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PATTERNS.

Affect-Based Evaluation and Regulation as Mediators of Behavior: The Role of Affect in Risk
Taking, Helping and Eating Patterns.

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Affect-Based Evaluation and Regulation as Mediators of Behavior: The Role of Affect in Risk Taking, Helping and Eating Patterns.

Consider the following dilemma. To get people's attention and motivate action a charity organization decides to use vivid pictures of orphaned and starving children in Africa along with somber background music. A primary research stream within the affect literature suggests, first, that such stimuli are likely to put people in a bad mood and that bad moods produce mood congruent information retrieval and explanatory attributional processes (e.g., "I guess I didn't like the appeal."), all of which could work to the disadvantage of the charity. However, a second research stream proposes that people in bad moods pursue strategies likely to improve their moods, so people could feel much better if they called the 800 number and made a donation to help the children. But which of these opposing outcomes is most likely to occur?

In this chapter we apply a unified theoretical conceptualization (see also Andrade, 2005) that includes both informational and goal-directed properties of affect to three important substantive research streams (risk taking, helping others, eating patterns). These behaviors have not previously been brought together to observe their common affective underpinnings. We propose that the integration of these two established affective mechanisms (where informational aspects are treated as affective evaluation (AE) and goal-directed aspects are treated as affect regulation (AR)) can help us account for many of the findings linking affect to observed differences in these behavioral domains. In the previous example, the AE mechanism works against calling the 800 number, as negative aspects of donating money (e.g., fraud, failure to have a meaningful impact) become more salient in her mind when she experiences a more negative affective state. However, if donating money is perceived as a mood-lifting opportunity, the AR mechanism comes into play and may well reverse the effect. As we will explain, positive

affect produces mirror-image effects. It encourages behavioral activity via the affective evaluation mechanism. Donating money may seem easier (possibly fewer “rainy day” thoughts) and more appealing when one is happy. However, when mood threatening cues are made salient (e.g., risks of providing too much information over the phone), the effects reverse due to the impact of the affect regulation mechanism. In this case, AR leads people to protect their current positive feelings.

Affective Evaluation and Affect Regulation

A fundamental aspect of affective states is their ability to stimulate or discourage behavior (Frijda, 1999). However, it is clear that no unique pattern of behavior can be expected from a valenced affective state: positive affect has been shown to stimulate *or* mitigate risk-taking and helping just as negative affect has been shown to encourage *or* discourage helping and food intake. While each of the three substantive domains we examine has important distinguishing characteristics, we believe this integrative conceptual approach may provide a parsimonious account of how affect influences behavior both here and elsewhere.

Studies examining the *behavioral* consequences of affect have, surprisingly, received very limited attention. There has been much more extensive research on the impact of affect on memory, information processing, and judgments/attitudes (Martin & Clore, 2001) than on the impact of affect on choices and behavioral activities. For example, Schwarz & Clore’s (1996) twenty seven page review of the affect literature in social psychology allocated about a half page to the impact of feelings on behavior: “As reflected in this review, most of the research has focused on the influence of feelings on cognitive processing. Attention to the impact of feelings on behavior has been more limited...” (p. 458). Also, behavioral models have usually focused either on a single behavioral activity (e.g., helping; Schaller & Cialdini, 1990) and/or on one pole

of the affective spectrum (e.g., positive affect; Isen, 2000). Finally, and probably as an outgrowth of highly specialized research, the focus of resulting theories diverges, though each can call upon some supportive data. Looking across theories, domains and studies, for example, there are disagreements as to whether negative affect enhances or inhibits helping as a result of mood regulation (Gendolla, 2000; Schaller & Cialdini, 1990) and whether mood maintenance leads to behavioral encouragement (Clark & Isen, 1982; Manucia, Baumann, & Cialdini, 1984).

We start with the observation that most theoretical accounts fall into one of two major categories, static affective evaluation theories and dynamic affect regulation theories, each having their own underlying mechanism to explain the impact of affect on behavior (for an exception, see Forgas, 1995). Affective evaluation theories rely most strongly on the role of affect as information (Schwarz & Clore, 1983) and mood-congruency processes (Bower, 1981; Isen, Shalke, Clark, & Karp, 1978). These models focus on the impact of affective states on cognition during an evaluative judgment (so, at a single point in time), the results of which either stimulate or discourage a specific behavior. They suggest that affect influences cognition and action tendencies either directly, by providing people with unique information (Schwarz & Clore, 1983), or more indirectly, by making mood congruent information more accessible in people's minds (Bower, 1981, Isen et al. 1978).¹ The second major category includes theories such as the negative relief model (Cialdini, Darby, & Vincent, 1973), mood-maintenance (Clark & Isen, 1982), coping (Lazarus & Folkman, 1984), mood management (Zillmann, 1988), the social constraint model of mood regulation (Erber & Erber, 2001), and emotion regulation (Gross, 1998). Although they vary in many details, these theories incorporate dynamic aspects such that individuals' hedonic goals (i.e., preferences for feeling good and positive self-regard) lead them to consider possible affect discrepancy between two points in time (i.e., what they feel

now and what they could feel in the future as a result of the behavioral activity), and this anticipated affective change is likely to influence behavior.

Looking across all these theories, the affect-behavior relationship can be summarized by thinking about four combinations: positive affect-action, positive affect-inaction, negative affect-action, negative affect-inaction (see figure 1). None of the theories within one of the two categories (together with their assumed mediating processes), can resolve these apparent “conflicting” findings. For instance, whereas the affect as information or mood congruency hypothesis can help us explain why negative (positive) mood discourages (encourages) action (i.e., lower right and upper left corners), it is harder for these theories to explain how negative (positive) affect stimulates (mitigates) action (i.e., lower left and upper right corners). The opposite holds true for theories based exclusively on affect regulation principles. These theories explain why, compared to a control condition, sad (happy) people are more (less) willing to act (i.e., lower left and upper right corners). But they cannot easily account for a decrease in behavioral activity when people experience negative affect or for the impact of positive affect on behavior encouragement (i.e., lower right and upper left corners).

Insert Figure 1 Here

In our integrative framework, on the other hand, affect regulation and affective evaluation represent parallel mediators of behavioral response. Empirical evidence from research on helping others (e.g., Cialdini & Kenrick, 1976), risk-taking (e.g., Nygren, Isen, Taylor, & Dulin, 1996), and eating behavior (e.g., Willner et al. 1998) is reviewed in order to assess the framework’s ability to explain relevant behavioral reactions (i.e., resulting from current as well

as anticipated affective states). In addition to clarifying apparent inconsistencies within each body of research we hope to integrate seemingly isolated findings across these different substantive research streams. So, for example, understanding the reasons why subjects' willingness to help may increase or decrease as a function of a bad mood should allow us to understand the apparent "non-reliable" results relating negative mood and eating behavior. More generally, we provide an explanation of how the two processes interact and identify the critical moderating variables attached to each mediating process.

Scope of Analysis

The scope of analysis of our framework is defined by: the independent variable (affect), the level of analysis of the mediating processes (affective evaluation and affect regulation), and the dependent variable (behavior and behavioral intentions).

Affect. Affect is defined as "positively or negatively valenced subjective reactions that a person experiences at a given point in time" (Wyer, Clore, & Isbell, 1999). Therefore, it represents the conceptual umbrella for both mood and emotions (for a different definition of affect, see Baumeister, DeWall, & Zhang, this volume). Although distinctions between mood and emotions vary somewhat, researchers tend to agree that the source of the affective experience represents a critical distinction. While subjects experiencing emotions are consciously aware that it emanates from some source, subjects experiencing moods are not. For example, whereas people are *in* a bad or good mood, they are angry *at* someone/something (Schwarz & Clore, 1996). Secondly, emotions have several subcategories that may vary in intensity, duration, and/ or cognitive participation (Ortony, Clore, & Collins, 1988). Moods, however, represent a unique, usually indivisible, positive or negative state. This implies that specific types of emotions are likely to trigger different sets of behavior, depending on their

arousing or cognitive properties (e.g., Raghunathan & Pham, 1999; Lerner, Small, & Loewenstein, 2004). For instance, as we will see, depressed people, compared to subjects who are simply in a bad mood, may behave differently when a mood repair opportunity presents itself, since the chronic properties of the former probably mitigate the impact of affect regulation on behavior. Although it is beyond the scope of this chapter to assess the impact of specific types of emotions, the proposed framework does recognize the uniqueness of each type of emotion in producing behavioral consequences.

Mediational Processes. We believe it is useful to make the simplifying assumption that affect can potentially mediate evaluative and behavioral patterns at three different levels of processing (Cohen & Areni, 1991; Pham, Cohen, Pracejus, & Hughes, 2001). At the most basic level (Type I-Affect), affective information is conveyed via sensory-motor programs critical to bio-regulation. Bodily information is captured by the peripheral nervous system and sent to the central nervous system, which sends back signals that help regulate organs and biorhythmic activities. People are usually unaware of these automatic mechanisms. A mid level of analysis (Type II-Affect) refers to basic affective reactions learned through conditioning or mere association, such as fear responses or alertness triggered by danger identification. This type of information may follow a “low road”, departing from the thalamus where sensory information is processed to the amygdala, responsible for triggering emotional responses. As minimal cortical processing takes place, individuals have no more than a rough representation of the stimulus, but are capable of reacting fairly quickly to it (LeDoux, 1996). Finally, affective information can be processed at a higher level (Type III-Affect), involving subjective appraisal of the stimulus. In this case, affective information requires significant participation of the neocortex, where most of the cognitive functions operate, before any behavioral activity takes place.

Though recognizing the importance of all three levels of psychophysiological processes, we focus on the impact of affect on behavior via a deliberate cognitive process, rather than more automatic affective reactions. Specifically, the propositions and empirical evidence to be discussed rely on cognitive processes in which individuals deliberately use affect as a signal to evaluate the environment around them (affective evaluation mechanism) and/or to regulate their affective experiences (affect regulation mechanism).

Behavior. Focus here is given to behavior and behavioral intentions as the primary dependent measures. As mentioned earlier, behavior has received much less attention than cognition in research on affect (Forgas, 2002; Schwarz & Clore, 1996). Since many of the available studies have investigated the impact of affect on behavioral intentions rather than on final action, it made sense to include this empirical evidence. Moreover, there is compelling evidence of a reasonable relationship between intentions and behavior (Eagly & Chaiken, 1993). Finally, for the sake of simplicity, we divide people's choice alternatives or intentions into two broad categories: action vs. inaction, which can mean helping vs. not helping, eating more vs. eating less, being risk seeking vs. being risk averse. Our analysis assumes that action will be more likely to produce affective changes than inaction (i.e., doing something makes someone feel better or worse than not doing anything). Thus, we do not incorporate important special circumstances in which inaction may actually perform a mood-lifting function (e.g., procrastination; Tice, Bratslavsky & Baumeister, 2001). Although our focus is on behavioral reactions, our hypothesized interaction between affective evaluation and affect regulation may also help to explain some of the observed inconsistencies at an information processing level (e.g., mood (in)congruent recall, Isen, 1984). However, that is beyond the scope of this chapter.

Theoretical Development

Historically, the relationship between affect and its behavioral consequences has been examined from three different perspectives, each highlighting one major property of affect (see also Baumeister, DeWall, & Zhang, this volume). The first, and probably the oldest tradition, stresses the disruptive properties of affect on judgment and behavior. Brown and Farber (1951) suggested, for example, that hunger produced an affective impact (e.g., frustration) if the goal were not reached. Two drives were hypothesized to operate in parallel, hunger - the “relevant drive,” and frustration - the “irrelevant drive.” People were seen as striving for the relevant goal while avoiding the negative effects of frustration, the irrelevant drive. Following the same rationale, Action Control Theory (Kuhl & Beckmann, 1984) considered frustration a “competing tendency” that must be controlled. Affect, typically negative affect, was therefore reduced to a disrupting psychological mechanism leading to negative cognitive and behavioral outcomes in such research programs.

The critique of the disruptive perspective challenges the treatment of feelings as maladaptive or irrational (and therefore, “to be avoided”) components of human nature and disputes the assumption that individuals’ goals can best be met by controlling for internal and environmental “emotional temptations”. The conception of disruptive feelings tends to overlook the functional aspects of feelings and constrains our understanding of the importance of feelings to judgment and behavior (Carver, Lawrence, & Scheier, 1996; Fridja, 1999; Pham et al. 2001). Although it is clear that affect can lead to disruptive and non-adaptive consequences (e.g., Shiv, Loewenstein, Bechara, Damasio, & Damasio, 2005), feelings are, under many circumstances, indispensable for optimal decision-making, and “... the *absence* of emotions and feeling is no

less damaging, no less capable of compromising the rationality that makes us human...”

(Damasio, 1994, p. xii).

Two more recent perspectives have attempted to understand the “rationality” behind affectively-influenced behavior. The first has focused on the *static evaluative properties* of the affective experience and the second has relied on the *dynamic regulatory properties* of affect. To a certain extent, these two bodies of knowledge have followed somewhat independent paths. As a result, many inconsistencies have emerged in the literature.

The static affective evaluation approach. Within this paradigm, a common assumption is that current affective states at a single point in time are likely to bias any evaluative judgment, and eventually behavior. Two rather complementary hypotheses have emerged to account for the processes underlying affective evaluations, one direct process (affect as information) and one indirect process (mood congruency). The affect as information hypothesis proposes that affect itself may provide unique information that will be directly retrieved during evaluation (Schwarz & Clore, 1983). Individuals ask themselves “How do I feel about it?”, and use this information to make evaluative judgments. The mood congruency hypothesis proposes that concepts congruent with an individual’s current affective state become more accessible in memory (Bower, 1981; Isen et al. 1978). As evaluation typically requires a retrieval process, the likelihood of using mood congruent concepts during an evaluative judgment increases, thereby biasing judgment. In short, affect is assumed to influence evaluation directly, as newly supplied information, or indirectly, via changes in the accessibility of mood congruent information. Since the predictions are usually similar across these two information-based mediators of evaluation we focus on their similar effects on evaluation as a precursor to behavior rather than on information processing distinctions. First, *positive affect* can lead to more positive evaluations, thereby *stimulating*

action (upper left corner of figure 1). Different research streams have provided evidence consistent with this rationale. People experiencing positive feelings are, under certain circumstances, more willing to eat (Cools, Schotte, & McNally 1992; Patel & Schlundt, 2001), gamble (Isen & Geva 1987), and help (Manucia et al. 1984). Similarly, *negative affect* can lead to more negative evaluation, thereby *discouraging action* (lower right corner of figure 1).

Convergent with this hypothesis, negative affect has been shown (again, under certain circumstances) to reduce helping (Cialdini & Kenrick, 1976), risk-taking (Raghunathan & Pham, 1999), and food consumption (Grunberg & Straub, 1992).

The dynamic affect regulation approach. Whereas affective evaluation approaches focus on both direct and indirect informational effects, the affect regulation mechanism captures the motivational aspect of specific affective states. Moreover, it moves from a static conception of affect's role to a dynamic approach in which the current affective state and the anticipated affective state, and the discrepancy between them, play major roles in guiding behavior (Atkinson, 1957, 1964; Bagozzi, Baumgartner, & Pieters, 1998). Two basic effects have been proposed. First, *negative affect* can *stimulate* action (lower left quadrant of figure 1). People experiencing negative affect are, under certain circumstances, more willing to take actions such as watch comedies (Weaver & Laird, 1995; Zillmann, 1988), listen to uplifting music (Knobloch & Zillmann, 2002), eat (Grunberg & Straub, 1992; Tice et al. 2001), exercise (Hsiao & Thayer, 1998), aggress (Bushman, Baumeister, & Phillips, 2001), self-gift (Mick & DeMoss 1990), help (Cialdini et al. 1973; Manucia et al. 1984), buy impulsively (Rook & Gardner, 1993), and sell (Lerner, Small, & Loewenstein, 2004). Second, *positive affect* can *discourage* action (upper right quadrant of figure 1) such that people experiencing positive affect can, under certain circumstances, be less willing to take risks (Isen & Geva, 1987) and to help (Forest, Clark, Mills,

& Isen, 1979; Isen & Simmonds, 1978), probably in an attempt to protect their current affective states.

In order to address the four combinations of the affect (positive/negative)-behavior(stimulation/inhibition) relationship (i.e., the four quadrants of figure 1) it seems critical to integrate both the static evaluation and the dynamic regulation research traditions, each with their focus on a separate key properties of affect.

An Integrated Affect Evaluation and Regulation Framework

We assume that affective states have both motivational and evaluative influences, and that the interaction between these two mechanisms directs behavior. In an attempt to understand the impact of positive affect on risk-taking, Isen and colleagues (e.g., Isen & Geva, 1987; Isen, Nygren, & Ashby, 1988; Nygren et al. 1996) provided initial evidence of the interaction between these two mechanisms. However, there is no theoretical reason to believe that the same principles would not apply to negative affective states, and to virtually any type of behavioral activity (Gendolla, 2000; Schaller & Cialdini, 1990).

In our model, affective evaluation (AE) arises from people's congruent use of affective information (whether through associational processes or inferential reasoning) during an evaluative judgment. Affect regulation (AR) relies on a hedonic goal pursuit assumption, in which positive affect represents a goal (or reflects achievement of a goal). Thus, individuals spontaneously attempt (1) to achieve this desired affective state when feeling bad and (2) to protect it once the state has been attained.

At the core of the distinction between these two mechanisms is their static vs. dynamic character. Since the affective evaluation mechanism is essentially driven by people's current affective states, either directly (as information) or indirectly (via mood congruent information),

immediate feelings are responsible for the impact of AE on judgment and behavior. This is the case even when people project themselves into some imagined or alternative state of affairs and use an affective heuristic to make future affect salient in order to judge how much they like an outcome, since they are still relying on a one-time, static affect-congruent appraisal (e.g., Pham 1998). For affect regulation to operate, individuals must assess their current feelings as well as forecast the affective consequences likely to be produced by the subsequent behavioral activity and focus on the direction of the difference. Intuitive theories about affective consequences of behavior are critical to this dynamic analysis. For instance, when people are led to believe that the upcoming behavior will not change their mood because their mood is “frozen” (e.g., Manucia et al. 1984; Tice et al. 2001), the impact of AR is mitigated. This is also the case if some individuals fail to perceive an activity as mood lifting. Cialdini and Kenrick (1976) showed that children in a bad mood were less willing to help than adults, simply because they have not yet learned the hedonic benefits associated with helping (i.e., altruistic behaviors did not represent an affect regulation strategy). Finally, studies examining chronic affective states have shown that depressed people do not perceive themselves as capable of upwardly regulating their current negative affective states (Davidson, Pizzagalli, Nitschke, & Putnam, 2002; Kanfer & Zeiss, 1983), which may also mitigate the impact of AR on behavior.

In short, the extent to which AR will strongly mediate the impact of affect on behavior is highly contingent on the *perceived mood changing properties of the upcoming behavioral activity*. Moreover, this moderator interacts with people’s current affective states and respective affective gains or losses that are expected to result from action. Thus, mood-lifting cues associated with the behavioral activity are more likely to lead to action encouragement for those experiencing negative (vs. neutral) affect, as people have more to gain—lower-left corner of

Figure 1—, whereas mood-threatening cues are more likely to discourage action for those experiencing positive (vs. neutral) affect, as people have more to lose—upper-right corner of Figure 1.

It is also clear that moderating variables other than “expected mood changes” are likely to influence the impact of both mechanisms (see Andrade 2005, for a review). For instance, the *salience* of the current affective experience is predicted to influence both mechanisms in a similar way. Affective evaluation tends to produce stronger evaluative and behavioral effects compared to a control (neutral affect) condition when either negative and/or positive affective states are vividly experienced (e.g., Forgas & Fiedler, 1996). The same pattern holds true for the affect regulation mechanism, in which polarized (vs. neutral) affective states more strongly influence people’s willingness to regulate their moods (e.g., Cohen & Andrade, 2004). However, while the strength of the affective signal makes it more accessible and indicates a potentially stronger impact of affect on behavior (i.e., greater potency or activation potential), the intensity and direction of behavior itself (i.e., action vs. inaction) results from the interaction between the accessible affective signal and specific situational factors associated with both AE and AR.

Both mechanisms are influenced by the perceived informational value of current feelings vis-à-vis the judgment/behavior at stake. AE becomes less influential when the relevance or diagnosticity of affect is reduced (Lynch, Marmorstein & Weigold, 1988). This happens, for instance, when people realize they are mistakenly using their feelings (e.g., Schwarz & Clore, 1983) or when they simply do not trust their feelings (e.g., Avnet & Pham, 2004). On the other hand, it becomes more influential when the diagnosticity of affect is increased; such as when judgment/behavior is linked to hedonic goals and outcomes (e.g., Adaval, 2001; Pham, 1998; Yeung & Wyer, 2004). Diagnosticity should have the same type of contingent impact for

dynamic assessments linked to the affect regulation mechanism, although direct evidence for this is scant. The essence of diagnosticity for AE is the subjective “appropriateness” of using an affective signal as the basic for the decision to behave or not (see Cohen & Reed, in press, for a similar “functional sufficiency” assessment of the attitude-behavior relationship). For AR, diagnosticity is highly contingent on individuals’ intuitive theories about behavioral consequences of affect. AR, being dynamic, also involves continued updating with changes in current and anticipated states (and the discrepancy between them) due in part to how changes in context influence both perceptions and expectations. Interestingly, then, since things seldom stay the same we would predict a reduction of diagnosticity associated with AE for “down the road” behavior even with repeated AE assessments.

Finally, an analysis of diagnosticity assumes that the evaluative relevance of affective information must be seen in relation to the relevance of competing (non-affective) information about the stimulus/environment (Lynch, Marmorstein & Weigold, 1988). Although researchers have focused more often on changing the relevance (or representativeness) of affective information (e.g., Pham, 1998; Schwarz & Clore, 1983), changes in the amount and quality of competing information should produce mirror image effects. More (less) relevant information about the stimulus should weaken (strengthen) the impact of the affective evaluation mechanism. For instance, affective evaluation tends to have a stronger impact when people judge ambiguous (vs. unambiguous) stimuli (e.g., Gorn, Pham, & Sin, 2001) or when cognitive resources are depleted (e.g., Siemer & Reizenzein, 1998). Though diagnosticity of competing information is also germane to affect regulation, the impact of AR on behavior should, importantly, also vary as a function of other competing/complementary goals. As the strength or number of competing goals increase, the impact of AR tends to decrease (e.g., foregoing shopping in favor of saving).

Moreover, competing goals may influence not only the strength of the affect regulation mechanism, but also its direction (i.e., happy people trying to feel worse prior to a task requiring careful, analytical thinking; see Cohen & Andrade, 2004).

In summary, the guiding premise of our model is that affect impacts behavior via two mediating mechanisms, affective evaluation and affect regulation. The impact of these mechanisms is moderated by several factors including affect accessibility, affect diagnosticity, competing goals, and the perceived affective consequences of the behavioral activity.

Using the Framework to Resolve Inconsistencies across Three Research Streams

Research has focused mostly on two moderators: accessibility (using orthogonal mood manipulations) and perceived affective consequences (by providing mood-lifting or mood-threatening cues). The interactions between these and our two key mediators of affect-behavior outcomes (AE and AR) should be able to explain and integrate research findings in each of the four quadrants of Figure 1 across disparate substantive domains. We start with the largest of the literatures, research on helping behavior, which accounts for a substantial amount of inconsistent findings. Then we discuss research on risk-taking for further insights regarding mediating processes and potential interactions. The last group focuses on the impact of affect on eating behavior.

Helping

One of the prevalent findings in the helping literature is that current affective states influence individuals' willingness to help. However, the effects do not follow a single pattern (for reviews, see Batson 1990; Salovey, Mayer, & Rosenhan, 1991; Schaller & Cialdini, 1990). Researchers tend to agree that the relationship between positive mood and helping is, in general,

well established and that positive mood increases people's propensity to help (Isen, Clark, & Schwartz, 1976; Isen & Levin, 1972; Levin & Isen, 1975). However, as we shall discuss, there is some evidence that the opposite may also be true; thus a decrease in helping due to individuals' positive feelings (Isen & Simmonds, 1978). The impact of negative affect on helping is also bi-directional. Negative mood sometimes increases helping (Cialdini et al. 1973; Cunningham, Steinberg, & Grev, 1980; Manucia et al. 1984) and sometimes decreases helping (Berkowitz, 1972; Berkowitz & Connor, 1966; Isen, 1970). Several hypotheses have been proposed to account for these "inconsistent" patterns; however the proposed mechanisms seem to vary almost as much as the results themselves: positive mood maintenance, guilt reduction, negative state relief, aversive arousal reduction, positive affective priming, and negative affective priming (Batson, 1990; Salovey et al. 1991). The main findings and their respective explanations are reviewed first. Then we show how our proposed framework accounts for the results within this body of work.

Positive affect and helping increase. In a field study, Isen and Levin (1972) showed that subjects who found a dime in the coin return of a public telephone were subsequently more willing to pick up papers dropped off in front of them by a confederate (Study 2). Similarly, after manipulating mood through false feedback, Isen (1970) showed that happy (sad) students were more (less) willing to give money to the "Junior High Air-Conditioning Fund". Indeed, the positive impact of good mood on prosocial behavior is quite robust (Aderman, 1972; Berkowitz & Connor, 1966; Levin & Isen, 1975; Moore, Underwood, & Rosenhan, 1973; Rosenhan, Underwood, & Moore, 1974). Two underlying mechanisms leading to this effect have been advanced; one cognitive (i.e., priming effects), and one motivational (i.e., positive mood maintenance). The cognitive/priming explanation is based essentially on mood congruency

effects (Isen et al. 1976; Isen et al. 1978), through which positive information became more accessible during evaluation and influenced behavior (Clark & Waddel, 1983).

The competing motivational explanation for the effects of positive affective states on helping adopts a regulatory process approach. It has been proposed that people in a good mood try to remain in their current affective states and, therefore, will be more willing to help (Clark & Isen, 1982; Isen, 1984; Levin & Isen, 1975). This hypothesis has two major drawbacks. From a theoretical point of view, it cannot explain why people experiencing positive (vs. neutral) affect would be more willing to take actions that impact mood (through helping), since those in a neutral mood have more to gain (but see Cohen & Andrade, 2004 for a strength of signal rationale). Moreover, from an empirical standpoint “evidence is scarce that happy subjects help as a means to maintain positive moods” (Schaller & Cialdini, 1990, p. 282). Helping as a mood maintenance alternative (i.e., people’s willingness to help in order to “fuel” their positive feelings) requests the behavioral activity to be perceived as mood-lifting. Manucia and colleagues (1984) used a “mood-freezing pill” technique to test the extent to which people’s willingness to help would vary depending on their affect regulation beliefs. After instantiation of positive, neutral, or negative affective states, subjects were asked to take a placebo pill. Half the subjects were informed that this pill would “freeze” their current affective states for a while. The results showed effects of the “mood-freezing pill” manipulation only for those within in the negative affect conditions. Positive affect tended to increase helping even when people were led to believe that their affective states would not change as a result of the behavioral activity.

In summary, biases in evaluative judgment consistent with mood congruent processing seem to play a key role in people’s propensity to help (Batson, 1990; Salovey et al. 1991; Schaller & Cialdini, 1990). Since no study has contrasted affect as information vs. mood

congruency mechanisms, and both predict the same effects, it seems premature to claim which process (if not both) is responsible for the impact of positive mood on helping.

Positive affect and helping decrease. Little evidence is available showing that being in a good mood can decrease helping. However, Isen and Simmonds (1978) found that when the helping scenario displays situational cues that threaten subjects' current positive mood, these individuals were indeed less likely to help than were subjects in a neutral mood. The authors suggested that a challenging helping task may have led happy subjects to anticipate negative affect and triggered a self-protective regulatory mechanism. This type of effect will be further examined under the risk-taking literature review where the impact of positive affect on behavioral discouragement is well established.

Negative affect and helping increase. Studies showing that negative affect *increases* helping have generated several related hypotheses to account for the underlying mechanisms, such as guilt reduction (Carlsmith & Gross, 1969; Regan, Williams, & Sparling, 1972), negative mood relief (Baumann, Cialdini, & Kenrick, 1981; Cialdini et al. 1973; Cialdini & Kenrick, 1976; Manucia et al. 1984), and aversive arousal reduction (Piliavin, Dovidio, Gaertner, & Clark, 1981, 1982). Although adopting different research approaches, they all share the basic assumption that upward affect regulation is at the core of people's disposition to help. Helping is conceived to be an affect regulation strategy aimed at achievement of hedonic (i.e., feeling good in general or about oneself) goals.

Cialdini and colleagues were among the first to categorize helping as a mood repair strategy. Cialdini and colleagues (1973) showed that subjects in a bad mood were more likely to help in response to another person's request than those in control conditions. Most importantly, as soon as rewarding hedonic benefits were interposed between the mood manipulation and the

help request (i.e., an unexpected monetary reward or approval for task performance), the effects of negative affect on helping disappeared. The authors asserted that helping, monetary reward, and positive feedback perform a similar functional goal, mood relief (see also Baumann et al. 1981). Manucia et al. (1984) provided further, and perhaps even more compelling, evidence implicating an upward affect regulation strategy as the mediating mechanism linking being in a bad mood to helping. Subjects in a bad mood who were told about the “freezing” effects of the drug helped much less compared to those in the “non-frozen” bad mood condition, and similar to those in the neutral condition. Finally, these results are also consistent with Isen, Horn, and Rosenhan’s (1973) findings. After being exposed to a success, control, or failure feedback, children in the latter condition turned out to be more generous only when an “opportunity for image repair” was present.

Negative affect and helping decrease. There is evidence that negative affect can also decrease helping under certain circumstances (e.g., Cialdini & Kenrick, 1976; Isen, 1970; Moore et al. 1973). However, purely cognitive approaches have been used to account for mediating processes. Similar to positive moods, negative moods are also known to prime congruent thoughts: “Thoughts of deprivation, helplessness, and uselessness may become especially available, rendering such sad and self-focused individuals less likely to help...” (Salovey et al. 1991, p. 222). In summary, whereas upward affect regulation is typically identified as responsible for instigating helping behavior, affective evaluation is identified as playing a major role when opposite results are found.

There has been a failure to find evidence consistent with affect regulation (i.e., helping increase) in certain studies where negative mood had been induced. However, in many studies where negative mood decreased helping, children were used as subjects (e.g., Cialdini &

Kenrick, 1976; Moore et al. 1973; Rosenhan et al. 1974). It is possible that for children helping is not usually perceived as an effective affect regulation strategy. In that case, affective evaluation should have a stronger impact. Indeed, Cialdini and Kenrick (1976) showed that age and levels of socialization are critical moderating variables. In one experiment, the authors found an interaction between age (6-8, 10-12 and 15-18 years) and mood on helping. Fifteen to eighteen year old subjects in a bad mood helped more than those in the other two conditions, who turned out to behave similarly to one another. As the authors predicted, individuals whose socialization process is still incipient do not perceive helping as self-gratifying. In short, young subjects in a bad mood do not help because altruistic behaviors are not perceived as a viable affect regulation strategy. Consequently, the negative thoughts elicited by a bad mood operate to reduce helping.

Theoretical integration. The helping literature shows that positive and negative affect can stimulate or discourage helping depending on situational cues available in the environment (i.e., the four quadrants of Figure 1). It is possible to reconcile these effects if we begin with the basic assumption that two interdependent and simultaneously engaged mechanisms underlie the impact of affect on behavior and that situational cues and internal affective signals determine which mechanism will prevail.

Our framework suggests that positive affect leads to helping *increase* (upper-right corner of Figure 1) via an affective evaluation (AE) mechanism. That is, a positive mood biases (positively) subjects' evaluations of the helping task – either via affect as information and/or mood congruency –, both of which should increase subjects' willingness to help (e.g., Isen, 1970; Isen & Levin, 1972; Moore et al. 1973). However, when situational cues lead subjects to *anticipate* negative affect, affect regulation becomes the dominant mechanism, and behavior is

discouraged (upper left corner of Figure 1). As originally proposed by Isen and colleagues, the reason for such protective reaction is that subjects in a positive mood have more to lose compared to control conditions. Although this type of effect is rather sporadic in the helping literature, the study of risk-taking, as we will see, offers consistent theoretical and empirical evidence of the impact of anticipated negative affect on behavior.

For people in a negative mood, upward affect regulation is usually a reasonably important motivator and is likely to dominate the impact of the affective evaluation mechanism. As a result, individuals attempt to improve their current negative affective states (lower-left corner of Figure 1). Several studies provide evidence of a helping increase for sad subjects (e.g., Baumann et al. 1981; Cialdini et al. 1973; Cialdini & Kenrick, 1976; Manucia et al. 1984). However, in our framework affect regulation is contingent on moderating variables, such as people's recognition of the behavior as an effective upward affect regulation strategy. When sad subjects were incapable of perceiving the mood lifting benefits of helping, affect regulation is mitigated, and the affective evaluation mechanism (i.e., negative evaluation of the environment) leads to a decrease in helping (lower-right corner of Figure 1). That should be the case when children were used in the experiments (e.g., Cialdini & Kenrick, 1976; Moore et al. 1973) or when people's moods were "frozen" (e.g. Manucia et al. 1984).

In short, the proposed framework accounts for the bulk of effects in the helping literature, by suggesting that (1) positive affect increases helping via affective evaluation (i.e., priming effects and/or affect as information); (2) positive affect decreases helping via affect regulation only when accompanied by anticipated negative affect; (3) negative affect increases helping via (upward) affect regulation when triggered by current negative affect; and (4) negative affect

decreases helping via negative affective evaluation when subjects are unable to perceive the mood lifting benefits of helping.

Risk-taking

The relationship between affective state and expected outcomes is well established (Loewenstein, Weber, Hsee & Welch 2001). Johnson and Tversky (1983) found that when asked to evaluate the subjective probability of positive future events, subjects in positive moods reported a higher subjective probability compared to control subjects, and a much higher subjective probability compared to subjects in a negative mood. The opposite was true when they were asked to evaluate the subjective probability of negative future events. In this case, subjects in negative moods reported the highest subjective probability (compared to those in neutral moods), and were much higher than subjects in a positive mood. After tracking for cognitive processes (thought listing), Wright and Bower (1992) showed that individuals focused more on mood congruent information during the assessment of subjective probabilities.

Thus, based on prevailing evidence and on the assumption that people will act “rationally”, one would think that subjects in bad mood, who tend to perceive a situation as riskier, should be less inclined toward risk-taking. The opposite should be true for subjects experiencing a positive affective state. Individuals in good moods, who usually perceive a safer environment, should be more prone to risk-taking. Yet, findings in the literature do not fully confirm either of these two predictions. Although the results are rather consistent as to the impact of affect on risk *perception* (e.g., Constans & Mathews, 1993; Johnson & Tversky, 1983; Mayer, Gaschke, Braverman, & Evans, 1992; Pietromonaco & Rook, 1987; Wright & Bower, 1992), yet

to be resolved is why the impact of affect on risk-taking does not follow the predicted “rational” pattern.

Negative affect and risk-taking. Negative affective states have been shown to *increase* risk-taking (Gehring & Willoughby, 2002; Leith & Baumeister, 1996; Mittal & Ross, 1998; Raghunathan & Pham, 1999). Raghunathan and Pham (1999) investigated the impact of sadness and anxiety. When presented with two gamble options in a consumer decision task (low risk-low payoff vs. high risk-high pay off), sad subjects preferred the riskier alternative with a higher payoff compared to anxious subjects, who turned out to be strongly risk-averse. The authors suggested that different goals are primed for sad vs. anxious people: sad subjects focusing on reward replacement (mood repair) whereas anxious subjects focused on uncertainty reduction. Sad subjects thus perceived the high risk-high payoff option as more attractive (i.e., “it can improve my mood”), whereas anxious subjects preferred the low risk-low payoff alternative (i.e., “it can reduce my uncertainty”). This rationale is in line with Eysenck and colleagues’ studies in which anxiety has led to attentional and interpretational biases. Based on Eysenck’s (1992) cognitive theory of trait anxiety, it has been found that highly anxious people have an attentional bias toward threat-related words and also interpret ambiguous information as more threatening (Eysenck, MacLeod, & Matthews, 1987). Derakshan and Eysenck (1997) also found that highly anxious people display an interpretative bias for their own behavior in social situations – the behavior is perceived as more anxious.

Raghunathan and Pham’s and Eysenck and colleagues’ findings highlight a critical assumption of the proposed framework, the interdependence of the affective evaluation and affect regulation mechanisms. Anxious people appear to reinterpret risky action, making it more negatively arousing and causing whatever mood-lifting properties that might be associated with a

high-risk bet to dissipate, thereby mitigating the impact of the affect regulation mechanism.

Simultaneously, anxious subjects arrive at a rather pessimistic and threatening assessment of the environment, which further strengthens the impact of the affective evaluation mechanism. The impact of strong negative affective evaluation combined with the absence of upward affect regulation forces leads to risk-averse behavioral patterns (lower-right corner of Figure 1).

However, when people experience sadness, the mood-lifting properties of similar risk-taking may remain stable or even intensify, offsetting the negative impact of affective evaluation on risk perceptions, and leading people to choose more risk-prone behaviors (lower-left corner of Figure 1)². Thus, the type of affective state being experienced may well produce different interpretations of, or attention to, mood-lifting opportunities that may be available, making the affect regulation mechanism either more or less influential. Risk-taking has also been shown to increase as a result of losses. In a gambling scenario, Gehring and Willoughby (2002) showed that choices made after losses were riskier. Assuming that losses trigger negative feelings, people might be using risk taking opportunities as a strategy to improve their current affective states. This rationale is also supported by recent evidence from neuroscience, in which the pleasure/reward areas of the brain (i.e., nucleus accumbens) are activated in the anticipation of a financial benefit (Knutson, Adams, Fong, & Hommer, 2001a; Knutson, Fong, Adams, Varner, & Hommer 2001b). Thus, risk taking (prior to the outcome) represents a pleasant activity, a mood-lifting opportunity that may stimulate the affect regulation mechanism and overcome potentially countervailing forces based on the affective evaluation mechanism.

Positive affect and risk-taking. Kahn and Isen (1993) showed that being in a positive mood (compared to a neutral mood) stimulated individuals to seek more variety among otherwise safe and enjoyable food products. Arkes and colleagues (1988) also demonstrated that,

compared to subjects in a neutral mood, happy subjects were more willing to pay for lottery tickets (Study 1). These and similar results show that people in a good mood are apparently more prone to risk-taking. Since we know that people in a good mood are more optimistic (Johnson & Tversky, 1983; Wright & Bower, 1992), this pattern might be labeled as rather intuitive. However, not all findings have shown this risk-prone behavior among happy people. Kahn and Isen, for example, showed that the increase of variety-seeking behavior for happy subjects disappeared as soon as a product's negative features were included or made salient in the choice context. Similarly, Nygren and colleagues (1996) showed that subjects in a positive mood are more risk seeking than subjects in a neutral mood providing the potential losses are not salient or too high. For larger amounts, positive affect can actually amplify sensitivity to losses (Isen et al. 1988). Research on this topic has used a motivational rationale to account for the findings: people in a good mood facing threatening stimuli become more self-protective of their current feelings, thereby discouraging risky behaviors that may lead them to feel bad.

The pattern of results is consistent with the proposed framework, which predicts that affect regulation is activated not only when subjects experience negative feelings but also when subjects anticipate negative feelings. As the positive side of the spectrum represents the desired affective state, subjects in a positive mood have more to lose than those in a neutral affective state. Thus, when losses are likely (e.g., high-risk condition), people in a good mood face a greater relative loss than people in a neutral mood (e.g., Isen & Geva, 1987). Such anticipatory negative emotional reactions reduce the likelihood of engaging in risky behavior to achieve affect regulation goals, and hence counteract the impact of positive affect-based evaluations. Nygren et al. (1996) used the seemingly contradictory expression "cautious optimism" to underscore the dual and, here, opposing mechanisms at work. They summarize their first study

by saying that, on the one hand, “positive affect participants significantly overestimated the probabilities...”, but on the other hand, “...were less likely to gamble than were controls when a real loss was possible...” (p. 59). Whereas “optimism” is a result of affective evaluation (i.e., affective priming effects), “caution” represents a consequence of affect regulation, triggered by anticipated negative affect.

In summary, being in a good mood may promote both risk-averse (upper-right corner of Figure 1) as well as risk seeking behavior (upper left corner of Figure 1). The outcome depends on mediating effects linked primarily to affect regulation which have been shown to be contingent on mood threatening consequences associated with the behavioral activity (i.e., the subjective likelihood that bad feelings will emerge after the behavior takes place). When no “threats” are made salient affective evaluation leads to risk prone behaviors, whereas when environmental cues signal threats affect regulation goals are activated, promoting negative mood avoidance through risk-averse behaviors.

Eating Patterns

Although many goals and situational variables can influence eating patterns, the impact of emotion (particularly negative affect) on food intake has been widely investigated (for reviews, see Canetti, Bachar, & Berry, 2002; Christensen, 1993; Greeno & Wing, 1994). Researchers’ interests vary significantly; from the effects of stress on psychopathological behaviors (e.g., obesity and bulimia) to normal influences of mild mood swings on food preferences (e.g., cravings for sweets, carbohydrates, etc.); from tail-pinch stressors and animal eating responses to unpleasant movies and human propensity to eat snack food.

As our analysis and proposed model focuses on the impact of mild affective states on everyday behavior, we will concentrate on how negative and positive affective states influence normal food intake. Consistent with the evidence reviewed above, the first conclusion to be drawn from this body of research is that affect does not lead to a unique behavioral outcome. Positive and negative affective states may well stimulate or discourage food intake.

Negative affect and eating patterns. There are a far greater number of studies dealing with the impact of negative affect (compared to positive affect) on eating behavior. The underlying assumption in most of the literature is that food acts as mood-regulator, lifting subjects' current affective state after intake (Bruch, 1973; Greeno & Wing, 1994; Kaplan & Kaplan, 1957; Morris & Reilly, 1987; Polivy & Herman, 1976; Thayer, 1989; Tice et al. 2001; see also, Giallot and Tice, this volume). Thus, compared to a control condition, negative affect is expected to encourage eating behavior. Traditionally, negative affect has been suggested to stimulate unhealthy eating behaviors, such as binge eating (Heatherton & Baumeister, 1991) as well as bulimia (Vohs, Bardone, Joiner, Abramson & Heatherton, 1999; Vohs et al. 2001). Recently, however, studies have emerged to suggest that the consequences of negative affect on people's eating behavior could also be extended to typical everyday activities.

Grunberg and Straub (1992) exposed subjects to a film about industrial accidents (negative affect) or a pleasant travelogue (control) while having snack foods available in the room (dependent measure). They found that eating consumption increased as a result of negative affect, but only among women. The results actually reversed for male subjects, who reduced the amount of food intake as a consequence of negative affect. Although the authors did not advance a systematic theoretical explanation for the effects, the results have proven quite robust. Whereas negative affect tends to increase food intake among women (Macht, 1999; Patel & Schlundt,

2001; Weinstein, Shide, & Rolls, 1997; Willner et al. 1998), this effect is either canceled (Pine, 1985) or reversed among men (Abramson & Wunderlich, 1972; Macht, Roth, & Ellgring, 2002; Reznick & Balch, 1977).

A potential explanation for such variation is that strategic affect regulation through food intake is stronger in women than men, at least for certain types of food (Macht, 1999; Steptoe, Pollard, & Wardle, 1995). As we have shown in the other streams of research, pursuing a single explanatory mechanism may be at the root of the apparent inconsistency. In this case, however, the main explanatory mechanism has been affect regulation rather than affective evaluation. Once again, our framework proposes that understanding the interaction between affective evaluation and affect regulation is critical to explain the bi-directional pattern.³ Whereas upward affect regulation accounts for the increase in food intake as a result of negative affect (lower-left corner of Figure 1), negative affective evaluation is likely to explain food intake inhibition (lower-right corner of Figure 1). Affect regulation, as a goal, is contingent on the availability of efficacious affect regulation strategies. If men (vs. women) are less likely to perceive certain types of food (e.g., chocolate) as mood-lifters, the impact of affect regulation will be mitigated and affective evaluation will be most likely to drive the effects (e.g., reduce eating if feeling sad). Oliver and Wardle (1999) showed that whereas stress increased the consumption of snack-type foods (perceived both as “quick energy” products and “treats”) it decreased the consumption of typical meal-type foods (fruits and vegetables, meat and fish). Relatedly, Willner and Healy (1994) showed that after negative affect induction subjects lowered their own evaluation of cheese in terms of pleasantness and desirability (see also Macht et al., 2002), again suggesting that affective behavior toward food with no subjective mood-lifting attributes will be mostly directed by the affective evaluation mechanism. So, as bad feelings produce a worsening

evaluation of focal objects such as food, eating should decline. Andrade (2005) addressed this issue by exposing participants to a “virtual sampling promotion” procedure after a negative, neutral, or positive affect manipulation (study 1). Asked to imagine themselves in a sampling promotion setting, a picture of chocolate bar was presented, and they indicated the extent to which they would be willing to try it. At the end of the experiment respondents reported the extent to which they typically ate chocolate to try to feel better. In the negative affect condition, those less prone to perceive chocolate as mood-lifting (i.e., mostly men) were less willing to try the chocolate compared to those in control condition (i.e., neutral affect). However, the effects reversed-- they were more willing to taste the chocolate than in the control condition-- for participants who acknowledged using chocolate as a mood-lifting strategy (i.e., mostly women).

Positive affect and eating patterns. Since eating disorders (i.e., obesity, binge eating, bulimia, anorexia, etc.), which are normally associated with negative affect, have been at the forefront of the research done in the field from the 70s through the 90s, only recently have researchers devoted attention to the consequences of positive affect. The general pattern of results suggests that positive mood stimulates eating (Cools et al. 1992; Macht, 1999; Macht et al. 2002; Patel & Schlundt, 2001 – upper-left corner of Figure 1), though null effects have also been reported (Frost, Goolkasian, Ely, & Blanchard, 1982; Schmitz, 1996). Based on two-week food diaries, Patel and Schlundt (2001) found that (compared to a control condition) obese women increased food intake while experiencing both positive and negative affect. Contrary to the authors’ expectations of an interaction between mood and social context (eating alone vs. eating in a social context), the impact of valenced moods occurred under both social context scenarios. No explanation was provided to account for the results. Macht and colleagues (2002) provided a compelling mood congruent explanation for such effects. They showed that male

subjects experiencing positive (vs. negative) affect provided higher ratings on two general dimensions for chocolates they were eating: affective responses to chocolate (e.g., taste pleasantness) and motivation to eat (e.g., appetite). The authors suggested that the positive impact of affect on food intake was probably a result of mood congruent evaluation effects. This effect could also be driven by mood maintenance if people are eating more in an attempt to retain their good mood. Unfortunately, evidence for this is lacking, and Andrade's (2005) results, described above, run counter to this hypothesis. Whereas people's acknowledged use of chocolate as a mood-lifting alternative interacted with participants' negative affective states to increase chocolate consumption intentions (as per AR predictions), both men and women reported being more willing to try a piece of chocolate in positive as compared to the control conditions, a standard AE prediction.

Our analysis of prior research suggests that positive affect probably stimulates eating behavior via the affective evaluation mechanism, though little has been done to isolate mood congruent effects from affect as information. Finally, to the best of our knowledge, no study has shown that people in a good mood reduced food intake (i.e., upper-right corner of Figure 1). However, our framework would predict that this pattern of results is likely when negative consequences of eating become salient (see Andrade, 2005, study 2, for a similar rationale). For instance, compared to a neutral mood condition, happy people could be less likely to eat chocolates if negative nutrition or weight gain outcomes are highlighted.

Summary

The proposed framework builds on previous theoretical propositions from different research streams to account for the observed consequences of affect on behavior and behavioral intentions across three different bodies of literature: helping, risk-taking, and eating patterns. The

available evidence indicates that behavioral stimulation for people experiencing positive affect (upper-left corner of Figure 1) occurs primarily as a result of the affective evaluation mechanism – affect as information and/or mood congruent effect. As long as no aversive or threatening cues become salient (i.e., when AR is not strongly active, and, hence, people do not consider changes in their affective states), happy people tend to perceive a safer environment and bring positive thoughts to mind. They, therefore, become more likely to help, to take risks in gambles, and to exercise food preferences. There is a paucity of evidence to support mood maintenance models of affect regulation in these domains (i.e., that people are helping, gambling or eating in order to keep their current positive feelings). The same affective evaluation mechanism seems to drive the impact of negative affect on behavioral mitigation (lower-right corner of Figure 1). People perceive a more threatening environment and bring more negative thoughts to mind. They, therefore, become less likely to help, to take risks, and to exercise food preferences. This is most likely to be the case only when the affect regulation mechanism is inactive or blocked. Blocking or mitigating effects can be a result of participants' inability to perceive specific behavior as an effective mood-lifting opportunity. That was probably the case among sad children (vs. adults) facing a helping opportunity, anxious (vs. sad) people facing a risky-high payoff opportunity, and sad men (vs. women) facing a hypothetical chocolate consumption opportunity.

When the behavior *is* perceived to be an effective upward affect regulation strategy and there are no stronger competing goals in the environment, enactment becomes more likely for those experiencing negative affect via the affect regulation mechanism, often counteracting the impact of the affective evaluation mechanism (lower-left corner of Figure 1). In such situations people attempt to improve their current negative affective states, and this accounts for observed increases in helping among sad adults and chocolate consumption among women, for instance.

The affect regulation mechanism also drives behavioral discouragement for people experiencing positive affect (upper-right corner of Figure 1). Happy people should be more sensitive to potential negative affective consequences, since they have more to lose. However, since people in happy moods are less likely to bring negative consequences to mind, that type of signal may need to be stronger. Behavioral discouragement takes place when negative aspects or consequences become salient. This explains a decrease in helping when the task is too demanding as well as risk avoidance when the odds are too high. Happy people may be more motivated to avoid a negative mood than to maintain positive feelings, since the former represents a threat, and there may be no comparable signal likely to instantiate this motivation in the absence of a threat.

In short, combining the hitherto separately considered affective evaluation and affect regulation mechanisms in our integrative model of affective behavior provides a more parsimonious account of this substantial literature. Figure 1 summarizes the evidence in the literature that, to this point, has been more consistent with AE as a main mediator of positive affect-behavioral encouragement and of a negative affect-behavioral discouragement relationship, and with AR as a main mediator of negative affect-behavioral encouragement and a positive affect-behavioral discouragement relationship. However, we do not assume a dichotomous process in which one or the other “kicks in.” Instead, the framework assumes parallel processes with both mechanisms operating within each quadrant. With that in mind, future research could usefully investigate the circumstances under which AE and AR jointly promote or inhibit behavior. Though the literature to this point suggests that the increase in behavioral intentions of a mood-lifting action among happy people (compared to the neutral affect condition) was most likely driven by people’s positive assessment of the environment (i.e.,

affective evaluation), rather than a systematic attempt to act in order to keep a current positive affective state (i.e., affect regulation), there may be circumstances in which both mechanisms concurrently encourage (discourage) behavior when people experience both positive and negative feelings. Although the proposed model allows for such concomitant effects, direct evidence is lacking.

In an attempt to move beyond the affect-cognition relationship (i.e., affect on memory, information processing, and judgment), this chapter focused on a broader understanding of the behavioral consequences of positive and negative feeling states, and how two general affect-related mediating mechanisms interact with one another to influence individual decision making. Contrary to other chapters in this volume (e.g., Baumeister, DeWall, & Zhang), it is difficult to make normative judgments about a particular affect-driven (or biased) choice because, first, helping, eating or taking risks are not necessarily (in)appropriate behavioral activities by default. Similarly, people's preferences for a given feeling state in the short-term should not inevitably obey a hedonistic assumption. As already demonstrated in the literature (e.g., Cohen & Andrade, 2004), individuals may under certain circumstances forego immediate happiness in an attempt to improve performance.

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Footnotes

¹ Affective states have also been shown to alter the way individuals process the information available (e.g., Bless, Bohner, Schwarz, & Strack, 1990; for a review, see Wyer, Clore & Isbell, 1999). However, these effects are usually attributed to either of the most basic mechanisms proposed above, particularly, affect as information (Schwarz, 1990, 2001) and, sometimes, affect regulation (Wegener & Petty, 1994). Since our interest focus on behavioral changes rather than information processing changes, this literature will not be reviewed in this chapter.

² Notice that some authors have used the “affect as disruption” perspective to account for this pattern of results (e.g., Mano, 1992; Leith and Baumeister 1996). It is suggested that negative feelings, especially highly arousing feelings, may disrupt people’s ability to properly/rationally make accurate evaluations, thereby leading subjects to choose the “poorer”/riskier option. While it is possible that under certain circumstances disruption may lead to riskier option, there is also increasing evidence that even highly arousing negative affective states—*anxiety* and *fear*—can actually *reduce* risk taking (*anxiety*, Raghunathan & Pham, 1999; *fear*, Lerner & Keltner 2001). Importantly, such effects are hypothesized to result from the uniqueness of the appraisal process rather than from a cognitive disruption.

³ It is worth noting that these two mechanisms have been recently underscored in the eating behavior literature (Macht, Roth, & Ellgring, 2002).

Figure Caption

Figure 1. Behavioral Consequences of Positive and Negative Affect

		BEHAVIORAL CONSEQUENCE	
		Encourages Behavior/Behavioral Intentions	Discourages Behavior/Behavioral Intentions
AFFECT	POSITIVE	Helping (e.g., Isen & Levin, 1972) Eating patterns (e.g., Patel & Schlundt, 2001)	Mood-Threatening Helping Activity (e.g., Isen & Simmonds, 1978) Risk-Taking with low prob. and/or high stakes (e.g., Nygren et al. 1996)
	NEGATIVE	Helping (e.g., Manucia et al. 1984) Impulsive behavior (e.g., Tice et al. 2001)	Helping among children (e.g., Cialdini & Kenrick, 1976) Chocolate intake among men (e.g., Grunberg & Straub, 1992)

Usually influenced by affective evaluation (AE)

Usually influenced by affect regulation (AR)