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Action, Emotion, and Personality: Emerging Conceptual Integration

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Several literatures converge on the idea that approach and positive affect related to goal pursuit are managed by one self-regulatory system and that avoidance (or withdrawal) and negative affect related to threats are managed by a second self-regulatory system. After briefly reviewing these literatures, the authors consider the relation of these themes to the broader domain of personality. In particular, they map individual differences in the responsivity of the approach system onto the personality dimension of extraversion and map individual differences in the responsivity of the withdrawal system onto the dimension of neuroticism. This mapping requires a slight refocusing of current conceptions of extraversion and neuroticism. However, such a refocusing brings a gain as well as a cost: In particular, it would embed these dimensions more explicitly in a process-oriented conceptualization of action control.

Psychology sometimes reencounters old ideas in new forms. An idea that has reemerged over the past two decades is that behavior consists fundamentally of two sorts of action tendencies. Sometimes the tendencies are discussed simply as action tendencies: approach and avoidance (or withdrawal). Sometimes they are discussed in terms of motivations: appetitive and aversive. In either case, this viewpoint argues that these classes of motives or actions are basic building blocks that underlie the complexity of human behavior—indeed, that they are critical underpinnings of personality (cf. Dollard & Miller, 1950; N. E. Miller & Dollard, 1941). This view constitutes one of the themes of this article.

Another theme of this article is that the vast majority of emotional experiences derive from these same two motive or action tendencies. The notion that motivation and emotion are linked has long been a staple of emotion theories (see also Chen & Bargh, 1999). Much discussion of this link focuses on two aspects of it: The first is that emotions motivate, they prod people to act. The second is that specific emotions prompt actions that have different aims, aims relevant to the particular emotion being experienced. The idea that motives and affects are linked has further implications, as well, that have received less attention until more recently. A consideration of these implications also suggests some further links to personality.

In the sections that follow, we describe the confluence of several relatively distinct theoretical and empirical streams, which reach a surprising degree of consensus on a number of fundamental points. We also indicate one place where the streams seem to diverge, raising issues for further research. We wish to stress at the outset that the ideas addressed here are not the product of a single research group. Rather, the points we highlight have been made from several directions by several different theorists. These links to diverse literatures constitute one of the strengths of the view we are discussing.

**Approach and Avoidance Behaviors and Feeling Qualities**

The idea that behavior reduces to approach and avoidance tendencies is not new. It is implicit, for example, in the two facets of the Freudian superego—the ego

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ideal as a depiction of qualities or behaviors to which the person aspires and the conscience as a depiction of qualities or behaviors that are forbidden. The idea that approach and avoidance are the building blocks of behavior is more commonly tied, however, to the work of N. E. Miller and Dollard (1941; N. E. Miller, 1944). The premise of these two behavioral tendencies as building blocks also led to the hypothesis that the tendencies are managed by different structures in the nervous system (e.g., Konorski, 1948; N. E. Miller, 1944; Schneirla, 1959).

Although the ideas are not new, they have become newly prominent in several distinct research literatures. The following is a brief sketch of a few of these literatures.

**Appetitive and Aversive Motivational-Behavioral Systems**

In the past 15 years or so, a family of motivational theories with roots in neuropsychology, psychopathology, animal conditioning, and psychopharmacology has received increasing attention. These theories all incorporate the idea that two systems (sometimes more) are core elements in the regulation of behavior. One system deals with appetitive motivation and approach behavior. It has been termed a behavioral activation system (Cloninger, 1987; Fowles, 1980), behavioral approach system (Gray, 1981, 1987, 1990, 1994a, 1994b), behavioral engagement system (Depue, Krauss, & Spoont, 1987), and behavioral facilitation system (Depue & Collins, 1999; Depue & Iacono, 1989). The other system deals with aversive motivation and withdrawal or avoidance behavior. It is usually called a behavioral inhibition system (Cloninger, 1987; Gray, 1981, 1987, 1990, 1994b), although the term "withdrawal system" also has been used to label a comparable construct (Davidson, 1984, 1988, 1992a, 1992b, 1995, 1998).

The two systems are believed to have different neural substrates and distinct influences on action. Consider Gray’s theory as an example (for a review, see Gray, 1994b). Gray holds that the behavioral activation system (BAS) responds to incentives—signals of reward, non-punishment, and escape from punishment. Activity in this system causes the organism to begin (or to increase) movement toward goals. Gray has not specified the neural basis of this system fully, although many think dopaminergic pathways play a central role (e.g., Depue & Collins, 1999; Gray, Felton, Rawlins, Hemsley, & Smith, 1991; Stellar & Stellar, 1985).

Gray holds that the behavioral inhibition system (BIS) responds to threats—signals of punishment, non-reward, and novelty. Its engagement inhibits ongoing behavior, thus stifling movement toward goals. Gray believes that the neural substrates of the BIS include the septo-hippocampal system, its monoaminergic afferents from the brainstem, and its neocortical projection in the frontal lobe.

Most of the work stimulated by this theory has focused on the determinants of action tendencies per se. However, there also have been excursions in other directions. For example, Gray has argued that the two motivational substrates have parallels in subjective emotional experience (e.g., Gray, 1981, 1990). He holds that activity in the behavioral activation system is responsible for the experience of positive feelings and that activity in the behavioral inhibition system is responsible for the experience of negative feelings.

**Affective States and Frontal Lobe Activation**

Gray’s work is an attempt to understand regulation of behavior in response to incentives and (especially) threats. His focus has been on action (and learning), with implications for emotional experience arising as something of an afterthought. This is certainly understandable—his work rests heavily on infrahuman models. Another body of work relating to these themes has emerged over the past decade, much of it done by Davidson and his colleagues, which in many ways has followed the opposite path. That is, it has focused on humans, it has focused on neural substrates of emotional experiences and psychopathology, and it has used emotional experience as a means of linking the neural substrates to motivational processes (for reviews, see Davidson, 1995, 1998; Davidson & Sutton, 1995).

Despite having a very different starting point, Davidson and his colleagues have arrived at a conceptual position not too different in many respects from that of Gray. Most of their research examines electroencephalogram (EEG) activity (although other physiological indicators and functional neuroimaging also have also been used). It involves assessing activation in particular areas of the cerebral cortex in response to affect-inducing stimuli and assessing individual differences in patterns of activation that parallel individual differences in susceptibility to the experience of particular affect qualities.

Among the findings are the following: Research participants showed relative elevations in right anterior cortical activation when exposed to unpleasant film clips (Davidson, Ekman, Saron, Senulis, & Friesen, 1990), when confronted with threat of punishment (Sobotka, Davidson, & Senulis, 1992), and when waiting to deliver a speech (Davidson, Marshall, Tomarken, & Henriches, 1999). In contrast to these findings, relatively higher levels of left anterior cortical activity were observed among adults presented with incentives (Sobotka et al., 1992) and with positive emotional adjectives (Cacioppo &
Petty, 1980) and among 10-month-olds viewing their approaching mothers (Fox & Davidson, 1988).

Asymmetries in resting anterior cerebral activity also have been studied as reflecting differential susceptibility to affect. Higher relative left anterior cortical activation (at rest) has been related to higher general levels of positive affect (Tomarken, Davidson, Wheeler, & Doss, 1992) and to greater positive affect in response to pleasant film clips (Wheeler, Davidson, & Tomarken, 1993). Higher relative right anterior activation (at rest) has been related to stronger negative affect in response to unpleasant film clips. Self-reports of motivational and emotional responsiveness to incentives and threats show even stronger relations to relative left and right resting frontal activation, respectively (Harmon-Jones & Allen, 1997; Sutton & Davidson, 1997).

On the basis of these and other findings, Davidson (e.g., 1992a, 1992b, 1995, 1998) has concluded that specialized neural substrates for behavioral approach and withdrawal systems (and thus positive and negative affect) are lateralized in the left and right anterior regions of the cerebral cortex, respectively. The broad outlines of this view—that is, that approach and withdrawal and their concomitant affects are managed by two separate neural systems—has a good deal in common with the ideas described in the preceding section.

Discrepancy-Reducing and Discrepancy-Enlarging Feedback Processes

Another body of work that bears on related themes has very different origins from either of the two described thus far. This work is represented in the writings of Carver and Scheier (1981, 1990, 1998, 1999), who have explored a view in which people are seen as organizations of self-regulating feedback systems (Powers, 1973). From this view, much of human behavior consists of attempts to create and maintain conformity to desired goal values.

The concept of a feedback loop may be most familiar as applied to physiological systems, such as those maintaining homeostatic control over blood chemistry, body temperature, and the like. However, the view pursued by Carver and Scheier (1981, 1990, 1998, 1999) is that the same logical structure underlies any attempt to attain a desired goal. This view can be applied to action goals such as reaching and grasping and also to goals that are more vague and ephemeral, goals that represent continually moving and evolving targets (e.g., developing a research career, having a sound marriage, raising children with the right kind of personal values).

Discrepancy-reducing feedback processes are essentially approach processes. Because the reference points for these kinds of feedback processes correspond so well to the goal construct, it has been argued (Carver & Scheier, 1998, 1999) that this conception of self-regulation meshes quite readily with today's goal-based models of behavior and personality (Austin & Vancouver, 1996; Cantor & Kihlstrom, 1987; Elliott & Dweck, 1988; Emmons, 1986; Higgins, 1987, 1996; Klinger, 1975; Little, 1989; Markus & Nurius, 1986; L. C. Miller & Read, 1987; Pervin, 1982, 1989).

Although the discrepancy-reducing feedback loop is the most commonly discussed type of feedback process, it is not the only kind. There are also discrepancy-enlarging loops. These loops attempt to create increasing distance from comparison values, which might be thought of as "anti-goals," values the system tries not to embody. A psychologically meaningful example of an anti-goal is a feared or disliked possible self (Markus & Nurius, 1986; Ogilvie, 1987). Other, more concrete examples would be traffic tickets, public ridicule, and being fired from your job. For rebellious adolescents, parents sometimes come to serve as an anti-goal.

A discrepancy-enlarging loop senses present conditions, compares them to the anti-goal, and tries to increase the discrepancy between the two. These processes thus create avoidance, escape, or withdrawal. As an example of such a loop in behavior, a rebellious adolescent who wants to be different from his or her parents assesses his or her own behavior, compares it to his or her perception of the parents' behavior, and tries to make his or her own behavior differ from theirs.

The most obvious difference between these two kinds of feedback loops is that they move the current value in opposite directions with respect to the reference value. They also have another important difference. Discrepancy-reducing systems have an inherent stability (which is why our body temperature stays within such narrow limits). They continue to home in on a target, even if the target is moving. Discrepancy-enlarging systems, in contrast, are in a sense unstable. They involve a distancing process that in itself has no affirmative direction. It is strictly a matter of creating distance from the anti-goal.

This instability can create problems. However, in living systems, the action of a discrepancy-enlarging process is typically constrained in some way by a discrepancy-reducing loop (see Figure 1). To put it differently, what begins as exclusively avoidance often leads to approach. An avoidance loop tries to increase distance from the anti-goal. Moving away from the anti-goal is the only influence on behavior until the pull of an approach loop begins to be felt. Once this starts to happen, the overall system (incorporating both loops) is simultaneously trying to avoid the anti-goal and move toward the approach goal. To return to the previous example, the rebellious adolescent trying to be different
from his or her parents soon finds a group of other adolescents to conform to, all of whom are engaged in being different from their own parents. He or she maintains (or further enlarges) the discrepancy from his or her parents by conforming closely to the norms of this peer group.

Carver and Scheier (1990, 1998) also have used the feedback conception to make an argument about the processes that create feelings. The sense of that argument (oversimplified here) is that a second layer of feedback systems monitors and manages the effectiveness with which people move toward desired goals and move away from anti-goals. The sensed rate of progress of the first system is compared to a criterion, and the result is experienced as affect. If the rate is below the criterion, negative affect arises. If the rate is at the criterion, the person is affect free. If the rate exceeds the criterion, positive affect arises. In essence, the idea is that positive feelings mean you are doing better at something than you need to, negative feelings mean you are doing worse than you need to (for broader discussion of this view, including further implications, see Carver & Scheier, 1998, Chaps. 8 and 9).

The idea that there are both approach loops and avoidance loops suggests the possible basis for two different sorts of subjective affect qualities. The theory holds that positive affect results from doing well and negative affect from doing poorly. But there is a difference between doing well at moving toward a desired goal and doing well at moving away from an anti-goal. Relying in part on insights of Higgins and his collaborators (to be discussed next), Carver and Scheier (1990, 1998) suggested that there are two bipolar dimensions of affective experience (see Figure 2). One is generated by affect loops managing approach behavior, and the other is generated by those managing avoidance. The former dimension ranges from elation to depression; the latter ranges from fear to relief and serenity (Roseman, 1984, has expressed a similar view; see also Frijda, 1986, 1988; Ortony, Clore, & Collins, 1988).

Once again, starting from a very different point of origin, we have arrived at themes that are similar to those of the preceding two sections: This view suggests that there are two sorts of behavior (approach and avoidance), each with a concomitant dimension of affect. This third view lacks any link to neural substrates, which the other views have emphasized; however, it adds something that the others lack: an argument about an information-processing basis of affect.

Self-Discrepancy Theory: Ideals and Oughts

Another body of work that is relevant to the dual-motive and dual-affect theme derives from self-discrepancy theory (Higgins, 1987, 1996; Higgins, Bond, Klein, & Strauman, 1986; Strauman, 1989). This work began with the idea that people relate their perceptions of their actual selves to several self-guides. Two kinds of self-guides are of particular importance: ideals and oughts. Ideals are qualities the person desires to embody—aspirations, hopes, positive wishes for the self. Living up to an ideal means attaining something that is intrinsically desired.

Oughts, in contrast, are defined by a sense of duty, responsibility, or obligation. An ought is a self that one feels compelled to be rather than intrinsically desires to be. It is important to keep in mind that the ought self is itself a positive value, in that people try to conform to it. However, living up to an ought also implicitly means avoiding a punishment—self-disapproval or the disapproval of others. Oughts thus appear intrinsically to have a dual-motive quality, resembling what was shown earlier in Figure 1—an attempt to avoid an undesired value by approaching a desired value (for evidence consistent with this, see Carver, Lawrence, & Scheier, 1999).

The importance of the ideal-ought distinction in the literature of self-discrepancy theory derives from the fact that these two self-guides relate to different aspects of
Figure 2  Two sorts of affect-creating systems and the affective dimensions believed by Carver and Scheier (1998, 1999) to arise from the functioning of each. Discrepancy-reducing systems are presumed to yield affective qualities of sadness or depression when progress is below standard and eagerness, happiness, or elation when progress is above standard. Discrepancy-enlarging systems are presumed to yield anxiety when progress is below standard and relief or contentment when progress is above standard.


affective experience. Discrepancy between the perceived actual self and the ideal self is associated with dysphoria and dejection. Discrepancy between the actual self and the ought self is associated with anxiety and other agitation-related affects (presumably because of the sense of impending punishment). Each of these associations is unique—it exists even after controlling for the alternative discrepancy.

Although this theory was based on issues pertaining to discrepancies with respect to the desired comparison points (ideals and oughts), it has evolved beyond that point. In particular, Higgins and his collaborators have explored the avoidance aspect of the dynamics behind the ought self. Higgins and Tyckoski (1992) reported evidence (from an incidental memory task) that people whose self-structure was dominated by actual-ought discrepancies focused on avoiding negative goals. Those whose self-structure was dominated by actual-ideal discrepancies, in contrast, focused on positive goals. Similarly, Higgins, Roney, Crowe, and Hymes (1994) reported that in choosing strategies from a set of available options framed as "do" and "don't" statements, people whose self-structure was dominated by actual-ought discrepancies chose more strategies with an avoidance orientation than did people whose self-structure was dominated by actual-ideal discrepancies.

Higgins also has begun to write about what he calls promotion and prevention focuses underlying behavior (e.g., Higgins, 1996, 1997; Higgins, Shah, & Friedman, 1997). In principle, either focus could apply to either an approach goal or an avoidance goal. That is, you could try to promote an ideal in yourself but you could also try to prevent the failure of an ideal. In practice, however, the two types of focus emerge differentially with respect to the two kinds of self-guides. Specifically, promotion focus is more common for self-regulation with respect to ideals, whereas prevention focus is more common for self-regulation with respect to oughts. This linkage appears to suggest further support for the earlier characterization of ought-based self-regulation as dealing with avoidance as much as with approach (see Figure 1).

In sum, self-discrepancy theory presents a view in which approach and avoidance processes underlie two kinds of self-regulation, and the two kinds of self-regulation are paralleled by distinct feeling qualities. In these respects, this model resembles those described earlier.

Positive and Negative Emotionality

Another body of research and theory relevant to the issues under discussion stems primarily from work by Thayer (e.g., 1967, 1989) and by Tellegen, Watson, Clark, and their colleagues (e.g., Watson & Clark, 1984; Watson, Clark, & Tellegen, 1988; Watson & Tellegen, 1985; Zevon & Tellegen, 1982). In an early publication from this research program, Watson and Tellegen (1985) factor analyzed a series of data sets bearing on mood, and found the same pattern in each—that is, two broad factors, which have been labeled positive affect and negative affect. Further work established that people differ in the extent to which they are prone to experience each of these classes of affect. The latter data suggest the existence of two broad (and independent) traits, termed positive and negative affectivity or emotionality (e.g., Tellegen, 1985; Tellegen & Waller, in press; Watson et al., 1988).

It is of some interest that in the earliest work on this topic (Watson & Tellegen, 1985) each dimension was treated explicitly as bipolar, despite the unipolar labels that eventually were attached to the dimensions. The data sets that were factor analyzed included some negative indicators of (low) positive affect (e.g., blue, sad, downhearted—all unpleasant states) and some positive indicators of (low) negative affect (e.g., calm, carefree, placid, satisfied—all pleasant states). The loadings of these items on the respective factors are quite consonant with the model in Figure 2. It seems not unreasonable to suggest that the affects reflected in the negative emotionality dimension stem from the activity of an avoidance or withdrawal system and that the affects in the positive emotionality dimension stem from the activity of a behavioral approach system. Thus, once again, the same qualities are captured as in the other literatures.
Dual-Dimensionality of Attitudes

The theories addressed in the preceding sections represent several very broad applications of the dual-dimension theme; however, our discussion of these theories does not by any means exhaust the models in which the theme appears. Another theory with two similar dimensions is Cacioppo and Berntson’s (1994) position that the evaluative space in which attitudes exist is two-dimensional, corresponding to the dimensions of the Watson et al. model. Although psychologists for decades have assessed attitudes with single-dimension rating scales (ranging from positive to negative), the ratings made on those scales provide incomplete information and are perhaps even misleading.

We agree that the differentiation that Cacioppo and Berntson (1994) made is important, but we would go even farther. We see the evaluative space as two-dimensional, but as noted earlier, we see each dimension as extending beyond the neutral point to bipolarity. Thus, a summary attitude may be more than an amalgam of elements of liking and disliking linked to the attitude object. It can reflect links between the attitude object and (at a minimum) happiness, sadness, fear, and relief—the four anchors of the two dimensions in Figure 2.

A Remaining Question:
What Are the Sources of
Sadness and Relief?

The portrayals made in the preceding sections have some important consistencies, but there are some loose ends. The various theories concur on the idea that eagerness, excitement, elation, and the like relate to an approach process. They concur that fear, anxiety, and the like relate to an avoidance process. The theories diverge, however, concerning the feelings that arise when anticipated appetitive and aversive events fail to occur. That is, given a failure to attain a desired incentive, which system is involved in the creation of the resulting negative feelings? When a punisher fails to occur or a threat dissipates, which system is involved in the creation of the resulting positive feelings?

Several models yield positions resembling that shown earlier in Figure 2. That is, they assume two bipolar dimensions of feeling qualities, one linked to each regulatory system (Carver & Scheier, 1998, 1999; see also Clark, Watson, & Mineka, 1994, p. 107; Cloninger, 1988, p. 103). Other models depart from this position.

For example, Gray (e.g., 1990, 1994b) holds that the inhibition system is engaged by cues of punishment and also by cues of frustrative nonreward. It thus apparently is responsible for negative feelings in response to either cue. Similarly, he holds that the approach system is engaged by cues of reward or cues of escape from (or avoidance of) punishment. It thus apparently is respon-

sible for positive feelings in response to such cues. His view, then, seems to be one in which each system is responsible for the creation of affect of one hedonic tone (positive in one case, negative in the other). This view suggests a picture of two unipolar affective dimensions, each linked to a distinct behavioral system. A similar position has been taken by Lang and his colleagues (e.g., Lang, 1995; Lang, Bradley, & Cuthbert, 1992).

What evidence is there on the question? As noted just earlier, the factor analyses reported by Watson and Tellegen (1985) were consistent with the view of dual bipolar dimensions. Recent work by Higgins et al. (1997) also fits this picture. They assessed feeling qualities of several sorts as a function of goal attainment and lack of attainment within individuals who had either a promotion focus (i.e., approach oriented) or a prevention focus (i.e., avoidance oriented). They found that cheerfulness and dejection-related affects were influenced by attainment and failure of attainment among participants with the approach orientation. Agitation-related and quiescence-related affects were influenced among participants with the avoidance orientation. This pattern fits the model of two bipolar dimensions of subjective experience.

There is also a little evidence from research on cortical activity. Henriques and Davidson (1990, 1991) found that clinically depressed persons had less activation in left frontal areas (the areas related to approach) than did nondepressed controls. In contrast, there was no evidence of a difference between groups in right frontal activation (areas associated with avoidance). This pattern has since been replicated by Allen, Iacono, Depue, and Arbisi (1993). This linking of depressed feelings (along with the other symptoms of depression) to differentially low left frontal activity fits a model in which certain positive feelings and certain negative feelings relate to the functioning of the same system. That is, high activation of the approach system relates to the positive feelings and low activation of the approach system relates to the negative feelings.

Although the data are somewhat limited, the available evidence seems consistent with the model of two bipolar dimensions of feeling qualities. This is an issue that obviously deserves further research attention, however.

APPROACH, AVOIDANCE, AND PERSONALITY

Thus far our discussion has focused largely on the plausibility of the idea that there exist two broad self-regulatory systems underlying both action and affect: one system aimed at approach and the other aimed at avoidance or withdrawal. Work from several different origins, taking very different research approaches and yielding very different types of evidence, appears to con-
verge on that conclusion (see also Rothbart, Derryberry, & Posner, 1994). Now we ask what these ideas say about personality. We start by considering briefly the implications of these models for the dynamics of personality and for individual differences.

**Intrapersonal Processes and Individual Differences**

The models addressed in the previous sections assume that approach and avoidance processes are ubiquitous in human behavior, triggered by the myriad and ever-changing cues of incentive and threat that surround us. So, then, must the affective concomitants of these behavioral processes be ubiquitous, as people continuously strive to attain incentives and avoid threats, with varying degrees of success and failure. This recurrent flow of approach and avoidance—and of the subjective experiences of emotions such as eagerness, sadness, fear, and contentment—represents the start of one view of what might be thought of as the "intrapersonal processes" of personality (Carver & Scheier, 2000), that is, the dynamics that occur within personality as a functioning organization.

The dynamic properties suggested by the foregoing may not yet appear very complex: Incentives become salient and people move toward them. Threats arise and people try to avoid them. Yet, people typically are pursuing multiple incentives at once, and sometimes they have to consider multiple threats as well. Indeed, sometimes the pursuit of incentives leads to threats. Having to prioritize and juggle all these efforts adds complexity (cf. Shallice, 1978). In this view, the functioning of personality incorporates a continuing ebb and flow of these processes and the feelings that relate to them (Carver & Scheier, 1998, 1999). In this view, the appetitive and aversive self-regulatory processes are fundamental structural components of personality.

There is certainly room in this dynamic for individual differences of several kinds. Let us start with the approach and avoidance processes themselves. As was implied earlier, there must be individual differences in the sensitivity or strength of these systems. Some people by nature are highly engaged in the pursuit of whatever incentives arise (e.g., an upcoming social event, an unexpected professional opportunity), whereas others are less drawn to them. Some people by nature are fixed on the possibility of threats or dangers in the environment (e.g., the potential for criticism, poorly lighted parking lots), whereas others are less attuned to this possibility. If the neurobiological systems managing approach and avoidance are independent in their sensitivities, then individual differences in responsiveness to incentive and threat also will be independent, yielding all combinations of highs and lows (Carver & White, 1994).

As a consequence, some people’s lives are dominated by reacting to threats, whereas some are dominated by reacting to incentives. Other people have more balance between these tendencies. Even the latter vary in the absolute strengths of the tendencies. Some of the people whose approach and avoidance systems are balanced are highly sensitive in both systems. These people feel as though they always have their accelerator and brake pedals pressed to the floor at the same time. Other people have low sensitivity in both systems. These people also experience approach-avoidance conflicts, but the conflicts are more muted.

Given these differences in neural and behavioral responsiveness to incentive and threat, there are also individual differences in the patterns of evaluative, affective experiences that people have. Some people’s lives are filled with eagerness, whereas others’ lives are filled with anxiety. Some people’s lives have balanced tendencies toward these feeling qualities and thus are more vulnerable to conflicting or mixed feelings than are other people. For some of the people prone to mixed feelings, the experience is highly charged—eagerness clashing often with anxiety. For others, the conflicts are more pastel in tone because both kinds of feelings are less intense.

**Theoretical Models of Personality Structure**

The picture of individual differences presented just above was drawn directly from the ideas developed in the first part of the article. Yet this picture should not strike anyone as particularly new. Such individual differences in affective experience are already embedded in many trait models of personality. We touched on one of these models earlier (Tellegen & Waller, in press; Watson & Clark, 1984; Watson et al., 1988; Watson & Tellegen, 1985; Zevon & Tellegen, 1982). In that model, the personality dimension of positive emotionality is the propensity to experience positive feelings (or at least the kind of positive feelings associated with active goal pursuit). Negative emotionality is the propensity to experience negative feelings (or at least the kind of negative feelings prompted by threat).²

A number of people also have noted that these two dimensions of positive and negative affectivity bear more than just a slight resemblance to the personality dimensions of extraversion and neuroticism, respectively (e.g., Larsen & Ketelaar, 1991; Tellegen 1985; Tellegen & Waller, in press; Watson & Pennebaker, 1989). Extraversion and neuroticism are both usually conceptualized more broadly than this. Yet both incorporate propensities to experience certain qualities of affect that resemble those of the positive and negative affect dimensions (cf. Costa & Mc Crae, 1992).
Consistent with this, measures of BIS sensitivity, neuroticism, and negative emotionality correlate moderately with each other, as do measures of BAS sensitivity, extraversion, and positive emotionality (e.g., Carver & White, 1994; Gross, Sutton, & Ketelaar, 1998; Harmon-Jones & Allen, 1997; Zuckerman, 1995). Extraversion, positive emotionality, and BAS scales all predict positive affect in situations designed to induce that feeling; neuroticism, negative emotionality, and BIS scales all predict anxiety in situations designed to induce that feeling (Carver & White, 1994; Gross et al., 1998; Larsen & Ketelaar, 1991). BAS scales have predicted left frontal EEG asymmetry, and BIS scales have predicted right frontal asymmetry (Harmon-Jones & Allen, 1997; Sutton & Davidson, 1997). It is of some interest that in cases where alternative measures have been contrasted with one another as predictors, the measures of BIS and BAS sensitivity have tended to predict better than other measures (Carver & White, 1994; Harmon-Jones & Allen, 1997).

Does a focus on approach and avoidance tendencies lend anything of value to the concepts of extraversion and neuroticism? Perhaps. One problem that has plagued theory regarding these two traits (and the broader models in which they are embedded) has been a lack of complete consensus on what qualities should be subsumed by the traits. That is, what exactly is extraversion? What exactly is neuroticism (or emotional stability, as it is sometimes called)? Different theorists include different qualities. Eysenck even included different qualities at different times (first placing impulsivity in extraversion and then later shifting it to psychoticism).

This broad family of trait models is sometimes criticized on the grounds that the trait depictions rest too heavily on factor analysis and connect too weakly to ideas about why these particular traits emerge as central (e.g., Block, 1995). The notion that approach and avoidance tendencies are fundamental qualities underlying behavior addresses this problem by suggesting a functional basis for the existence of each of these trait dimensions.

How Well Does This Integrated View Fit?

Consider the possibility that extraversion is, at its core, a dimension of individual differences in the tendency to approach incentives (cf. Depue & Collins, 1999). How would this fit with contemporary views of extraversion? Qualities of engagement, energy, forcefulness, spontaneity, and happiness that are presently part of extraversion would all fit nicely. What about the sociability and gregariousness that are typically assumed to be part of extraversion? These qualities are less clearly specified by incentive responsivity per se. However, this aspect of extraversion may reflect the fact that so many incentives in human existence are social in nature. Furthermore, even nonsocial incentives often are attained through other people.

What about the tendency toward dominance that some view as part of extraversion? Perhaps dominance stems from the fact that much goal striving occurs in competition with others who are seeking the same goals. Furthermore, one way to attain your goals is to induce others to work for you, which is fostered by dominance. Either of these would provide a plausible basis for dominance as a manifestation of incentive responsiveness.

Consider the possibility that neuroticism is, at its core, a dimension of individual differences in reactivity to threats, avoidance of potential punishers. How would this fit with contemporary views of neuroticism? Quite well, for the most part. Most measures of neuroticism are heavily laden with items reflecting anxiety proneness. It is quite clear that even in measures called emotionality, or emotional stability, the emotion in question is primarily anxiety.

On the other hand, Costa and McCrae’s (1992) NEO-PI-R includes facets within neuroticism that are more diverse: not just anxiety, self-consciousness, and vulnerability but also hostility, depression, and impulsiveness. The position we are taking would tend to suggest that the latter are less close to the trait’s core. This position would incline us to be skeptical about the inclusion of impulsiveness (which seems idiosyncratic to the NEO and which loads nearly as strongly on both extraversion and conscientiousness as it does on neuroticism). It would incline us to suspect that the hostility facet has overtones of avoidance or withdrawal (which is corroborated to some extent by the content of its items). This view also would incline us to view depression (despite its high loading) as primarily a negative indicator of extraversion.

We acknowledge that the fit is less than perfect. However, we also suggest that viewing extraversion as incentive responsiveness, or approach/engagement, and conceptualizing neuroticism as threat responsiveness, or avoidance/withdrawal, would not do serious violence to the conceptions that many theorists have of those traits. Viewing these traits in this way would refocus somewhat people’s thinking about the basis of the two traits, but that might not be such a bad thing. Such a refocusing would serve to connect these two qualities, which are part of the five-factor model and several other important trait models, more closely to process models of the internal workings of personality. Many would regard such a connection as beneficial to the trait approach to thinking about personality.
CONCLUDING COMMENT

We began this article by noting that an idea reemerging in psychology as a whole is that behavior consists of two classes of action tendencies or motivations: approach tendencies (and appetitive motivation) and avoidance or withdrawal tendencies (and aversive motivation). We summarized several lines of thought related to this idea and some of the supporting research, emphasizing how these motivational-behavioral systems also may underlie emotional experience. The latter portion of the article dealt with how these systems can be viewed as the process basis for two broad traits that have long been prominent in personality psychology: extraversion and neuroticism.

The theories with which we began emerged from different origins and paradigms, yet they can be integrated conceptually and they appear easily applicable to current issues and concerns in the study of both emotion and personality. In part, this applicability stems from the process-oriented view that these motivation–action constructs promote. We think that this conceptual integration not only provides a sound base for future research in each domain but also will assist in the exploration of how personality and emotion relate to one another.

NOTES

1. We should distinguish here between the neurological system and the feeling qualities that the system's operation causes to enter the person's subjective experience. Aspects of the functioning of the neurological systems are presumably unipolar, in the sense that the systems range from being very inactive to being very active. However, this does not preclude the evaluative tone related to this variation in activity from being bipolar.

2. An issue that is important here, although tangential to our main concern, is whether the feeling tone is conceptualized as being contingent on relevant situational events or whether it is seen as relatively free-standing. Carver and White (1994) noted that many measures that relate to be seen as bearing on responses to incentives and threats fail to incorporate such contingencies. Although the latter clearly relate to affect in appropriate situations (for broader treatment, see Gross, Sutton, & Ketelaar, 1998), there is evidence that they relate less well than measures that do incorporate such contingencies (Carver & White, 1994). Similarly, Sutton and Davidson (1997) found that Carver and White's measure, which explicitly references responses to situational cues, was more closely linked to asymmetries in resting cortical electroencephalogram (EEG) than was a measure that did not do so (the Positive and Negative Affect Schedule [PANAS]).

3. Gray (e.g., 1981, 1994a) also has suggested that approach and inhibition systems underlie these two dimensions of personality. However, his argument is very different from the one we are making here. He proposed that extraversion and neuroticism represent specific blends of inhibition and approach tendencies (summations and differences, respectively).

4. The comorbidity of depression and anxiety is, of course, well-known. How does the view asserted here address that fact? The position of Davidson and colleagues (e.g., Davidson, 1995) is that the phenomenon of depression relate to low activity in the approach system. However, low activity in the approach system often is a consequence of high activity in the withdrawal system (a person who is constantly responding intensely to threats is not in a position to engage an approach system to strive toward incentives). This would lead depression to be associated with anxiety (and with neuroticism), despite its fundamental rootedness in diminished approach. The position of Carver and Scheier (1990, 1999) is that there are many cases when a failure to avoid a punisher is confounded with a failure to attain a desired goal. Thus, depression and anxiety are related in human experience, despite having different roots. It is clear, however, that the two feeling qualities are distinguishable. Higgins and his colleagues (Higgins, 1987, 1997) have shown that despite their co-occurrence, depression is uniquely related to problems in a purely approach process, whereas anxiety is uniquely related to a different process. There is also evidence that depression and anxiety have different cognitive concomitants (e.g., Ahrens & Haaga, 1993; Clark, Beck, & Brown, 1989; Dalgleish & Watts, 1996; Greenberg & Alloy, 1989; Greenberg & Beck, 1989; Mineka & Sutton, 1992; Wickless & Kirsch, 1988).

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