

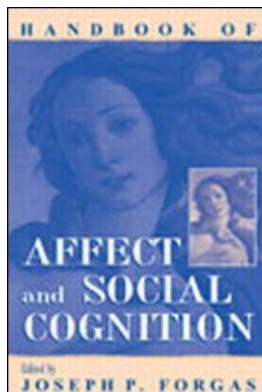
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Promotion and Prevention Experiences: Relating Emotions to Nonemotional Motivational States

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9

Promotion and Prevention Experiences: Relating Emotions to Nonemotional Motivational States

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There are a variety of different emotions that people experience. How should differences in emotional experiences be characterized? What psychological variables account for them? To address these questions, it is necessary to divide emotions into a manageable set that researchers agree contains distinct types of experience. The following set of four types of emotions fulfills this requirement: (a) cheerfulness-related emotions, such as “happy,” “elated,” and “joyful”; (b) quiescence-related emotions, such as “calm,” “relaxed,” and “serene”; (c) agitation-related emotions, such as “tense,” “restless,” and “nervous”; and (d) dejection-related emotions, such as “sad,” “gloomy,” and “disappointed.” This set of different types of emotions provides a clear challenge to psychology concerning how best to characterize and account

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for differences in emotional experiences. I propose that our understanding of the differences among these types of emotional experience would be enhanced by a fuller consideration of the self-regulatory principles and motivational states that underlie them.

The self-regulatory principle that has received the most attention in theories of emotion is *self-regulatory effectiveness*. It has been suggested that the primary function of emotional experiences is to signal or provide feedback about self-regulatory success or failure (e.g., Frijda, 1986; Mandler, 1984; Simon, 1967). Both appraisal and circumplex models propose a basic dimension that distinguishes between pleasant and painful emotions (e.g., Diener & Emmons, 1984; Frijda, Kuipers, & ter Schure, 1989; Green, Goldman, & Salovey, 1993; Larsen & Diener, 1985; Ortony, Clore, & Collins, 1988; Roseman, 1984; Russell, 1978, 1980; Scherer, 1988; Smith & Ellsworth, 1985; see also Schlosberg, 1952; Wundt, 1896). Different models refer to the regulatory effectiveness that underlies this dimension in different ways. For example, it is referred to as *situational state* by Roseman (1984) (i.e., whether an event is consistent or inconsistent with personal motives) and as *goal conduciveness* by Scherer (1988) (i.e., whether an event blocks or helps achieve an organism's goals). Cybernetic-inspired models also postulate that emotions arise from feedback concerning self-regulatory success or failure (e.g., Carver, 1996; Pribram, 1970).

The principle of self-regulatory effectiveness distinguishes between pleasant emotional experiences when self-regulation succeeds and painful emotional experiences when it fails. It provides an important way to characterize the difference between emotions related to cheerfulness and quiescence versus agitation and dejection. Yet what about the difference between the pleasure of cheerfulness and the pleasure of quiescence, and the difference between the pain of agitation and the pain of dejection? How should differences between these emotional experiences be characterized?

Next to self-regulatory effectiveness, perhaps the variable that has received most attention in models of emotional experience has been *arousal* or *activation*. Some models include changes in autonomic arousal or excitation as a fundamental component of emotional experience (e.g., Lindsley, 1951; Mandler, 1984; Schachter & Singer, 1962; Wundt, 1896; Zillmann, 1978). Other models distinguish among different types of emotional experience in terms of their level of arousal or activation (e.g., Bush, 1973; Larsen & Diener, 1985; Reisenzein, 1994; Russell, 1978, 1980; Thayer, 1989; Watson & Tellegen, 1985; Watson, Clark, & Tellegen, 1988; Woodworth & Schlosberg, 1954). The variable of arousal or activation provides a way to characterize the differences between the pleasure of

cheerfulness and the pleasure of quiescence, and between the pain of agitation and the pain of dejection. Experiences of emotions related to both cheerfulness and agitation involve relatively more arousal or activation than experiences of emotions related to quiescence and dejection (for a review, see Feldman Barrett & Russell, 1998).

It is possible, then, to distinguish among the emotional experiences of cheerfulness, quiescence, agitation, and dejection in terms of pleasure versus pain as a function of self-regulatory effectiveness and high versus low arousal or activation (see Feldman Barrett & Russell, 1998). Table 9.1 shows how these variables characterize the four types of emotional experience. According to Table 9.1, cheerfulness-related emotions involve a pleasant, high activation experience; quiescence-related emotions involve a pleasant, low activation experience; agitation-related emotions involve a painful, high activation experience; and dejection-related emotions involve a painful, low activation experience.

There is little question that these characterizations of each type of emotional experience reflect important aspects of each experience. Any model of emotional experiences would need to account for these aspects. However, are these aspects sufficient to capture how these four types of emotional experience are similar and how they are different from one another? Does agitation differ from dejection only by being higher in activation? Is cheerfulness more related to agitation than to dejection? Intuition suggests that something is missing. I believe that what is missing is a self-regulatory principle that distinguishes between different kinds of self-regulatory effectiveness. Specifically, I believe that models of emotion

TABLE 9.1 Distinguishing Among Emotions Related to Cheerfulness, Quiescence, Agitation, and Dejection as a Function of Self-Regulatory Effectiveness and Level of Activation

	<i>Self-Regulatory Effectiveness</i>	
	<i>Success (Pleasure)</i>	<i>Failure (Pain)</i>
Level of activation		
High	Cheerfulness	Agitation
Low	Quiescence	Dejection

would benefit by including regulatory focus as a variable, and by relating emotional experiences to nonemotional motivational states.

This chapter begins by describing regulatory focus as a principle of self-regulation that distinguishes between promotion-focus concerns with advancement, growth, and accomplishment, and prevention-focus concerns with protection, safety, and responsibility. Differences between promotion focus and prevention focus in nonemotional motivational states are then discussed. The principles of regulatory focus and self-regulatory effectiveness are then combined to characterize the similarities and differences among the four types of emotional experience (see also Higgins, 1996; Higgins, Grant, & Shah, 1998). Next, the principles of regulatory focus and self-regulatory effectiveness are combined to account for the differences among these emotions in experiences of activation. The final section considers how the variable of regulatory focus and its relation to both emotional and nonemotional motivational states can increase our understanding of the nature and consequences of emotional experiences.

PROMOTION AND PREVENTION FOCUS CONCERNS

An initial assumption of regulatory focus theory (Higgins, 1997, 1998) is that the hedonic principle of approaching pleasure and avoiding pain operates differently when serving the fundamentally different survival needs of *nurturance* (e.g., nourishment) versus *security* (e.g., protection). Regulatory focus theory proposes that nurturance-related regulation involves a promotion focus, whereas security-related regulation involves a prevention focus. Earlier papers on self-discrepancy theory (e.g., Higgins, 1987, 1989) describe how certain modes of caretaker-child interaction increase the likelihood that children will acquire strong desired end-states. These desired end-states represent either their own or significant others' hopes, wishes, and aspirations for them, referred to as *strong ideals*, or their own or significant others' beliefs about their duties, obligations, and responsibilities, referred to as *strong oughts*. Regulatory-focus theory proposes that ideal self-regulation involves a promotion focus, whereas ought self-regulation involves a prevention focus.

To illustrate this difference, let us briefly consider what children learn from interactions with caretakers that involve either a promotion focus or a prevention focus. Consider first caretaker-child interactions that involve

a *promotion focus*. The child experiences the pleasure of the presence of positive outcomes when caretakers, for example, hug and kiss the child for his or her accomplishments. A child experiences the pain of the absence of positive outcomes when caretakers, for example, act disappointed when the child fails to fulfill the caretaker's hopes. Pleasure and pain from these interactions are experienced as *the presence or absence of positive outcomes*, respectively. The caretaker's message to the child in both cases is that what matters is attaining accomplishments or fulfilling hopes and aspirations (i.e., ideals). The promotion focus involves *a concern with advancement, aspirations, and accomplishment*.

Consider next caretaker-child interactions that involve a *prevention focus*. The child experiences the pleasure of the absence of negative outcomes when caretakers, for example, reassure the child by removing something the child finds threatening. The child experiences the pain of the presence of negative outcomes when caretakers, for example, criticize or punish the child when the child is irresponsible. Pleasure and pain from these interactions are experienced as *the absence or presence of negative outcomes*, respectively. The caretaker's message to the child in both cases is that what matters is ensuring safety, being responsible, and meeting obligations (i.e., oughts). The prevention focus involves *a concern with protection, safety and responsibility*.

A promotion or prevention focus, therefore, can become a chronic orientation depending on an individual's socialization history. Momentary situations are also capable of temporarily inducing either a promotion focus or a prevention focus. Just as the responses of caretakers to their children's actions provide promotion or prevention feedback, task feedback in general can communicate *gain/nongain* information (promotion) or *nonloss/loss* information (prevention). Task instructions concerning which actions produce which consequences can also communicate either *gain/nongain* (promotion) or *nonloss/loss* (prevention) information. Thus, the concept of regulatory focus is broader than just socialization of strong promotion-focus ideals or prevention-focus oughts, and regulatory focus theory is broader than self-discrepancy theory. Promotion focus and prevention focus are self-regulatory states that can be induced temporarily in momentary situations rather than being associated only with chronic self-regulation in relation to ideals and oughts.

The left side of Fig. 9.1 summarizes the different sets of psychological input variables that have distinct relations to promotion focus concerns and prevention focus concerns. Nurturance needs, strong ideals, and situations involving gain/nongain induce promotion-focus concerns with

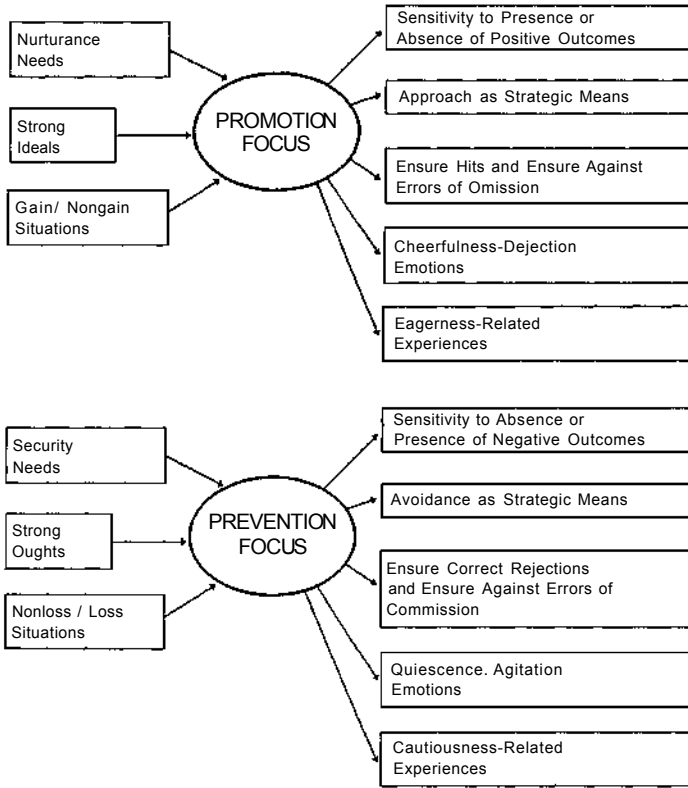


FIG. 9.1. Psychological variables with distinct relations to promotion focus and prevention focus.

aspirations and accomplishments, whereas security needs, strong oughts, and situations involving nonloss/loss induce prevention-focus concerns with responsibilities and safety. The next section discusses how promotion focus and prevention focus also involve distinct motivational states and strategic inclinations.

PROMOTION AND PREVENTION: NONEMOTIONAL MOTIVATIONAL STATES

As discussed in the previous section, the promotion focus of ideal self-regulation is postulated to involve a sensitivity to the presence or absence of positive outcomes, whereas the prevention focus of ought self-regulation is postulated to involve a sensitivity to the absence or

presence of negative outcomes. Higgins and Tykocinski (1992) tested this prediction by selecting participants who had either a strong promotion focus (operationalized as predominant actual/ideal discrepancies) or a strong prevention focus (operationalized as predominant actual/ought discrepancies). All participants read about everyday events in the life of another person that reflected either the presence or absence of positive outcomes (promotion succeeding or failing) and that reflected either the absence or presence of negative outcomes (prevention succeeding or failing). Ten minutes after reading the essay, the participants were asked to reproduce the essay word-for-word. The study found, as predicted, that events reflecting the presence or absence of positive outcomes were remembered better by promotion-focus than by prevention-focus participants, but the reverse was true for events reflecting the absence or presence of negative outcomes.

People are motivated to approach desired end-states, which could be either promotion-focus aspirations and accomplishments or prevention-focus responsibilities and safety. Within this general approach toward desired end-states, however, regulatory focus can induce either approach or avoidance strategic inclinations. Because a promotion focus involves a sensitivity to positive outcomes (their presence and absence), an inclination to approach matches to aspirations and accomplishment is the natural strategy for promotion self-regulation. In contrast, because a prevention focus involves a sensitivity to negative outcomes (their absence and presence), an inclination to avoid mismatches to safety or obligations is the natural strategy for prevention self-regulation.

In one study testing these predictions, Higgins, Roney, Crowe, and Hymes (1994) asked undergraduates to report on how either their hopes and goals have changed overtime (activating ideal self-guides) or their sense of duty and obligation has changed over time (activating ought self-guides). To reveal strategic predilections, this study used a free-recall technique like that of Higgins and Tykocinski (1992). The participants read about several episodes that occurred over a few days in the life of another student. In each of the desired end-state episodes, the target used the strategy of either approaching a match or avoiding a mismatch. Consistent with predictions, the participants remembered desired end-state episodes that involved approaching a match better when ideal self-regulation was activated than when ought self-regulation was activated, whereas they remembered desired end-state episodes that involved avoiding a mismatch better when ought self-regulation was activated than when ideal self-regulation was activated.

Individuals in a promotion focus, with their inclination to approach matches, are eager to attain advancement and gains. In contrast, individuals in a prevention focus, with their inclination to avoid mismatches, are vigilant to assure safety and nonlosses. In signal detection terms (e.g., Tanner & Swets, 1954; see also Trope & Liberman, 1996), individuals in a state of eagerness from a promotion focus are motivated to ensure “hits” and ensure against errors of omission (i.e., a lack of accomplishment). In contrast, individuals in a state of vigilance from a prevention focus are motivated to ensure “correct rejections” and ensure against errors of commission (i.e., making a mistake). This regulatory difference has implications for decision making in signal detection tasks. Individuals in a promotion focus want to ensure recognizing a true target and ensure against omitting a true target, thereby producing an inclination to say “Yes” (a “risky” bias). Individuals in a prevention focus want to ensure rejecting a false distractor and ensure against failing to avoid a false distractor, thereby producing an inclination to say “No” (a “conservative” bias).

A study by Crowe and Higgins (1997) tested these predictions. The participants were told that they would first perform a recognition memory task and then would be assigned a second, final task. A liked and a disliked activity had been selected earlier for each participant to serve as the final task. The participants were told that which of the alternative final tasks they would work on at the end of the session depended on their performance on the initial recognition memory task. The relation between the initial memory task and the final task was described as contingent for everyone, but the framing varied as a function of both regulatory focus (promotion versus prevention) and valence [self-regulation succeeding (pleasure) versus self-regulation failing (pain)]. Valence was included to test whether regulatory focus influences decision making independent of participants’ imagining pleasant versus painful outcomes (regulatory anticipation). The contingency framing was as follows: (a) Promotion Success: “If you do well on the word recognition memory task, you will get to do the [liked task] instead of the other task”; (b) Promotion Failure: “If you don’t do well on the word recognition memory task, you won’t get to do the [liked task] but will have to do the other task instead”; (c) Prevention Success: “As long as you don’t do poorly on the word recognition memory task, you won’t have to do the [disliked task] and will do the other task instead”; and (d) Prevention Failure: “If you do poorly on the word recognition memory task, you will have to do the [disliked task] instead of the other task.”

The study found, as predicted, that participants in the promotion-focus condition had a risky bias of saying “Yes” in the recognition memory task,

whereas participants in the prevention-focus condition had a conservative bias of saying “No.” Moreover, these regulatory focus effects were independent of the valence of framing (i.e., success versus failure framing), which itself had no significant effects. Using the same framing paradigm, Crowe and Higgins (1997) found in a second study that when individuals work on a task in which generating any number of alternatives is correct, those in a promotion focus generate more distinct alternatives (ensuring hits), whereas those in a prevention focus are more repetitive (ensuring against errors of commission).

A classic proposal for self-regulation in relation to desired end-states is that the motivational properties of the goal “loom larger” as one makes progress in attaining the goal, as reflected in a positive approach gradient (Lewin, 1935; Miller, 1994, 1959). Individuals in a promotion focus, therefore, should have stronger approach motivation as they work to achieve a goal. However, what about individuals in a prevention focus? Their general motivation would be to approach the goal, but their strategic inclination for doing so would be to avoid mismatches to goal attainment. If it is their strategic inclination that is responsive to the “goal looms larger” effect, then they should have a stronger avoidance motivation as they work to achieve a goal, as reflected in a positive avoidance gradient. This possibility was tested by Forster, Higgins, and Idson (1998) in one study in which regulatory focus was a chronic individual difference variable, and in another study in which it was experimentally manipulated using a framing manipulation conceptually similar to that used by Crowe and Higgins (1997) described earlier.

Both studies adapted a technique used previously as an independent variable to induce approach and avoidance motivations (see Cacioppo, Priester, & Berntson, 1993; Forster & Strack, 1997). These previous studies found that pressing downward on the top of a surface (arm extension) induces an avoidance motivation related to moving an object away from one’s face and chest, whereas pressing upward on the bottom of a surface (arm flexion) induces an approach motivation related to bringing an object toward one’s face and chest. Forster et al. (1998) used this same arm-pressure technique to serve as an on-line dependent measure of participants’ approach and avoidance motivations. While solving one set of anagrams the participants pressed upward on the metal plate of a skin conductance machine attached to the bottom of a table. Pressing upward harder on the plate produced higher values on the machine’s display, thereby measuring strength of approach motivation. While solving another set of anagrams the participants pressed downward

on the plate of the machine attached to the top of the table, thereby measuring strength of avoidance motivation.

The participants were told that they were part of a physiological study using a newly invented skin conductance machine that measured emotions and motivation. They were told that for the machine to work, they needed to press one hand on the plate enough to maintain contact. Apart from supposedly measuring their physiology, the arm pressure was presented as incidental to the anagrams task. Both studies found, as predicted, that the approach gradient was steeper for participants with a promotion focus than those with a prevention focus, whereas the reverse was true for the avoidance gradient. Most significantly, both studies found a “goal looms larger” effect for avoidance motivations when participants had a prevention focus. A third study replicated this pattern of findings using persistence on the anagrams task, rather than arm pressure, as the measure of motivational strength.

The right side of Fig. 9.1 includes a summary of the different sets of psychological output variables discussed in this section that have distinct relations to promotion-focus concerns and prevention-focus concerns. A promotion focus yields sensitivity to the presence or absence of positive outcomes, approach as strategic means, inclinations to ensure “hits” and ensure against errors of omission, and motivational states related to eagerness. In contrast, a prevention focus yields sensitivity to the absence or presence of negative outcomes, avoidance as strategic means, inclinations to ensure correct rejections and ensure against errors of commission, and motivational states related to cautiousness or vigilance. How might these differences between promotion-focus motivation and prevention-focus motivation be used to characterize and account for the differences among cheerfulness, quiescence, agitation, and dejection emotional experiences? Let us turn now to this central question.

PROMOTION AND PREVENTION: EMOTIONAL EXPERIENCES

A review of the psychological literature (see Higgins, 1987) reveals evidence that people experience dejection-related emotions, such as disappointment, dissatisfaction, or sadness, when they fail to attain their hopes or ideals, whereas they experience agitation-related emotions, such as feeling uneasy, threatened, or afraid, when they fail to meet their obligations or responsibilities. Such evidence suggests that discrepancies from promotion-focus ideals, which represent the absence of positive

outcomes, produce different types of pain than discrepancies from prevention-focus oughts, which represent the presence of negative outcomes. This possibility was directly investigated in a series of studies testing self-discrepancy theory (Higgins, 1987). Because these studies have been reviewed elsewhere (see Higgins, 1987, 1989, 1998), only a few illustrative studies are described here.

An early study by Strauman and Higgins (1988) used a latent variable analysis to test the hypothesis that promotion not working, as reflected in ideal discrepancies, predict different emotional problems than prevention not working, as reflected in ought discrepancies. One month after filling out the Selves Questionnaire measure of self-discrepancies, undergraduates filled out a battery of depression and social anxiety measures. Consistent with predictions, as the magnitude of participants' actual/ideal discrepancies increased, their suffering from depression symptoms increased, and as the magnitude of their actual/ought discrepancies increased, their suffering from social anxiety symptoms increased. Actual/ideal discrepancies were not related to social anxiety, and actual/ought discrepancies were not related to depression. Subsequent studies with clinically depressed and anxious persons have also generally found that depression is related to greater actual/ideal discrepancies, whereas anxiety is related to greater actual/ought discrepancies (e.g., Scott & O'Hara, 1993; Strauman, 1989).

It should also be possible to have momentary effects on dejection and agitation emotions by temporarily increasing the strength of people's promotion-focus ideals or prevention-focus oughts. This hypothesis was tested in a study by Higgins, Bond, Klein, and Strauman (1986, Study 2) that situationally primed ideals and oughts. Undergraduate participants completed the Selves Questionnaire weeks before the experiment. Individuals with either both ideal and ought discrepancies or neither type of discrepancy were recruited for the study. Half of the participants had their ideals primed when they described their own and their parents' hopes and aspirations for them. The other half of the participants had their oughts primed when they described their own and their parents' beliefs about their duties and obligations. This priming had no effect on participants' with neither type of discrepancy. However, the participants with both types of discrepancy experienced an increase in dejection-related emotions when ideals were primed and an increase in agitation-related emotions when oughts were primed.

Consistent with previous work on attitude accessibility (see Bassili, 1995, 1996; Fazio, 1986, 1995), Higgins, Shah, and Friedman (1997)

conceptualized and operationalized the regulatory focus strength of ideals and oughts in terms of their accessibility. A computer measure of actual self and ideal and ought attributes was developed that was similar to the original Selves Questionnaire that has been used in most previous studies (see Higgins, 1998). Promotion-focus strength of ideals was measured by response latencies in listing ideal attributes and giving extent ratings. Prevention-focus strength of oughts was measured by response latencies in listing ought attributes and giving extent ratings. Strength was operationalized as shorter response latencies. Actual/ideal and actual/ought discrepancies were measured by comparing the extent rating of each ideal or ought attribute with the extent rating of the actual self for that attribute.

Higgins et al. (1997) tested the relations among regulatory focus strength, self-discrepancies or self-congruencies, and the frequency that the undergraduate participants experienced different kinds of pleasant and painful emotions during the previous week. The emotions questionnaire included cheerfulness-related items such as “happy” and “satisfied,” quiescence-related items such as “calm” and “relaxed,” agitation-related emotions such as “on edge” and “tense,” and dejection-related emotions such as “disappointed” and “sad.” These studies found that: (a) the stronger the promotion focus (operationalized as highly accessible ideals), the more cheerfulness-related emotions are experienced when promotion succeeds (actual/ideal congruency) and the more dejection-related emotions are experienced when promotion fails (actual/ideal discrepancy); and (b) the stronger the prevention focus (operationalized as highly accessible oughts), the more quiescence-related emotions are experienced when prevention succeeds (actual/ought congruency) and the more agitation-related emotions are experienced when prevention fails (actual/ought discrepancy).

Higgins et al. (1997) further hypothesized that similar effects would be obtained for situational variability in strength of regulatory focus. The participants were given trigrams to memorize. A framing paradigm was used to manipulate promotion-focus strength (i.e., emphasizing gains and nongains) and prevention-focus strength (i.e., emphasizing nonlosses and losses), while keeping constant both the criterion and consequences of success on the task. For the promotion focus, the participants began with \$5 and the instructions were about gains and nongains: “If you score above the 70th percentile, that is, if you remember a lot of letter strings, you will gain a dollar. Otherwise, you will not gain a dollar.” For the prevention focus, the participants began with \$6 and the instructions were about losses

and nonlosses: “If you score above the 70th percentile, that is, if you don’t forget a lot of letter strings, you won’t lose a dollar. Otherwise, you will lose a dollar.” After completing the task, the participants were given false feedback that they had either succeeded or failed. (Feedback-consistent emotional change is increasing positive and decreasing negative emotions following success, and decreasing positive and increasing negative emotions following failure.) The study found, as predicted, that feedback-consistent change on the cheerfulness/dejection dimension was greater for participants in the promotion than the prevention framing condition, whereas feedback-consistent change on the quiescence/agitation dimension was greater for participants in the prevention than the promotion framing condition (see also Brendl, Higgins, & Lemm, 1995; Roney, Higgins, & Shah, 1995).

Together, the results of these and other studies (see Higgins, 1997, 1998) suggest that it is possible to distinguish among the experiences of cheerfulness-related, quiescence-related, agitation-related, and dejection-related emotions in terms of self-regulatory effectiveness and promotion versus prevention focus (see also Higgins, 1996; Higgins, Grant, & Shah, 1998). Table 9.2 shows how these variables characterize the four types of emotional experiences. According to Table 9.2, cheerfulness-related emotions involve a pleasant experience of promotion success, quiescence-related emotions involve a pleasant experience of prevention success, agitation-related emotions involve a painful experience of prevention failure, and dejection-related emotions involve a painful experience of promotion failure.

Our understanding of the nature of these different types of emotional experiences is enhanced by characterizing them in terms of self-regulatory

TABLE 9.2 Distinguishing Among Emotions Related to Cheerfulness, Quiescence, Agitation, and Dejection as a Function of Self-Regulatory Effectiveness and Regulatory Focus

	<i>Self-Regulatory Effectiveness</i>	
	<i>Success (Pleasure)</i>	<i>Failure (Pain)</i>
Regulatory focus		
Promotion	Cheerfulness	Dejection
Prevention	Quiescence	Agitation

focus in combination with self-regulatory effectiveness, rather than just in terms of level of activation in combination with self-regulatory effectiveness. This increased understanding derives from the emotional experiences being related to the nonemotional motivational states associated with promotion focus and prevention focus. Regulatory focus differences in the nonemotional motivational states distinguish between cheerfulness and quiescence as pleasant emotional experiences and between agitation and dejection as painful emotional experiences beyond simply differences in level of activation.

One relation between the nonemotional motivational states and the emotional experiences concerns the psychological situation associated with each type of emotion. For pleasant emotional experiences, cheerfulness relates to the presence of positive outcomes, whereas quiescence relates to the absence of negative outcomes. For painful emotional experiences, agitation relates to the presence of negative outcomes, whereas dejection relates to the absence of positive outcomes.

A second relation between the nonemotional motivational states and the emotional experiences concerns the self-regulatory orientation associated with each type of emotion. For pleasant emotional experiences, cheerfulness relates to the success of eagerness, whereas quiescence relates to the success of cautiousness or vigilance. For painful emotional experiences, agitation relates to the failure of vigilance, whereas dejection relates to the failure of eagerness.

A third relation between the nonemotional motivational states and the emotional experiences concerns the strategic inclination associated with each type of emotion. For pleasant emotional experiences, cheerfulness relates to successful strategic approach, whereas quiescence relates to successful strategic avoidance. For painful emotional experiences, agitation relates to failed strategic avoidance, whereas dejection relates to failed strategic approach.

In sum, by relating the four different types of emotional experiences to promotion focus and prevention focus and their distinct nonemotional motivational states, we can deepen our understanding of the nature of these different emotional experiences. Thus, accounting for these different types of emotions in terms of regulatory focus (in combination with self-regulatory effectiveness) has some clear benefits. Yet what about the fact that people's experiences of these different types of emotions also vary in their level of activation? Is it necessary to have another variable to account for this aspect of people's experiences, or might it be possible to account

for this aspect as well in terms of the combination of regulatory focus and self-regulatory effectiveness? The next section considers just how these two variables might account for this aspect of people's experiences as well by relating the different types of emotional experiences to their unique nonemotional motivational states.

PROMOTION AND PREVENTION EXPERIENCES OF MOTIVATIONAL STRENGTH

Level of arousal or activation as an aspect of emotional experience can be conceptualized as people's experience of the strength of the motivational state, that is, their determination, effort, energy output, associated with the emotion (see, for example, Feldman Barrett & Russell, 1998). People's experience of the strength of their motivational state, in turn, could be related to their experience of action readiness (see Frijda, 1986; Lang, 1995). Indeed, cheerfulness, quiescence, agitation, and dejection types of emotions have been distinguished in terms of the strength of their motivational approach or the strength of their motivational avoidance, such as the hyperactivation of motivational approach for joy and the hypoactivation for sadness (e.g., Frijda et al., 1989; Roseman, Wiest, & Swartz, 1994; Scherer, Walcott, & Summerfield, 1986). Can regulatory focus, in combination with self-regulatory effectiveness, account for level of activation as an aspect of emotional experience in terms of differences in underlying motivational strength? By relating the different types of emotional experiences to their unique nonemotional motivational states, there are several possible ways to do so.

The first possibility concerns the psychological situations associated with each type of emotion. There is considerable evidence that people perform better when dealing with information about something that has happened (the presence of some object or event) than when dealing with something that has not happened (the absence of some object or event); that is, the "feature-positive effect" (for a review, see Hearst, 1984; see also Ross, 1977). Motivation might also be stronger when a psychological situation concerns the presence versus the absence of an outcome. If so, then motivational strength and level of experienced activation should be stronger for cheerfulness-related emotions associated with the presence of positive outcomes than for dejection-related emotions associated with the absence of positive outcomes, and should also be stronger for agitation-related emotions associated with the presence of negative outcomes

than for quiescence-related emotions associated with the absence of negative outcomes.

The second possibility concerns the self-regulatory orientations associated with each type of emotion. For the eagerness associated with promotion-focus self-regulation, one might expect that the eagerness associated with a promotion focus would be maintained or even increase when self-regulation is effective (e.g., making progress in accomplishing something), but that it would be reduced or even eliminated when self-regulation is ineffective (e.g., not making progress in accomplishing something). Thus, the experience of higher activation for cheerfulness than dejection emotions might reflect the fact that eagerness is higher for the former than the latter emotions. For the vigilance (or cautiousness) associated with prevention focus, one might expect that the vigilance would be maintained or even increase when self-regulation is ineffective (e.g., safety has not yet been attained), but that it would be reduced or even eliminated when self-regulation is effective (e.g., safety has been attained). Thus, the experience of higher activation for agitation than quiescence emotions might reflect the fact that vigilance is higher for the former than for the latter emotions.

For prospective emotions, there is a third possibility that concerns the strategic inclinations associated with each type of emotion. For the same goal, a promotion focus involves strategic approach, whereas a prevention focus involves strategic avoidance. Combining this difference in regulatory focus strategies with the difference between the motivation to approach success or avoid failure has implications for motivational strength. Table 9.3 shows how approach/avoidance compatibility varies as a function of regulatory focus and self-regulatory effectiveness. Promotion-focus strategic approach is more compatible with the prospect of approaching success

TABLE 9.3 Approach/Avoidance Compatibility as a Function of Regulatory Focus and Self-Regulatory Effectiveness

	<i>Self-Regulatory Effectiveness</i>	
	<i>Success (To Be Approached)</i>	<i>Failure (To Be Avoided)</i>
Regulatory focus		
Promotion (strategic approach)	High compatibility	Low compatibility
Prevention (strategic avoidance)	Low compatibility	High compatibility

than the prospect of avoiding failure. Thus, motivational strength should be higher for prospective cheerfulness emotions than prospective dejection emotions. Prevention-focus strategic avoidance is more compatible with avoiding failure than approaching success. Thus, motivational strength should be higher for prospective agitation emotions than prospective quiescence emotions.

There is evidence from one of the Forster et al. (1998) studies that is consistent with this compatibility perspective on motivational strength underlying prospective emotions. Regulatory focus and self-regulatory effectiveness were crossed to create four framing conditions: (a) gain framing (promotion focus/success); (b) nongain framing (promotion focus/failure); (c) nonloss framing (prevention focus/success); and (d) loss framing (prevention focus/failure). Framing conditions (a) and (d) involve high compatibility, whereas framing conditions (b) and (c) involve low compatibility. Arm pressure, as discussed earlier, provides a direct measure of motivational strength. As shown in Table 9.4, motivational strength was higher for those conditions with high compatibility (promotion success and prevention failure) than those conditions with low compatibility (promotion failure and prevention success).

Another recent study by Idson, Liberman, and Higgins (2000) provides evidence that supports the general hypothesis that motivational strength as a function of regulatory focus and regulatory effectiveness underlies differences in emotional intensity. Participants who had either a predominant promotion focus or a predominant prevention focus worked on an anagrams task and then received either success or failure feedback. Following the feedback, all participants were asked about their experience of specific emotions belonging to each of the four different types of emotions on a

TABLE 9.4 Mean Arm Pressure as a Function of Regulatory Focus and Self-Regulatory Effectiveness Framing

	<i>Self-Regulatory Effectiveness</i>	
	<i>Success (To Be Approached)</i>	<i>Failure (To Be Avoided)</i>
Regulatory focus		
Promotion (strategic approach)	566	463
Prevention (strategic avoidance)	505	584

scale of experienced intensity. The participants' reports of feeling "happy" (following success) involved a higher intensity experience when their predominant focus was promotion than prevention, whereas their reports of feeling "tense" (following failure) involved a higher intensity experience when their predominant focus was prevention than promotion. The participants' reports of feeling "discouraged" (following failure) involved a lower intensity experience when their predominant focus was promotion than prevention, whereas their reports of feeling "relaxed" (following success) involved a lower intensity experience when their predominant focus was prevention than promotion.

These results support the following conclusions: (1) The high activation experiences normally associated with "happy" and "tense" occur when the motivational orientation of the relevant focus is maintained (i.e., "happy" for promotion-focus eagerness maintained by success; "tense" for prevention-focus vigilance maintained by failure); (2) The low activation experiences normally associated with "discouraged" and "relaxed" occur when the motivational orientation of the relevant focus is reduced (i.e., "discouraged" for promotion-focus eagerness reduced by failure; "relaxed" for prevention-focus vigilance reduced by success).

In sum, people's experience of high activation for emotions related to cheerfulness and agitation and their experience of low activation for emotions related to quiescence and dejection can be accounted for in terms of the combination of regulatory focus and self-regulatory effectiveness. Indeed, there are different ways to do so by relating the distinct emotional experiences to their unique nonemotional motivational states. A novel implication of this account is that the high and low activation experiences typically associated with different emotions depend on people having the relevant regulatory focus; that is, a promotion focus for cheerfulness and dejection, and a prevention focus for agitation and quiescence. Additional implications of regulatory focus for relating nonemotional motivational states to emotional experiences are considered next.

ADDITIONAL IMPLICATIONS OF PROMOTION AND PREVENTION FOR EMOTION

Differences among the experiences of emotions related to cheerfulness, quiescence, agitation, and dejection have been characterized in terms of pleasure versus pain as a function of self-regulatory effectiveness and high versus low arousal or activation (for a review, see Feldman Barrett &

Russell, 1998). Cheerfulness emotions are characterized as pleasant, high activation experiences, quiescence emotions as pleasant, low activation experiences, agitation emotions as painful, high activation experiences, and dejection emotions as painful, low activation experiences.

As mentioned earlier, this now classic characterization concerns aspects of emotional experiences that any model must cover, but it also raises questions. One question is whether these aspects are sufficient to capture how these four types of emotional experiences are similar to and how they are different from one another. To the extent that these types of emotional experiences relate to different types of nonemotional motivational states, then this characterization is insufficient. The experience of agitation does not differ from the experience of dejection only by feeling higher in activation. Agitation relates to ineffective prevention and involves experiences of increased vigilance or cautiousness, whereas dejection relates to ineffective promotion and involves experiences of decreased eagerness or enthusiasm. Similarly, the experience of cheerfulness does not differ from the experience of quiescence only by feeling higher in activation. Cheerfulness relates to effective promotion and involves increased eagerness and enthusiasm, whereas quiescence relates to effective prevention and involves decreased vigilance and cautiousness.

There is another question about whether the classic characterization of the four types of emotional experiences sufficiently captures how they are similar and different from one another. One important form of similarity and difference concerns which pairs of these emotion types function as semantic opposites. *Roget's International Thesaurus* (1962) treats "excitability" and "inexcitability" as semantic opposites, and "cheerfulness" and "sadness" as semantic opposites. Excitability includes agitation-related emotions such as "agitated," "restless," "nervous," and "worried," and inexcitability includes quiescence-related emotions such as "quiet," "calm," "serene," and "tranquil." Cheerfulness includes such cheerfulness-related emotions as "cheerful," "joyful," "happy," and "elated." Sadness includes such dejection-related emotions as "dejected," "sad," "despondent," and "discouraged." These pairs of semantic opposites have also been reported by others (see, for example, Osgood, 1969; Russell, 1991).

How does the classic characterization of the emotional types account for these pairings? As noted by Feldman Barrett and Russell (1998), the pairs of semantic opposites are opposite on both valence (pleasant vs. painful) and activation (high vs. low). Restricted to only the classic characterization, then, cheerfulness and dejection would be semantic opposites because they are maximally different from one another, as quiescence and agitation

would be. However, are semantic opposites maximally different from one another? If this were the case, then mother and nephew would be more likely to be semantic opposites than mother and father because there are more dimensions on which they differ (e.g., generation in addition to gender and family role). Giraffes are extremely different from seashells, but that does not make them strong semantic opposites.

For two things to be semantic opposites they must be comparable. They must be similar enough to be structurally alignable (see Markman & Gentner, 1993), such as belonging to the same basic category or dimension (e.g., mother and father are both parents). Thus, for cheerfulness and dejection to be semantic opposites they must actually be the same in some important way, as must quiescence and agitation. Indeed, they are. Cheerfulness and dejection both involve a promotion focus, and quiescence and agitation both involve a prevention focus. They are opposites because cheerfulness is effective promotion, whereas dejection is ineffective promotion; and quiescence is effective prevention, whereas agitation is ineffective prevention. Regulatory focus is critical for understanding this aspect of emotional experiences.

Combining regulatory focus with self-regulatory effectiveness helps to distinguish among the emotional experiences of cheerfulness, quiescence, agitation, and dejection. Combining regulatory focus with other variables might help to distinguish between other types of emotional experiences as well (see also Higgins, 1996; Higgins, Grant, & Shah, 1998). From a self-regulatory perspective, for example, one would expect people to feel “angry” when they experience a barrier to their self-regulatory movements. Combining regulatory focus with self-regulatory impedance could help to distinguish between “frustration”-type anger for a promotion focus (experiencing a barrier to fulfilling aspirations or attaining accomplishments) and “resentment”-type anger for a prevention focus (experiencing a barrier to fulfilling responsibilities or attaining safety). The results of a study by Strauman and Higgins (1988) support this prediction. As another example, envy and jealousy both involve an inference that someone else has attained something one wants but does not have (or no longer has). Combining regulatory focus with perceived deprivation could help to distinguish between “envy” for a promotion focus (experiencing someone else attaining something one aspires to have) and “jealousy” for a prevention focus (experiencing someone else attaining something one believes one ought to have).

Our understanding of the similarities and differences among distinct types of emotional experiences can be increased by adding regulatory

focus to the account. Our understanding of the nature and consequences of emotional experiences can be increased in other ways as well by considering the motivational properties of promotion and prevention focus. For example, regulatory focus contributes to the efficiency of emotional appraisals. People appraise attitude objects for functional reasons. People evaluate how much some attitude object serves their needs or fulfills their goals. They evaluate how they feel about an object. In a classic functional perspective on attitudes, Smith, Bruner, and White (1956) described the object-appraisal function of attitudes as providing guidelines for sizing-up objects and events in terms of a person's major interests and going concerns (see also Eagly & Chaiken, 1993).

Distinctions between types of positive and types of negative appraisals relevant to different types of concerns have received relatively little attention, however. Given that object appraisal serves the function of sizing-up attitude objects in relation to people's personal concerns, it would be adaptive for there to be different types of evaluations relevant to different types of concerns. Shah and Higgins (1998) predicted that people's emotional evaluations would be more efficient, and thus faster, when the type of evaluation they make is relevant to their promotion-versus-prevention concerns. Controlling for the extremity of participants' emotional responses, they found that individuals in a strong promotion focus were faster to answer how cheerful or how dejected an object made them feel, whereas individuals in a strong prevention focus were faster to answer how quiescent or how agitated an object made them feel. Thus, the efficiency of different types of emotional responses is related to people's regulatory focus concerns.

It is important to relate emotional experiences to underlying motivational states for another reason as well. Historically, psychologists have tended to contrast emotion with cognition—"hot" with "cold." Given this contrast, when studies control for cognitive determinants and find that different emotional states relate to differential responding on some task, there is a tendency to attribute the different responses to the effects of emotion. Our understanding of the true effects of emotions per se is hindered rather than helped by this tendency. Instead of contrasting emotion with cognition, we need to contrast emotions with nonemotional motivations that can also produce differential responding. People can experience motivational states such as difficulty or effort without currently experiencing an emotion. They can also be in a promotion state of eagerness or a prevention state of vigilance without currently experiencing emotions. In order to understand more fully the effects of emotion per se, it is necessary to contrast them with

the effects of nonemotional motivational states because the motivational states themselves can produce differential responding. Let us consider a couple of examples.

As described earlier, Higgins and Tykocinski (1992) found in their study of biographic memory that events reflecting the presence or absence of positive outcomes were remembered better by promotion- than prevention-focus participants, but the reverse was true for events reflecting the absence or presence of negative outcomes. This study also found that this interaction was independent of participants' premood, postmood, or change in mood. Thus, emotional experiences during the study were not necessary for memory effects to occur. What influenced memory was the relevance of participants' chronic regulatory focus to the regulatory focus of the events. Such results raise the possibility that previous "mood and memory" studies may not have depended on emotional experiences per se. When studies manipulate emotional experiences with music, movies, gifts, or recollections of past events, it is possible that they manipulate nonemotional motivational states as well, such as promotion and prevention motivational states, and these motivational states might influence memory independent of emotions. Rather than emotions being necessary for the memory effects, what might be necessary is relevance between a person's regulatory focus and the regulatory focus that is represented in the to-be-remembered events (see Strauman, 1990).

There has been a special fascination among psychologists, especially clinicians, with how anxiety influences cognition. One major conclusion is that anxiety has negative effects on creativity. When people experience high (vs. low) anxiety, for example, they produce fewer subgroups in a sorting task, which is said to reflect concrete rather than abstract thinking (e.g., Mikulincer, Kedem, & Paz, 1990). Crowe and Higgins (1997), however, found that individuals with a prevention focus produce fewer subgroups in a sorting task than individuals with a promotion focus, and this effect was independent of the participants' emotional experiences during the study. Rather than emotions being necessary for the "creativity" effects to occur, it was a prevention focus that produced fewer subgroupings. It should be noted in this regard that participants in the high anxious group of previous studies (whether selected or induced) were likely to have been in a prevention focus.

In conclusion, our understanding of the nature and consequences of emotional experiences would benefit by relating emotional experiences to nonemotional motivational states. In particular, our understanding of the nature and consequences of the emotional experiences of cheerfulness,

quiescence, agitation, and dejection would benefit by relating these experiences to the unique motivational states associated with a promotion focus and a prevention focus. Future research needs to disentangle the effects of the nonemotional motivational states of regulatory focus (e.g., eagerness vs. vigilance) from the effects of the emotions associated with regulatory success and failure. In this way, the unique contribution of emotions to psychological phenomena, beyond just their association with nonemotional motivational states, would become clearer. Hopefully, regulatory focus theory can contribute to this clarification.

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