key is in the "build" part of the broaden-and-build model. Through the experiences of positive emotions, ancestors built their personal resources, including physical resources (e.g., the ability to outmaneuver a predator), intellectual resources (e.g., a detailed cognitive map for wayfinding), and social resources (e.g., someone to turn to for help). These links between positive emotions and resource building suggest that positive emotions may be essential to early child development. Indeed, [Panksepp \(1998\)](#) argued that "youth may have evolved to give complex organisms time to play" (p. 96). Importantly, the personal resources accrued during positive states were durable. When these same ancestors later faced threats to life and limb, these resources could translate themselves into increased odds of survival, and in turn, increased odds of living long enough to reproduce. Thus, the adaptive problem that appears to be solved by positive emotions is this: When and how should individuals build resources for survival? The answer is to build resources during safe and satiated moments by playing, exploring, or savoring and integrating. Together with this evolutionary functional analysis, the broaden-and-build model describes what positive emotions have been good for—their ancestral function—and explains why they are now part of our universal human nature.

The evolutionary functional analysis I have sketched does not mean that experiences of positive emotions necessarily have adaptive advantages in present day circumstances, nor that present-day humans pursue positive emotions to maximize their odds of survival, reproduction, or inclusive fitness. Indeed, positive emotions may now serve multiple purposes in people's lives. At times, the "pursuit of happiness" may solely reflect the fact that positive emotions are hedonically pleasant and therefore inherently rewarding. Present-day motivations aside, the adaptationist account I offer makes the more modest claim that the structure and effects of positive emotions evident in present-day humans have been shaped by the recurrent conditions faced by our ancestors over the course of human evolution.

Although we cannot assume that positive emotions inevitably "do good," the insights that the broaden-and-build model offers into the psychological form and ancestral function of positive emotions can illuminate ways that present-day humans might deploy positive emotions to optimize health and well-being. Moreover, the broaden-and-build model

claims that positive emotions can have effects beyond making people "feel good" or improving their subjective experiences of life. They also have the potential to broaden people's habitual modes of thinking and build their physical, intellectual, and social resources. These processes, I will argue, can help people overcome current stresses faster and make them more resilient to future adversities.

## **Implications for Emotion Regulation: The Undoing Effect of Positive Emotions**

I have argued that positive emotions broaden individuals' momentary thought–action repertoires. If true, then positive emotions should also serve as particularly effective antidotes for the lingering effects of negative emotions, which narrow individuals' thought–action repertoires. In other words, positive emotions should have an undoing effect on negative emotions. The basic observation that positive emotions (or their key components) are somehow incompatible with negative emotions is not new, and has been demonstrated over several decades by a range of researchers working on affect-related processes ([Baron, 1976](#); [Cabanac, 1971](#); [Nezu, Nezu, & Blissett, 1988](#); [Solomon, 1980](#); [Wolpe, 1958](#)). Even so, the precise mechanism or mechanisms ultimately responsible for this long-noted incompatibility have not been adequately identified.

Broadening may turn out to be the operative mechanism. By broadening the momentary thought–action repertoire, positive emotions may loosen the hold that (no longer relevant) negative emotions gain on an individual's mind and body by dismantling or undoing the narrowed psychological and physiological preparation for specific action. I propose, then, that the broadened thought–action repertoire of positive emotions is psychologically incompatible with the narrowed thought–action repertoire of negative emotions. In addition, to the extent that a negative emotion's narrowed thought–action repertoire (i.e., specific action tendency) evokes physiological changes to support the indicated action ([Levenson, 1994](#)), a counteracting positive emotion—with its broadened thought–action repertoire—should quell or undo this physiological preparation for specific action. By returning the body to baseline levels of physiological activation, positive emotions create physiological support for pursuing the wider array of thoughts and actions called forth.

Building on this reasoning, my colleagues and I hypothesized that positive emotions should have a unique ability to down-regulate the lingering cardiovascular aftereffects of negative emotions. We tested this aspect of the undoing hypothesis in a series of experiments ([Fredrickson & Levenson, 1998](#); [Fredrickson, Mancuso, et al., 1999](#)). Our empirical strategy was first to induce negative emotional arousal in all participants, using either a fear-eliciting film clip (Fredrickson & Levenson, 1998) or an anxiety-eliciting speech task (Fredrickson, Mancuso, et al., 1999). Next, into this context of negative emotional arousal (and using a between-groups design), we induced amusement, contentment, neutrality, or sadness, again using film clips. We tested our hypothesis by measuring how long it took for the initial negative emotional arousal to return to baseline levels once the randomly assigned secondary film was introduced. Across three independent samples, we found that the two positive emotion films—the amusement film and the contentment film—each accelerated cardiovascular recovery relative to the neutral and sad films (Fredrickson & Levenson, 1998, Study 1; Fredrickson, Mancuso, et al., 1999). We obtained further evidence for the undoing effect from a correlational study that linked spontaneous smiles during negative emotional arousal to faster cardiovascular recovery from that arousal (Fredrickson & Levenson, 1998, Study 2).

Beyond speeding physiological recovery, the hypothesized undoing effect implies that positive emotions should counteract any aspect of negative emotions that stems from a narrowed thought–action repertoire. For instance, negative emotions can entrain people toward narrowed lines of thinking consistent with the specific action tendencies they trigger. When angry, individuals may dwell on getting revenge or getting even; when anxious or afraid, they may dwell on escaping or avoiding harm; when sad or depressed, they may dwell on the repercussions of what has been lost. The undoing hypothesis predicts that positive emotions should restore flexible thinking in these circumstances. No experiments have yet tested this prediction. Even so, indirect supportive evidence can be drawn from a collection of correlational studies. Individuals who express or report higher levels of positive emotion show more constructive and flexible coping, more abstract and long-term thinking, and greater emotional distance following stressful negative events ([Keltner & Bonanno, 1997](#); [Lyubomirsky & Tucker, 1998](#); [Martin, Kuiper, Olinger, & Dance, 1993](#); [Stein, Folkman, Trabasso, & Richards, 1997](#)).

Experiments have thus documented that positive emotions can undo the cardiovascular reactivity that lingers following a negative emotion and that this undoing effect is both reliable and generalizable ([Fredrickson & Levenson, 1998](#); [Fredrickson, Mancuso, et al., 1999](#)). Importantly, the evidence suggests that two different positive emotions—contentment and amusement—although distinct in their phenomenology, share the ability to undo negative emotional arousal. Moreover, correlational evidence suggests that the undoing effect may extend beyond speeding physiological recovery. Positive emotions may also undo the psychological or cognitive narrowing engendered by negative emotions. Although additional studies are still needed, I suspect that the undoing effect occurs because positive emotions broaden people's momentary thought–action repertoires in a manner that is incompatible with the continuance of negative emotion.

## **Implications for Preventing and Treating Problems Rooted in Negative Emotions**

I started this article by specifying individual and social problems that stem from excessive, prolonged, or contextually inappropriate negative emotions, ranging from anxiety disorders and depression to heart disease and aggression. Positive emotions, when channeled into effective prevention, treatment, and coping strategies, should be especially effective for counteracting these problems. The broaden–and–build model, together with the existing evidence for the undoing effect, provides the basis for this claim. In this latter half of this article, I take up a range of intervention and change strategies. These include relaxation therapies, behavioral therapies aimed at increasing rates of pleasant activities, cognitive therapies aimed at teaching optimistic explanatory styles, and coping strategies marked by finding positive meaning within and despite adversity. My ultimate aim is to illustrate how positive emotions infuse each of these change strategies and account for their effectiveness.

It bears underscoring that the view of positive emotions inherent in the broaden–and–build model suggests that intervention strategies that cultivate positive emotions are not simply methods for treating and preventing disease and distress. Health and well-being are more than the absence of disease and distress, just as positive emotions are more than the absence of negative emotions. Taking these truisms to heart, the intervention strategies discussed below are perhaps best conceptualized as optimizing health and well-being. In other words, their effects are likely to go beyond treating and preventing problems that stem from negative emotions and into the realm of building personal strength, resilience, and wellness.

## *Relaxation Therapies*

There is no single relaxation therapy. Instead, there are multiple, seemingly disparate relaxation practices, ranging from more traditional forms, like meditation and yoga, originating in India and Asia, to more modern forms, like progressive muscle relaxation and biofeedback, developed in the West. Despite obvious dissimilarities across these forms, empirical studies have shown that each form produces relaxation and effectively treats problems rooted in, or exacerbated by, negative emotions, including anxiety disorders ([Kabat-Zinn et al., 1992](#); [Miller, Fletcher, & Kabat-Zinn, 1995](#)), as well as headaches, chronic pain, essential hypertension ([Blumenthal, 1985](#)), and day-to-day stress and depression ([Shapiro, Schwartz, & Bonner, 1998](#); for reviews see [Kabat-Zinn, 1990](#); [J. C. Smith, 1990](#)). For this reason, they are often considered a single class of treatments. Treatments centered on relaxation persist for practical reasons: They work. Even so, the mechanisms or active ingredients responsible for their effectiveness remain unknown ([Blumenthal, 1985](#)).

*Are relaxation therapies contentment therapies?* I propose that relaxation therapies are effective because, at one level or another, they cultivate the positive emotion of contentment. Contentment, I have argued, is a mindful emotion; the changes it sparks are more cognitive than physical. It carries the urge not only to savor the moment but also to integrate those momentary experiences into an enriched appreciation of one's place in the world. In abstract terms, contentment broadens a person's momentary thought-action repertoire. Relaxation therapies induce key components of contentment, and in doing so, create conditions for experiencing contentment. As such, the efficacy of relaxation therapies may derive from the undoing effect of positive emotions. As we have seen, empirical tests of the undoing effect confirm that contentment induced by a short film can speed cardiovascular recovery from laboratory-induced fear and anxiety ([Fredrickson & Levenson, 1998](#); [Fredrickson, Mancuso, et al., 1999](#); see also [Ulrich et al., 1991](#), on similar effects attributed to nature scenes). The contentment produced by relaxation therapy may similarly undo the real-life anxiety or stress associated with presenting clinical problems.

I will build a case for the hypothesis that relaxation therapies capitalize on contentment by describing components of different relaxation therapies that resemble components of either contentment or emotion induction techniques, or both. The emphasis on components is noteworthy. Contentment, like any emotion, cannot be instilled directly. People cannot simply will themselves to feel content. All emotion induction techniques are by necessity indirect. They typically focus on one component of the more complex emotion system: a situation or recalled event, a facial expression, or a mode of thinking. Laboratory research on emotions has shown that cultivating key components of an emotion can often initiate, or jump-start, the entire, multicomponent emotion process. Various forms of relaxation therapy, I argue, can be reconceptualized as various methods for inducing contentment.

*Imagery exercises.* Consider first the thematic imagery exercises central to many different relaxation therapies. Individuals receiving relaxation training might be instructed to cultivate an "image of a quiet beach, or a grassy plain, or a cool mountain top, or a peaceful pond," ([J. C. Smith, 1990](#), p. 56) or whatever setting is most relaxing to them at the moment, letting the scene become as vivid and real as possible. Nature settings seem to be invoked most often. This is perhaps no coincidence. Nature settings are especially effective in captivating people's attention and quelling tension ([Kaplan, 1992, 1995](#); [Orians & Heerwagen, 1992](#); [Ulrich et al., 1991](#)). Put differently, certain nature scenes evoke contentment. Other than nature scenes, some imagery exercises ask people to focus on a

childhood triumph or a recent good experience ([J. C. Smith, 1990](#)). The implicit aim seems to be to encourage people to imagine or relive a pleasant event and savor it.

Highly similar imagery exercises and relived emotion tasks have long been used as induction techniques in laboratory studies of emotion (e.g., [Ekman, Levenson, & Friesen, 1983](#); [Futterman, Kemeny, Shapiro, & Fahey, 1994](#); [Levenson, Carstensen, Friesen, & Ekman, 1991](#)) Method acting also uses similar techniques: To portray an emotion with conviction, [Stanislavski \(1965\)](#) taught, actors need to experience the emotion portrayed. To do this, they should imagine a specific emotion-eliciting event from their own lives. Imagery exercises—whether used in relaxation therapy, laboratory studies, or on stage—focus people's attention on emotion-eliciting situations, and in doing so increase the probability that experiences of the targeted emotion will follow. In relaxation therapies, the images called forth are ones known to activate contentment.

*Muscle exercises.* Another component of some relaxation therapies that resembles an emotion induction technique is progressive muscle relaxation (PMR, also called isometric squeeze techniques). PMR was developed by [Jacobson \(1938\)](#) to combat anxiety, incorporated into [Wolpe's \(1958\)](#) systematic desensitization therapy, and later simplified by [Bernstein and Borkovec \(1973\)](#). In practice, some form of PMR is often used to initiate relaxation training sessions ([J. C. Smith, 1990](#)). In these techniques, individuals are asked to tense and then relax different muscle groups (e.g., hands, arms, back, or shoulders). The aim of PMR is to reduce overall muscle tension and action readiness.

Laboratory techniques for inducing emotion also sometimes target muscles, although typically those of the face. For instance, in one technique participants are instructed to contract, one-by-one, the set of facial muscles that create specific facial expressions of emotion (Directed Facial Action, or DFA; [Ekman et al., 1983](#); [Levenson, Ekman, & Friesen, 1990](#)). (For other nonreactive methods of eliciting specific facial muscle contractions, see [Larsen, Kasimatis, & Frey, 1992](#); and [Strack, Martin, & Stepper, 1988](#).) Other techniques target arm muscles ([Cacioppo, Priester, & Berntson, 1993](#)) or overall body posture ([Stepper & Strack, 1993](#)). The logic of these techniques is that the muscle action associated with a particular emotion can trigger other components of that emotion. For instance, when targeted facial muscles are contracted accurately, individuals report feeling the targeted emotion in 66% of the trials, and exhibit emotion-specific autonomic responding in 73% of the trials ([Levenson et al., 1990](#)). Thus, experiments document that posed muscle contractions that mirror those present during emotional states can induce specific emotions.

Building on this empirical evidence, I speculate that the dynamic tension–release sequences of PMR might also induce emotion, namely contentment. These sequences appear to mimic and extend the muscular activity associated with intense laughter. Intense laughter involves the contraction of many muscles in the face, trunk, and limbs, followed by abrupt tension reduction in these same muscles ([Ruch, 1993](#)). Moreover, the tension–release sequences of laughter give way to "a relaxed posture and typically lowered muscle tone, associated with a reduced readiness to respond . . . with planned behavior" ([Ruch, 1993, p. 609](#)). Put differently, a good (joyful) laugh can give way to relaxed contentment. So perhaps because it mirrors intense laughter, PMR induces a key component of contentment: an overall reduction in muscle tension and action readiness.

*Meditation exercises.* Many forms of relaxation therapy also use meditation exercises to cultivate mindfulness,<sup>2</sup> or full moment-to-moment awareness ([Alexander, Langer,](#)

[Newman, Chandler, & Davies, 1989](#); [Kabat-Zinn, 1990](#); [J. C. Smith, 1990](#)). Meditation practices come in many forms, but typically individuals are instructed to practice focusing their attention on the present moment, observing the world and their own thoughts and feelings in a patient, nonjudgmental way, without getting caught up in the past or future, or any single line of thinking or preconceived notion. Cultivating mindfulness also entails cultivating nonstriving ([Kabat-Zinn, 1990](#)) or passivity ([J. C. Smith, 1990](#)), the ability to stop unnecessary goal-directed activity and relinquish unnecessary control. Said differently, mindfulness involves being, not doing ([Kabat-Zinn, 1990](#)). Mindfulness meditation also hinges on cultivating receptivity, or the ability to trust and accept new experiences ([J. C. Smith, 1990](#)).

Descriptions of the mindfulness gained through meditation strongly resemble the cognitive components of contentment. As previously described, contentment produces behavioral passivity (nonstriving), accompanied by urges to savor the moment and forge new connections. Importantly, mindfulness is not synonymous with contentment. Instead, mindfulness creates conditions for contentment to develop. According to [Kabat-Zinn \(1990\)](#), the moment-to-moment awareness of mindfulness leads directly to new ways of seeing: "You see more, and you see more deeply. You may start seeing an intrinsic order and connectedness between things that were not apparent before..." (p. 28). This way of seeing, I propose, sets the stage for contentment and its associated urges to savor and integrate moment-to-moment experience.

*Comparison to prior explanations for relaxation therapies* . I have proposed that relaxation therapies work because they elicit contentment and thus capitalize on the undoing effects of positive emotion. How does this analysis compare to earlier explanations for the efficacy of relaxation therapies? One traditional explanation appeals to the physiological components of relaxation: Various relaxation therapies were thought to work because each induces what has been called the "relaxation response," a collection of physiological changes involving decreases in heart rate, blood pressure, breathing rate, and muscle tension ([Benson, 1975](#)). This relaxation response was deemed therapeutic because it is physiologically incompatible with the health-damaging "stress response" identified earlier by [Selye \(1956\)](#). Note that this explanation emerged from an era of psychology that did not favor reference to cognitive or emotional states. Another, more recent explanation appeals to the cognitive components of relaxation: Various relaxation therapies are thought to work because each cultivates mindfulness or cognitive coping skills that can counteract anxious tendencies ([Blumenthal, 1985](#); [Kabat-Zinn, 1990](#); [J. C. Smith, 1990](#)). Recall that emotions have multiple components, spanning both physiological and cognitive. Thus, conceptualizing contentment and its associated broadening as the critical ingredient of relaxation therapies does not necessarily replace previous explanations; it expands on them. Prior explanations have emphasized only part of the picture: Either arousal reduction or mindfulness. Full relaxation seems to involve more.

I suggest that the therapeutic benefits of relaxation training are best conceptualized in emotion-related terms: The broadened thought–action repertoire of contentment is incompatible with the narrowed thought–action repertoire of negative emotions. Relaxation therapies use a range of techniques to elicit contentment, including imagery, muscle, and meditation exercises. When effective, these techniques create conditions conducive to experiencing contentment, inner calmness and feelings of "oneness" or connection. These positive emotional states are in turn accompanied by reductions in physiological arousal. By inducing contentment and its associated broadening, relaxation therapies undo negative emotional arousal.

*Relaxation therapies as prevention techniques.* Perhaps most significantly, the benefits of relaxation therapies do not end once presenting symptoms are treated. Relaxation therapies also double as prevention techniques. Relaxation therapy offers repeated practice at self-initiated contentment. This practice changes people—it builds their personal resources. For instance, a recent experiment with medical students demonstrated that mindfulness meditation not only decreases anxiety and depression, but also increases empathy and spirituality (Shapiro et al., 1998). So, people who practice relaxation techniques not only gain practical skills for managing subsequent stressors, but also develop more complex and resilient views of self (Benson et al., 1994; Kabat-Zinn, 1990), improve their immune functioning (O'Leary, 1990), and even extend their lives (Alexander et al., 1989). These new sources of resiliency, according to the broaden-and-build model, function as personal resources that can be drawn on later to promote coping and enhance health and well-being.

### ***Finding Positive Meaning***

Contentment, I have argued, may be particularly useful for counteracting problems that stem from fear and anxiety. I turn now to depression and dysphoria, problems that many theorists have conceptualized as deficits of positive affect (Davidson, 1993; Watson, Clark, & Carey, 1988). In my view, a wide range of positive emotions should be useful for counteracting depressive tendencies. I trace the origins of this idea in the sections to come. I begin with early behavioral therapies centered on increasing rates of pleasant activities, and follow the movement toward more cognitive therapies centered on explanatory style. Behavioral and cognitive therapies have each been tested as methods for treating and preventing depression. Both types have been shown to be effective. Even so, I think the pivotal role of positive emotions has been underdeveloped within each approach. To better deploy positive emotions, I propose that strategies for counteracting depression incorporate findings from the emerging literature on coping styles marked by finding positive meaning.

*Early emphasis on pleasant activities.* Building on behavioral theories, Lewinsohn and colleagues postulated that depression may result in part from a deficit of response-contingent positive reinforcement (for a review, see Lewinsohn & Gotlib, 1995). To treat depression, these researchers developed a set of intervention strategies (including training in assertiveness, social skills, relaxation, decision-making and time management) aimed at decreasing the intensity and frequency of depressed persons' unpleasant events and at increasing their rates of engagement in pleasant activities (e.g., Brown & Lewinsohn, 1984; Lewinsohn, Sullivan, & Grosscup, 1980). To monitor changes in rates of pleasant activities, these researchers used the 320-item Pleasant Events Schedule (PES; MacPhillamy & Lewinsohn, 1982) that taps a vast array of activities, including various forms of socializing, being in nature, being creative, being physically active, and other forms of leisure. Research has demonstrated that Lewinsohn's and related behavioral therapies for depression are effective: They increase engagement in pleasant activities and decrease levels of depression (see Lewinsohn & Gotlib, 1995, for a review). A focus on increasing pleasant activities also appears to prevent the initial onset of depressive symptoms (Munoz, Ying, Armas, Chan, & Guzza, 1987). Despite these successes in both treating and preventing depression, researchers have been unable to locate the precise mechanisms responsible for documented therapeutic benefits (Lewinsohn & Gotlib, 1995). Nor have they been able to clearly demonstrate a causal relationship between rates of pleasant activities and subsequent levels of depression (see, e.g., Hoevenaars & van Son, 1990; Lewinsohn & Hoberman, 1982). This raises the possibility that increased rates of pleasant activities may be a sign of depression remission and perhaps not a cause of it.

Again, as with relaxation therapies, it is useful to recognize that behavioral therapies centered on increasing pleasant activities originated within an era of psychology that ignored emotion-related concepts. Perhaps this explains why pleasant activities are emphasized over pleasant subjective experiences, like positive emotions. Although it seems obvious that pleasant activities should produce positive emotions, it also bears underscoring that individuals vary in their likelihood of experiencing positive emotions in response to pleasant activities (Rose & Staats, 1988; Langston, 1994). Correlational studies have shown, for example, that individuals are more likely to experience positive emotions following pleasant events if they perceive control over those events, or mark, celebrate, or otherwise share those events with others (Bryant, 1989; Langston, 1994). Perhaps even more critically, individuals also vary in their likelihood of experiencing positive emotions in response to unpleasant events (Lyubomirsky & Tucker, 1998; Kuiper & Martin, 1998; Martin & Lefcourt, 1983; Nezu et al., 1988), even those as extreme as caregiving and bereavement (Folkman, 1997; Folkman, Moskowitz, Ozer, & Park, 1997; Stein et al., 1997). These observations render an exclusive focus on the valence of events and activities misleading.

*Contemporary emphasis on explanatory style.* More recently, reflecting the influence of cognitive approaches to emotion and therapy, theoretical focus has shifted away from day-to-day events and activities themselves and toward the meanings individuals construct from them. For instance, reformulated learned helplessness theory (Abramson, Seligman, & Teasdale, 1978) posited that it is not bad events per se that lead to depression, but rather the habitual style in which individuals explain their bad events. Explanations based on internal, stable, and global causes have been shown to be depressogenic (Peterson & Seligman, 1984). Cognitive interventions spotlight these pessimistic explanatory styles, along with negative beliefs, and seek to change them. Clinical studies have documented that such cognitive therapies are effective—both for treating and preventing depression. Moreover, their efficacy has been shown to be mediated by changes in explanatory style (DeRubeis et al., 1990; Gillham, Reivich, Jaycox, & Seligman, 1995; Seligman et al., 1988). That is, learning to explain bad events in circumscribed ways—with reference to external, unstable, and specific causes (also called learned optimism)—alleviates and prevents depression.

So, the track record of cognitive therapies centered on explanatory style surpasses that of behavioral therapies centered on pleasant activities. This alone underscores that the emphasis switch from the valence of activities to the meanings people construct from them is crucial. Even so, at present most cognitive therapies strive to cultivate "non-negative thinking" (Seligman, 1990). In other words, even though this type of learned optimism can counteract depression, it may do little to increase experiences of positive emotion or optimize well-being. Again, these positive states are not merely the absence of negative states. To take this recognition seriously, psychologists must push the analysis of meaning-making beyond the traditional boundaries of explanatory style. (For a compatible critique of learned optimism, see Peterson, 1998.)

*Emerging emphasis on finding positive meaning.* Of particular interest in this effort is the emerging literature on the ways individuals seek and find positive meaning<sup>3</sup> (e.g., Affleck & Tennen, 1996; Folkman, 1997; Folkman et al., 1997; Stein et al., 1997). Holding spiritual or religious beliefs or otherwise appreciating the "meaning of life" on philosophical levels can increase people's likelihood of finding positive meaning (Folkman, 1997; Frankl, 1959; Thompson & Janigian, 1988). Yet with or without the infusion of religion, people find positive meaning in daily life through multiple pathways. These include: (a) Reframing adverse events in a positive light (also called positive reappraisal); (b) infusing ordinary events with positive value; and (c) pursuing and attaining realistic goals. Daily experiences of

positive meaning also come in several forms. The most frequently reported forms include: feeling connected to others and cared about (22%), having an opportunity to be distracted from everyday cares (21%), feeling a sense of achievement, pride, or self-esteem (17%), feeling hope or optimism (13%), and receiving affirmation or validation from others (11%). (Percentages indicate the proportion of each form of positive meaning across 215 positive meaningful events described by a sample of 36 caregivers; see Folkman et al., 1997, Table 2.)

Finding positive meaning in daily life appears to have important psychological repercussions. For instance, Folkman and colleagues have found that daily sources of positive meaning predict recovery from depressed mood and long-term psychological well-being (Folkman, Chesney, Collette, Boccellari, & Cooke, 1996). Similar to finding positive meaning in ordinary daily events, finding positive meaning in major life events (e.g., serious medical problems or the death of a loved one) has also been shown to predict long-term psychological well-being and health (Affleck & Tennen, 1996; Davis, Nolen-Hoeksema, & Larson, 1998). Thus, finding positive meaning outperforms engaging in pleasant activities as a predictor of depression remission and future psychological well-being. How does positive meaning work?

*Positive meaning elicits positive emotions.* To answer this question, it is critical to recognize that positive meaning and positive emotions go hand in hand. Bereaved caregivers' daily success at finding positive meaning, Folkman and colleagues have shown, predicts their experiences of positive emotions (Folkman, 1997; Moskowitz, Folkman, Collette, & Vittinghoff, 1996; for related findings on daily benefit-reminding, see Affleck & Tennen, 1996). Moreover, different forms of positive meaning are likely to yield different types of positive emotions. For instance, feeling connected to others and cared for may coincide with love or contentment, whereas being distracted from everyday cares may coincide with interest or joy. Importantly, it appears that positive emotions "may not need to be either intense or prolonged to produce a beneficial effect" (Folkman, 1997, p. 1218). This observation reminds us that even the most subtle positive emotions merit empirical attention.

I propose that the broadening effects associated with experiences of positive emotions explain the therapeutic benefit attributed to finding positive meaning. Again, the broaden-and-build model suggests that the momentarily broadened thought-action repertoire characteristic of positive emotions is psychologically incompatible with the narrowed thought-action repertoire characteristic of negative emotions. Positive emotions, the broaden-and-build model holds, open people's mindsets, enabling creative and flexible thinking. Consistent with this view, Stein et al. (1997) found that people who experienced positive emotion during bereavement were more likely to have developed abstract, long-term plans and goals. Together with positive emotions, plans and goals predicted greater psychological well-being 12 months postbereavement (Stein et al., 1997). To be sure, these findings are correlational, and additional studies are needed to test whether positive emotions produced planning and goal-setting or vice versa. Even so, the broaden-and-build model predicts that the broadening effects of positive emotions produced the flexible mental state that enabled individuals to break out of their negative mindsets to create and pursue abstract and long-term goals. Finding positive meaning in adverse circumstances may thus be another case of positive emotions undoing negative emotions.

*Positive meaning: Treatment and prevention possibilities.* Certainly, momentary relief from sad or depressed mood is not sufficient to prevent or treat depression. Even so, the broaden-

and–build model predicts that experiences of positive emotions can accumulate and compound: The psychological broadening sparked by one positive emotion can increase an individual's receptiveness to subsequent pleasant or meaningful events, increasing the odds that the individual will find positive meaning in these subsequent events and experience additional positive emotions. This can in turn trigger an "upward spiral" that might, over time, lessen depressive symptoms. (For a compatible discussion of an upward spiral, see [Aspinwall, 1998](#).) Thus, through incremental processes attributable to psychological broadening, experiences of positive emotions might, over time, facilitate coping and alleviate depressed mood. Also with time and repeated experience, the broaden–and–build model predicts that positive emotions increment people's enduring personal resources. These may include both intraindividual resources, like increased psychological and physical resilience, and interpersonal resources, like enhanced social relationships, which can be the locus of both pleasant activities and positive meaning. Taken together, these resources—gained through positive emotion experiences—can enhance health and well-being.

### *Exploring the Range of Benefits*

I have focused thus far on the ways positive emotions might be tapped to prevent and treat anxiety and depression and thereby optimize health and well-being. This choice does not mark the boundary conditions of the benefits of positive emotions. Indeed, I make the more general claim that the broadening effects of positive emotions can counteract the narrowing effects of negative emotions. This dynamic should hold regardless of whether the problematic negative emotion is fear, anxiety, sadness, anger, disgust, or some related negative state. It should also hold regardless of whether the intervening positive emotion is contentment, joy, interest, love, or some related positive state. To illustrate this range, I will describe an early social psychology experiment that tested ways to reduce aggression by inducing "incompatible" responses.

On hot summer afternoons, [Baron \(1976\)](#) had a confederate motorist delay male motorists for 15 seconds after a traffic light turned green. He did this under one of five conditions. In a distraction condition, a female confederate pedestrian crossed the street between the confederate's and subject's cars. In an empathy condition, the same confederate hobbled along the same route on crutches. In a humor condition, she crossed wearing an outlandish, humorous clown mask. In a sexual interest condition, she crossed wearing "an extremely brief and revealing outfit of a very unusual type" (Baron, 1976, p. 266). Finally, in a control condition, no pedestrian crossed the street. The dependent measure of aggression was horn-honking, measured both by latency to honk and proportion of motorists honking. I focus here on the behaviors of drivers exposed to the hot weather (i.e., those who drove vehicles without air conditioning) because research has shown that uncomfortable heat increases aggressive tendencies (e.g., [Kenrick & MacFarlane, 1986](#)). These data revealed that those in the empathy, humor, and sexual interest conditions were significantly slower and less likely to honk than those who were in the control and distraction conditions.

Interestingly, [Baron \(1976\)](#) neither discussed the commonalties across the experimental conditions nor speculated about possible mechanisms responsible for this reduced aggression. He simply described the experimentally induced states as "incompatible" with aggression, a sidestep that patterns earlier accounts of why relaxation successfully treats anxiety ([Benson, 1975](#); [Wolpe, 1958](#)). Examining this experiment from the vantage point of the broaden–and–build model, it seems clear that the commonality across experimental conditions was some variant of positive emotion, and the mechanism underlying the noted incompatibility was broadening. The momentarily broadened thought–action repertoire

associated with empathy, amusement, or interpersonal interest could explain the participants' reduced likelihood of acting on the narrow impulse to honk angrily.

Stepping off from these findings, it may be that building empathy between people and groups works to reduce prejudice, aggression, and violence ([Bridgeman, 1981](#); [Feshbach & Feshbach, 1982](#)) because it taps into the broadening effects of love and builds social alliances and bonds. Likewise, invoking amusement and laughter may work to de-escalate anger and interpersonal conflict ([Gottman, 1998](#); [R. E. Smith, 1973](#)) as well as to combat stress and illness ([Cousins, 1985](#); [Fry, 1994](#); [Kuiper & Martin, 1998](#); [Stone, Neale, Cox, & Napoli, 1994](#)) because it taps into the broadening effects joy and builds social bonds and coping resources. Experiences of flow and intrinsic motivation may similarly work to improve the quality of life ([Csikszentmihalyi, 1990](#); [Fredrickson, in press](#)) and foster psychological development ([Csikszentmihalyi & Rathunde, 1998](#); [Deci et al., 1991](#)) because they tap into the broadening effects of interest, and build intellectual resources. These possibilities deserve close empirical scrutiny.

## Summary

The disparate intervention techniques discussed here— relaxation training, finding positive meaning, invoking empathy, amusement, or interest—share the ability to evoke positive emotions while alleviating negative emotions. This commonality begins to unearth the elusive mechanism that may be responsible for each technique's demonstrated effectiveness. People have long held the intuition that positive emotions are somehow incompatible with negative emotions. Therapists and researchers have long operated on this intuition, either explicitly or implicitly. But exactly how are they incompatible? At what level? I use the broaden-and-build model to suggest that the fundamental incompatibility resides at the level of the breadth of the momentary thought-action repertoire. During most positive emotions that repertoire is broad, yielding flexible, receptive, and to some degree unpredictable thinking and action. During most negative emotions that repertoire is narrow, yielding fixated, less receptive, and more predictable thinking and action. Moreover, the broaden-and-build model holds that an emotion's thought-action repertoire directs changes in physiological activity. If a specific action tendency is called forth, then physiological changes are mobilized to support that action tendency ([Levenson, 1994](#)). If, by contrast, a broadened thought-action repertoire is called forth, then physiological activity moves toward midrange or relaxed levels to support a wide range of thoughts and actions. Positive emotions and negative emotions are fundamentally incompatible because a person's thought-action repertoire cannot be simultaneously broad and narrow. This incompatibility, I suggest, accounts for the undoing effect of positive emotions.

A mixed set of intervention strategies, then, can be woven together by the idea that each is effective because it capitalizes on positive emotions. Put differently, the broaden-and-build model provides a parsimonious explanation for how these distinct intervention strategies work to alleviate negative emotions. At present, this proposal remains a set of theory-based hypotheses that need to be put to empirical test. Rigorous tests will include measures sensitive to subtle changes in emotions and the breadth of momentary thought-action repertoires as well as health and well-being. Such future studies will be necessary to confirm, modify, or discard my proposals regarding common underlying mechanisms.

## Future Directions

If future tests uphold the predictions advanced here, will existing intervention strategies be discarded in favor of techniques that invoke positive emotions directly? Not a chance. For the simple reason alluded to earlier: Emotions cannot be instilled directly. Typically, emotions follow from appraisals of the personal meaning of daily events. Atypically, emotions can be "jump-started" by introducing an isolated component of the more complex emotion system. In any case, when people wish to willfully alter their emotional states, they must necessarily do so indirectly. (For a review of emotion regulation techniques, see [Gross, 1998](#).) The intervention strategies I have discussed here represent effective methods for inducing positive emotions. What the present analysis does suggest is that fruitful avenues for discovering additional intervention strategies—or fine-tuning existing ones—will follow positive emotions. Finding ways to cultivate positive emotions will forge paths towards health and well-being.

Given that emotions typically follow from assessments of personal meaning, a look to factors that predispose individuals to find positive meaning is warranted. The personality traits of optimism, hopefulness, and happiness appear relevant. Individuals who possess these traits, studies have shown, tend to be the ones most likely to find positive meaning ([Davis et al., 1998](#); [Lyubomirsky & Tucker, 1998](#)), experience positive emotions ([Affleck & Tennen, 1996](#); [Scheier & Carver, 1992](#); [Seidlitz, Wyer, & Diener, 1997](#)), evaluate self-relevant information carefully and with less defensiveness ([Aspinwall, 1998](#); [Aspinwall & Brunhart, 1996](#); [Trope & Pomerantz, 1998](#)), employ effective coping strategies ([Aspinwall & Taylor, 1997](#); [Fontaine, Manstead, & Wagner, 1993](#); [Irving, Snyder, & Crowson, 1998](#); [Scheier, Weintraub, & Carver, 1986](#); [Snyder et al., 1991](#)), and experience fastest relief from distress ([Davis et al., 1998](#); [Folkman, 1997](#); [Scheier et al., 1989](#)).

Importantly, the extent to which people hold positive outlooks, although typically stable, can be enhanced. Psychoeducational programs, based on cognitive therapies for depression, have been demonstrated to produce "learned optimism" ([Gillham et al., 1995](#); [Seligman, 1990](#)). Finding positive meaning in dire circumstances may be another route to increasing levels of optimism: Studies have documented that finding benefit in adversity is not only predicted by preexisting levels of optimism but is also predictive of future increases in optimism ([Davis et al., 1998](#); [Park, Cohen, & Murch, 1996](#)). Increased optimism, however attained, should translate into an increased ability to find positive meaning and experience positive emotions in daily life. Experiences of positive emotions, in turn, should broaden habitual modes of thinking and build personal resources for coping with life's adversity. Positive emotions are likely to be the active ingredient that energizes this upward spiral that optimizes health and well-being.

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## Footnotes

<sup>1</sup> In an earlier article ([Fredrickson, 1998](#)), I discussed how the positive emotion of love can be conceptualized as joy, interest, and contentment—experienced singly or in combination or succession—within the context of a specific, and often enduring interpersonal relationship.

<sup>2</sup> The term *mindfulness* has been used both within the meditation literature (e.g., [Kabat-Zinn, 1990](#)) and within the social psychological literature (e.g., [Langer, 1989, 1992](#)). An attribute common to both usages of the term is heightened awareness of both the content and the context of thinking. A key distinction, however, is that the mindfulness cultivated by meditation is more tranquil and less active than the mindfulness described by Langer. For a discussion of the similarities and differences between meditation and a form of mindfulness training based on Langer's work, see work by [Alexander et al. \(1989\)](#).

<sup>3</sup> Finding meaning in loss can be construed both as making sense of the event and as finding benefit in the experience. Finding positive meaning is construed as the latter. For discussions on the distinction between these two construals of meaning, see [Davis et al. \(1998\)](#), [Janoff-Bulman and Frantz \(1997\)](#), and [Thompson and Janigian \(1988\)](#).

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