CHAPTER 8

SELF-AWARENESS AND PSYCHOLOGICAL DYSFUNCTION

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All persons chronically diseased are egotists, whether the disease be of the mind or body; whether it be sin, sorrow, or merely the more tolerable calamity of some endless pain, or mischief among the chords of mortal life. Such individuals are made acutely conscious of the self by the torture in which it dwells. (Hawthorne, 1843/1946, p. 255)

Over the last several years, theorists and researchers have begun to suggest that the simple act of directing attention toward the self may have implications for one’s psychological well-being. Drawing on basic theory and research on self-focused attention (e.g., Carver & Scheier, 1981; Duval & Wicklund, 1972; Hull & Levy, 1979), self-attentive analyses of alcoholism (Hull, 1981, 1987), anxiety-related problems (Carver & Scheier, 1981; Schlenker & Leary, 1982), paranoia (Fenigstein, 1984), and depression (Lewinsohn, Hoberman, Teri, & Hautzinger, 1985; Pyszczynski & Greenberg, 1985, 1987a, 1987b; Smith & Greenberg, 1981) have been offered. The purpose of this chapter is to discuss the role of self-attentional processes in psychological disorder. We begin with a brief overview of basic theory and research on self-focused attention and then review the existing literature on applications of self-awareness theory to psychological disturbance.

BASIC SELF-AWARENESS THEORY

Although self-awareness theory has its roots in the symbolic interactionist theories of Mead (1934) and Shibutani (1961), contemporary interest in these issues was sparked by Duval and Wicklund’s (1972) Theory of Objective Self-Awareness. This initial work stimulated a great deal of research, most of which has been generally supportive of the theory. Over the years, a number of refinements, revisions, and alternative models also have been offered (e.g., Buss, 1980; Carver, 1979; Carver & Scheier, 1981; Hull & Levy, 1979; Wicklund, 1975). In the following paragraphs we briefly review the central points of the most influential theoretical approaches. We then turn to a discussion of the evidence concerning the various consequences of the self-focused state.
Theories of Self-Awareness Processes

According to Duval and Wicklund, conscious attention can be directed either externally toward the environment or internally toward the self. Focusing attention of the self sets off a self-evaluative process in which one's current state, on whatever dimension is currently most salient, is compared with the most salient standard for that dimension. Exceeding the standard produces positive affect and a tendency to maintain the self-focused state. Falling short of the standard produces negative affect, which instigates efforts to either escape the self-focused state or reduce the discrepancy between current state and standard. Duval and Wicklund's self-awareness theory is clearly a motivational, drive-reduction analysis. Self-focus influences behavior by virtue of the fact that awareness of discrepancies between self and standards produce.

While adopting many of the central propositions of self-awareness theory, Carver and Scheier (1981; Carver, 1979) embedded their analysis of self-attentional processes within a more general cybernetic model of the self-regulatory process. From their perspective, self-focus is part of a self-regulatory negative feedback loop that functions to keep the organism "on-track" in its pursuit of various goals. Consistent with Duval and Wicklund, their model posits that self-focus instigates a comparison with standards, and that detection of a negative discrepancy instigates behavior aimed at reducing that discrepancy. From their perspective, however, this discrepancy-reducing behavior is not driven by affect resulting from awareness of the discrepancy; rather, they view discrepancy reduction in response to detection of discrepancies as an inherent feature of all self-regulating systems. They add that disruptions of discrepancy-reducing behavior lead to an assessment of the likelihood of the discrepancy ever being reduced. If the probability of successful discrepancy reduction is judged to be high, one persists in one's discrepancy-reducing behavior. However, if the probability of successful discrepancy reduction is low, one experiences negative affect, withdraws from the feedback loop, disengages from the goal, and diverts attention from the self.

A more radical divergence from the original self-awareness formulation was taken by Hull and Levy (1979) in their schema activation model of self-attentional processes. They argued that the only invariant consequence of self-focused attention is an increase in the accessibility of schematically organized self-referent information. Thus, the comparison of current state with standard is not a normal consequence of self-focused attention and occurs only under certain circumscribed conditions. This notion also was adopted by Carver and Scheier (1981). They posited that self-focus leads to a comparison with standards only if a behavioral standard is currently salient. If no such standard is salient, self-focus simply activates the self-schema and increases the accessibility of self-referent information.

At this point, there is simply not enough research on the key theoretical points that distinguish the three major approaches to provide an empirical justification for preference among them. Each theory has its own range of convenience in explaining what is currently known about self-attentional phenomena. In recent years, the emphasis of research on self-attentional processes has shifted from the basic theoretical issues to analyses of the role of self-focus in other psychological phenomena. In our opinion, the Carver and Scheier framework is particularly useful because it puts self-attentional processes in the broader context of a system through which behavior is regulated. Thus, although we do not agree with all aspects of their analysis, we adopt their self-regulatory framework in our analyses of pathological behavior.

Consequences of Self-Focused Attention

Comparison with Standards

The cornerstone of both the original objective self-awareness formulation and the later self-regulatory approach is that, at least when a behavioral standard is salient, self-focused attention leads people to compare themselves with that standard. Although this is a central assumption that is extremely useful in accounting for other findings, there is little research that has investigated it directly. This is probably due to the fact that the comparison with standard is an internal event that is rather difficult to assess. Scheier and Carver (1980), however, have provided indirect evidence supportive of this proposition by showing that self-focus leads to increases in the seeking of information needed to evaluate one's performance. More specifically, they found that both private self-consciousness (the dispositional tendency to
focus on private aspects of self) and confrontation with one's mirror image led to more frequent inspection of a drawing that subjects were attempting to copy. In conceptual replications of these effects, they demonstrated that high levels of public self-consciousness (the dispositional tendency to focus on public aspects of self) are associated with a tendency to seek social comparison to facilitate self-evaluation of performance and that the presence of either a mirror or an audience leads subjects to choose problems for an upcoming test for which norms are available. In sum, the available evidence suggests that self-focus does indeed increase one's tendency to access behavioral standards useful for self-regulation.

**Discrepancy Reduction**

A wide variety of studies have supported the general notion that self-focus encourages discrepancy reduction. Research has shown that self-awareness encourages conformity to salient social norms (e.g., Diener & Srull, 1979), except when such norms violate important personal standards (e.g., Froming, Walker, & Lopyan, 1982; Gibbons & Wright, 1983). Self-awareness also has been shown to encourage attitude-consistent behavior. In fact, a number of studies have shown that attitudes guide behavior only when individuals are relatively high in self-awareness (see, e.g., Carver, 1975; Gibbons, 1983). Additionally, in a third line of research it has been shown that self-awareness does encourage moral behavior (see, e.g., Diener & Wallbom, 1976). Finally, research also has revealed that self-awareness encourages accurate self-reports of characteristics and behavior (e.g., Pryor, Gibbons, Wicklund, Fazio, & Hood, 1977). All of this research can be interpreted as evidence of discrepancy reduction under conditions of heightened self-focus. In each case, the influence of salient standards of behavior, whether derived from social norms, personal attitudes, or moral principles, is increased by heightened self-awareness.

In all of these studies, it was relatively easy for subjects to bring their behavior in line with salient standards. Carver and Scheier (1981) proposed that when the perceived probability of minimizing a discrepancy is relatively high, discrepancy reduction is the preferred response to the self-focused state. When the perceived probability of minimizing a discrepancy is low, however, they suggested that withdrawal from self-focus will be preferred.

Support for this mediating role of outcome expectancies has been obtained in studies in which the expectancy that one will be able to perform the requisite discrepancy-reducing behavior is varied (e.g., Carver & Blaney, 1977; Carver, Blaney, & Scheier, 1979). As predicted, when such expectancies are relatively favorable, discrepancy-reducing behavior occurs. When outcome expectancies are unfavorable, however, such behavior is not attempted; instead, self-focus appears to encourage either physical or mental withdrawal from the goal in question.

**Avoidance of the Self-Focused State**

Some of the earliest studies of self-awareness processes were tests of the hypothesis that self-focus is actively avoided when a negative discrepancy between current and desired state exists. Duval, Wicklund, and Fine (1972) provided initial support for this proposition by showing that subjects were quicker to leave a room after a failure experience if remaining in the room would have forced them to confront self-focus enhancing stimuli (a mirror and a videotape camera). Gibbons and Wicklund (1976) demonstrated that male subjects spent less time listening to a tape recording of their own voices if they had previously received a negative evaluation from an attractive female. Greenberg and Musham (1981) extended these findings by showing that not only do subjects who have engaged in counterattitudinal behavior avoid exposure to a mirror, but also that subjects who have engaged in proattitudinal behavior seek exposure to a mirror. Steenbarger and Aderman (1979) demonstrated an important limiting condition for self-focus avoidance effects. They found that self-focus is avoided after failure only if subjects perceive the discrepancy as relatively irreducible. After receiving failure feedback on a speech they had given, only those subjects who were led to believe that speaking patterns are stable for life avoided self-focus; subjects who were led to believe that speech patterns could be changed through practice neither avoided self-focus nor showed signs that they found self-focus to be aversive. These findings are generally consistent with Carver and Scheier’s position that self-focus is avoided only when one perceives a low probability of successfully reducing a negative discrepancy.

An apparent contradiction to the above pattern of findings was reported by Greenberg and Pyszcz-
zynski (1986). Because the self-focusing tendencies of depressed persons have consistently been shown to differ from those of nondepressed persons, only the findings for nondepressed subjects will be discussed here. In the first of two studies, subjects were induced to either succeed or fail a supposedly well-respected test of verbal abilities. They were then asked to fill out the Exner (1973) Self-focus Sentence Completions, a measure that has previously been used successfully to assess extent of self-focus. Contrary to prior findings, subjects tended to exhibit higher levels of self-focus after failure than after success. The major difference between this and previous studies appeared to be that whereas the sentence completions used by Greenberg and Pyszczynski assessed relatively spontaneous self-referent thought, previous studies had assessed avoidance of self-focus–enhancing stimuli, such as mirrors, cameras, and tape recordings of subjects’ voices. This led Greenberg and Pyszczynski to speculate that, because of the adaptive utility of self-focus in facilitating discrepancy reduction, the initial response to a detection of a discrepancy may be an increase in one’s level of self-focus. Although the initial response may be a spontaneous increase in self-focus, subjects may find self-focus–enhancing stimuli aversive in such situations because they increase an already elevated level of self-focus beyond a tolerable and useful level. If this were the case, subjects’ spontaneous self-focusing patterns would be expected to resemble those found in studies of mirror avoidance after the adaptive value of self-focus had diminished. Consistent with this reasoning, a second study demonstrated that although spontaneous self-focus immediately after outcome feedback was higher after failure than after success, after a brief delay and distraction this pattern was reversed to resemble that typically found in studies of mirror avoidance.

Accessibility of Self-Referent Information

Hull and Levy (1979) have argued that the one invariant effort of self-awareness manipulations is an increase in the accessibility of self-referent information or an activation of the self-schema (cf. Carver & Scheier, 1981). A broad range of findings support this proposition. For example, Hull and Levy (1979) have shown that private self-consciousness is associated with enhanced recall of words previously rated for self-descriptiveness but not for words for which other types of judgments had been made. Geller and Shaver (1976) have shown that self-focus increases interference on a Stroop color-word task for self-relevant but not self-irrelevant words. Turner has shown that private self-consciousness is associated with more extensive self-descriptions (1978a) and faster reaction times when judging the self-descriptiveness of trait adjectives (1978b). Carver and Scheier (1978) have shown that both dispositional and situationally induced self-focus increases the tendency to fill in sentence completion forms with self-relevant information. Also consistent with this increased self-access hypothesis is a series of studies demonstrating that heightened self-awareness increases self-report accuracy regarding attitudes, behavior, and somatic symptoms (e.g., Franzoi, 1983; Gibbons, Carver, Scheier, & Hor-muth, 1979; Pryor et al., 1977). In general, evidence from a variety of converging sources supports the proposition that self-focus increases one’s access to internal and self-referent sources of information.

Intensification of Affect

It also has been suggested that self-focus can intensify existing affective states, relatively independent of the perception of discrepancies. To the extent that self-focus increases the accessibility of internal sources of information, one should be especially cognizant of any bodily signs of emotion when one is self-focused. To the extent that affective states are partially determined by the perception of internal bodily changes (cf. Schachter, 1964), such increased awareness of bodily state would be expected to increase the subjective intensity of one’s affective state. Consistent with this reasoning, Scheier (1976) demonstrated that self-focus increased both reports of anger and subsequent aggression in subjects who had previously been induced to anger. Scheier and Carver (1977) demonstrated that both mirror exposure and high levels of private self-consciousness tended to increase the attractiveness ratings that male subjects gave to photographs of nude females; high private self-consciousness also was associated with high ratings of revulsion to pictures of atrocities. They also demonstrated that both mirror exposure and private self-consciousness increased self-reports of depressed affect after a Velton (1968) mood induction. Carver et al. (1979) reported similar effects of self-focus on self-reported anxiety among snake-phobic subjects attempt-
ing to approach and touch a large snake. Although the evidence that self-awareness amplifies negative affect is fairly consistent (e.g., Gibbons, Smith, Ingram, Pearce, Brehm, & Schroeder, 1985; Scheier, Carver, & Gibbons, 1981), the evidence for amplification of positive affect is actually rather weak (e.g., Brockner, Hjelle, & Plant, 1985; Scheier & Carver, 1977).

Internality of Attribution

Duval and Wicklund (1972) proposed that self-awareness should encourage internal attributions for one's behavior. As cognitive and attribution research has demonstrated, the greater the salience or availability of a stimulus, the greater the tendency to use it in drawing inferences (e.g., Smith & Miller, 1979; Tversky & Kahneman, 1973). Given that the self is salient when individuals are self-aware, internal attributions for behavior and outcomes should therefore be particularly likely when in this state. A wide variety of studies have supported this hypothesis (e.g., Duval & Wicklund, 1973; Fenigstein & Levine, 1984; Greenberg, Pyszczynski, Kelly, Burling, Byler, & Tibbs, 1989). Although a few studies have failed to support this hypothesis, they have tended to be studies in which self-esteem and/or self-presentational concerns were likely to have been especially great (e.g., Federoff & Harvey, 1976; Gibbons et al., 1985).

SELF-AWARENESS AND SELF-REGULATION

As is evident from the preceding sections, self-focused attention appears to be implicated in a wide variety of psychologically significant processes. The effects of self-focus cut across traditional disciplinary boundaries of cognition, memory, affect, and motivation. The ubiquitous nature of self-focus effects is consistent with Carver and Scheier’s claim that self-focus is a critical element of the human self-regulatory system. Indeed, all of the effects of self-focus that have been demonstrated in the literature may serve an adaptive self-regulatory function. All of these effects are useful in preparing the individual to alter his or her behavior to bring it closer in line with his or her standards.

Although the self-regulatory utility of comparing current state with standards and engaging in behavior aimed at reducing discrepancies is clear and widely agreed upon, the roles that other effects of self-focus play in adaptive self-regulation may be less obvious. Nonetheless, intensification of affect, increased internality of attributions, increased accessibility of self-referent information, and increased accuracy of self-perception can all be useful in preparing the individual to bring his or her current state in closer line with his or her standards. An increased tendency to take responsibility for one's outcomes facilitates future goal-directed strivings because, as many theorists have suggested (e.g.,Abramson, Seligman, & Teasdale, 1978; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971), taking responsibility for outcomes is a first step in the belief that future outcomes can be affected. Likewise, an intensification of emotional states also can be viewed as serving an adaptive self-regulatory function. To the extent that the affective consequences of behavior play a central role in motivating future behavior (an assumption common to most theories of motivation), the intensification of affect can be seen as providing impetus to discrepancy-reducing behavior. Similarly, increased access to self-referent information is useful because it enables the individual to make better choices about the various courses of action that could be chosen to bring about the reduction of the discrepancy. The related increase in the accuracy of self-perception is likely to further facilitate the individual's choices by providing a more realistic assessment of what one can and cannot accomplish. Given that all of these various effects can serve an adaptive self-regulatory function, it is reasonable to argue that the tendency to focus attention on the self is motivated by self-regulatory needs.

There are, of course, other explanations available for each of these effects of self-awareness. For example, it is generally assumed that self-focus affects attributions by increasing the salience of self as a potential cause of a given effect. Similarly, self-focus is usually seen as increasing the intensity of emotional states by increasing people's awareness of their internal bodily sensations. These explanations are attempts to explain how self-focus produces its various effects. Our claim that all of these effects serve a self-regulatory function is in no way inconsistent with these process-level explanations. Rather, we are attempting to explain what all of these different consequences of the self-focused state have in common and what utility these consequences have for the indi-
vidual. Thus, when disruptions in normal self-regulatory functioning occur, the individual increases his or her level of self-focus because of all the useful effects that self-focus produces. Accounting for all of these effects within one framework demonstrates the power and parsimony of the self-regulatory approach.

SELF-AWARENESS AND PSYCHOLOGICAL DISORDERS

If self-focus plays a central role in adaptive self-regulation, it seems likely that it also would play a role in cases in which the self-regulatory system goes awry. Consistent with many psychological approaches to psychopathology, we assume that psychological disturbances reflect the operation of normally adaptive psychological processes in situations where they are no longer adaptive. More specifically, we suggest that most psychopathologies can be profitably viewed as resulting from the inappropriate application of normally adaptive self-regulatory strategies.

There are many ways in which self-focused attention could contribute to psychological disturbances. Variations in consistency of behavior with internal and external standards, self-critical thinking, intensity of affect, responsibility taken for behavior and outcomes, accessibility of self-referent information, and accuracy of self-perception can be seen as differentiating so-called normal functioning from a variety of different psychopathologies. Different psychopathologies are characterized by different patterns of variability on the above dimensions. Given that self-focus has been shown to influence all of these dimensions, it seems reasonable to suspect that self-focus may play some role in pathologies that are characterized by divergence from the norm on these dimensions.

In advancing self-awareness analyses of various specific psychological disorders, it is useful to consider several key ways in which self-attention may be involved. Individuals are likely to differ in terms of the overall extent to which they are self-focused, the conditions under which they engage in high and low levels of self-focus, the particular standards that are brought into play when they are in the self-focused state, and the contextual factors that determine what specific effects their self-attentional patterns produce. Thus, it may be possible to characterize a particular self-focusing pattern specific to a given disorder. This may be useful in providing an explanation of the process through which various characteristics or "symptoms" of the disorder are produced. However, this would be only the beginning of a complete self-regulatory analysis of the disorder in question.

Once the particular self-focusing pattern is identified, one must ask how that particular pattern is produced. If a disorder is characterized by chronically high levels of self-focus, one must ask what would produce such a pattern. We suspect that in most cases, answers to these questions will involve an analysis of how the individual in question derives his or her sense of self-esteem and consequent emotional security (for a discussion, see Greenberg, Pyszczynski, & Solomon, 1986; or Solomon, Greenberg, & Pyszczynski, in press and this volume) and how that person's current life circumstances are thwarting his or her efforts in that direction. Ernest Becker succinctly summed this up:

If you are a psychiatrist or social worker, and want to understand what is driving your patient, ask yourself simply how he thinks about himself as a hero, what constitutes the framework of reference for his heroic strivings—or better, for the clinical case, why he does not feel heroic in his life. (1971, p. 77)

We are suggesting, then, that it is probably not possible or fruitful to develop a general theory of the role of self-attentional processes in psychological disturbance. Although self-attentional analyses of particular disorders may share several common features, the specific mechanisms through which the distinct features of specific disorders are produced are likely to be different. In other words, abnormal patterns of self-focused attention can contribute to psychological problems but are unlikely to be the root cause of any particular disorder.

Our discussion of the role of self-attentional processes in psychological disorders will be focused largely on three interrelated problems: depression, anxiety, and alcohol abuse. We chose these three problems for several reasons. First, these are the areas in which most of the theoretical and empirical work has been undertaken. Second, these are three very common problems that often have effects on physical health and that are likely to be experienced by many individuals at some point during their lives. More importantly, these are three very basic problems that are likely to be
involved in other more specific pathologies. Finally, these three problems are highly interrelated; depression, anxiety, and substance abuse often go hand in hand. After discussing these three major problems, we will briefly discuss the role of self-awareness in other problems.

Depression

Of the various psychological disturbances to which self-attentional analyses have been applied, the most thoroughly developed and researched is probably that of depression. Smith and Greenberg (1981) were the first to point out a series of parallels between the behavior and characteristics of depressed persons under normal conditions and those of subjects in laboratory experiments under conditions of self-focused attention. They noted that both depressed persons and self-focused nondepressed persons exhibit an increase in self-evaluative tendencies and lowered self-esteem, intensified negative affect, an increased tendency to make internal attributions for negative outcomes, particularly accurate self-reports, and an increased tendency to withdraw from tasks after initial failure. Smith and Greenberg reported a small but significant correlation between depression and private self-consciousness, the dispositional tendency to be self-focused. This finding has subsequently been replicated with different measures of both depression and self-focus (e.g., Ingram & Smith, 1984; Smith, Ingram, & Roth, 1985) and in a sample of clinically depressed persons (Ingram, Lumry, Cruet, & Seiber, 1987). Based on these findings, it seems fairly clear that depressed people tend to be chronically high in self-focused attention.

A series of experiments probing the conditions under which depressed people are especially likely to focus attention on themselves suggests an exception to this general tendency. Pyszczynski and Greenberg (1985, 1986; Greenberg & Pyszczynski, 1986) have shown that depressed people exhibit a unique "depressive self-focusing style" in which they engage in high levels of self-focus after failure but actively avoid self-focus after success. This depressive self-focusing style has been demonstrated in studies using both indirect measures of reactions to self-focus enhancing stimuli, such as mirrors, and more direct thought-listing measures of the content of spontaneous thought. Combining these findings with the correlational findings reviewed above, it appears that depressed people are generally highly self focused, but avoid self-focus after positive outcomes.

Based on these initial findings, Pyszczynski and Greenberg (1987a, 1987b) proposed a self-regulatory perseveration theory of reactive depression (for a related, but somewhat different perspective, see Lewinsohn et al., 1985). According to the theory, depression occurs when one is unable or unwilling to exit a self-regulatory cycle in which successful discrepancy reduction is unlikely. Recall that Carver and Scheier posited that if the individual determines that successful discrepancy reduction is unlikely, he or she will withdraw from the cycle, disengage from the goal or standard, and divert attention away from the self. According to self-regulatory perseveration theory, high levels of investment in a goal and a scarcity of alternative sources of what the goal provides make it difficult to disengage from the cycle. Thus, a person who loses a central source of self-esteem and has few alternative sources of self-esteem available will experience difficulty exiting a self-regulatory cycle focused on the lost source of self-worth. He or she will essentially become "trapped" in a self-regulatory cycle focused on an irreducible negative discrepancy. The high level of self-focus inherent in such self-regulatory perseveration sets a series of processes in motion that ultimately culminate in a state of depression.

As we suggested earlier, the function of self-focused attention is to instigate processes that are useful in staying on track in pursuit of one's goals. Thus, after a loss of a central source of self-esteem, self-focus would normally be increased (cf. Greenberg & Pyszczynski, 1986). Note that this is somewhat of a departure from other theories of self-awareness processes. Pyszczynski and Greenberg argue that because attention constantly shifts between the self and environment, individuals are generally sufficiently self-focused to detect major discrepancies between current and desired states. When such a discrepancy is detected, self-focus is increased to enable one to better deal with the discrepancy. This increased self-focus leads to increased awareness of the discrepancy, intensification of affect, increased responsibility being taken for the outcome, increased access to self-referent information, and increased accuracy of self-perception. To the extent that instrumental responses are available that are likely to be successful in reducing the discrepancy, these consequences of self-focus are all highly adaptive. However, if there is nothing that can be done to close the gap
between current and desired states, the elevated level of self-focus produces a variety of characteristics commonly associated with depression. The individual essentially “spins his or her wheels” in pursuit of an unattainable goal.

According to the theory, this self-regulatory perseveration is likely to lead to (a) an intensification of negative affect, resulting from both the virtually constant confrontation with the discrepancy and the increased sensitivity to internal states; (b) an increased tendency to blame oneself for the discrepancy; (c) a loss of self-esteem, resulting from the confrontation with the discrepancy, the increased tendency to blame oneself for the discrepancy, and the likely disruptions in other areas of one’s life; (d) particularly accurate self-perceptions; and (e) decrements in motivation and performance in other domains. Persistent focus on an irreducible negative discrepancy is seen as the proximal cause of many of the common symptoms of depression. Eventually a depressive self-focusing style emerges, in which the depressed individual is chronically self-focused, persists in high levels of self-focus after negative outcomes, and avoids self-focus after positive outcomes. This depressive self-focusing style then maintains and exacerbates the depression.

Although additional research is needed, the available evidence is consistent with the proposition that many of the characteristics commonly associated with depression are mediated by an elevated level of self-focused attention. Gibbons et al. (1983) demonstrated a significant increase in negative affect and a marginal decrease in positive affect as a result of exposing depressed subjects to a mirror; these subjects were also more accurate in their reports of number of hospitalizations and duration of their problems. Strack, Blaney, Gansler, and Coyne (1985) found that encouraging depressed subjects to concentrate on the task at hand facilitated their performance. Presumably these instructions discouraged subjects from excessive self-referent thought.

A series of more recent studies have provided more direct evidence for the mediational role of self-focus in depressive symptomatology by showing that depression-related characteristics are reduced or eliminated when depressed persons are prevented from focusing internally. Pyszczynski, Holt, and Greenberg (1987) found that pessimism concerning the future was greatly reduced when depressed subjects were induced to focus externally. Pyszczynski, Hamilton, Herring, and Greenberg (1989) demonstrated that the negative bias in autobiographical recall commonly found among the depressed is eliminated by an external focus induction; a second study replicated this effect and demonstrated that it does not generalize to recall for events that happened to others. Also consistent with the theory are a series of studies investigating the effect of distraction on depressive thought and affect in clinically depressed patients (Fennell & Teasdale, 1984; Fennell, Teasdale, Jones, & Damle, 1987; Teasdale & Rezin, 1978). These studies have consistently shown that inducing depressed patients to focus their attention on a series of slides of outdoor scenes reduces both the frequency of depressive thought and the extent of depressive affect. These effects were confined largely to those patients categorized as non-endogenous on the basis of the Newcastle Diagnoses Scale (Carney, Roth, & Garside, 1965), leading Fennell et al. (1987) to suggest that the processes through which depressive symptoms are produced in endogenous patients may be substantially different from those involved in nonendogenous patients.

Greenberg et al. (1989) tested the hypothesis that the depressive self-focusing style mediates differences between depressed and nondepressed persons in the attributions they make for performance outcomes. Previous research has shown that whereas nondepressed subjects exhibit a robust self-serving attributional bias, making more internal attributions for successes than for failures, depressed subjects do not exhibit such a bias (e.g., Kuiper, 1978; Risley, 1978). Greenberg et al. (1989) induced depressed and nondepressed subjects to either succeed or fail a supposedly well-respected test of verbal ability and then complete a story-writing task that directed their attention either internally or externally. When forced to focus their attention as nondepressed persons typically do (self-focus after success and external focus after failure), both nondepressed and depressed subjects exhibited a strong self-serving bias; however, when forced to focus their attention as depressed persons typically do, neither nondepressed nor depressed subjects exhibited a self-serving bias. In other words, depression-related differences in attributions for performance outcomes were eliminated when attentional focus was controlled.

In sum, the available evidence has consistently shown that the self-focusing tendencies of depressed people are substantially different from
those of nondepressed people. Depressed individuals are chronically high in self-focus, but avoid self-focus after positive outcomes. It also has been shown that this high level of self-focus at least partially mediates many of the maladaptive characteristics typically associated with depression. These latter studies suggest that interventions aimed at altering depressed people's self-focusing tendencies may be a useful avenue in the treatment of depression. Although external focus clearly alleviates certain symptoms in mildly depressed individuals, a number of questions have yet to be addressed. For example, would external focus alleviate symptoms in more severely depressed individuals? And, even if it did, how could depressed individuals be encouraged to focus externally over an extended period of time? Research on such issues is clearly needed.

Anxiety

Analyses of specific anxiety-related problems have often invoked the concept of self-awareness or self-preoccupation. For example, theories of test anxiety (e.g., Sarason, 1975; Wine, 1979, 1980) posit that this state is characterized by unusually high levels of self-focused attention. Consistent with this proposition, research has shown that highly test-anxious individuals report more self-referent and self-evaluative thinking while taking tests than do low test-anxious individuals (e.g., Ganzer, 1968; Mandler & Watson, 1966; Marlett & Watson, 1968); this relationship appears particularly pronounced when the test is given under highly evaluative or stressful conditions (Deffenbacher, 1978). These theories assume that performance decrements due to test anxiety result from these self-referent thoughts decreasing the attentional capacity available for task-relevant thoughts. Consistent with this reasoning, research has shown that distraction impairs performance on challenging tasks (e.g., Sanders, 1981). However, theories of test anxiety have not taken into account the broader consequences of self-focused attention posited by self-awareness theories.

One of Duval and Wicklund's (1972) initial assumptions was that self-awareness is an aversive, tension-filled state because it inevitably leads to an awareness of one's shortcomings. Wicklund (1975) later modified this position, allowing for the possibility that self-awareness can produce positive affect when one is currently meeting or exceeding one's standards. He argued, however, that because of a tendency to constantly revise one's standards upwards after success, such instances are relatively rare. From this perspective, self-awareness is, in most instances, associated with negative, tension-filled emotions, which is only a small step away from viewing this negative emotional state as anxiety.

A different mechanism through which self-awareness can affect anxiety is suggested by the research showing that self-focus increases one's awareness of internal states (e.g., Scheier & Carver, 1977). Self-awareness should increase one's awareness of bodily signs of anxiety and thus intensify the subjective experience of anxiety. Consistent with this notion are studies showing that self-focus intensifies negative affect in response to pictures of atrocities (Scheier & Carver, 1977), and anxiety in response to a snake (Carver et al., 1979).

Carver and Scheier's (1981) analysis of the effect of anxiety on self-regulatory processes builds on this finding. They argue that the heightened awareness of anxiety produced by self-focus increases the likelihood that discrepancy-reducing behavior will be disrupted. From their perspective, the effect of this disruption depends on the individual's perception of the likelihood that the discrepancy can be successfully reduced. When the likelihood of successful discrepancy reduction is high, self-focus increases the tendency to persist at the task at hand and improves performance. When the likelihood of successful discrepancy reduction is low, however, self-focus encourages withdrawal from the task and leads to poorer performance. Recall that, according to Carver and Scheier (1981), the detection of a negative discrepancy does not, in and of itself, generate affect. Rather, they argue that negative affect is produced when one perceives a negative discrepancy as unlikely to be successfully reduced. Thus, within Carver and Scheier's model, self-focus affects the experiences of anxiety in two ways: (a) self-focus intensifies the experience of any emotional state, and (b) when self-focused, the perception that a negative discrepancy is unlikely to be reduced can cause anxiety.

The available research is generally consistent with their analysis of the effects of anxiety on persistence and withdrawal from tasks. Scheier, Carver, and Gibbons (1981) found that self-focus increases the tendency of highly fearful subjects to withdraw from approaching a feared object (a snake or electric shock). Carver et al. (1979) dem-
onstrated that self-focus leads subjects who doubt their ability to successfully complete an anxiety-producing task to withdraw earlier from that task. Carver, Peterson, Pollansbee, and Scheier (1983) showed that highly test-anxious people withdraw from a task earlier than low test-anxious people when self-focused but not when externally focused. Slapion and Carver (1981) reported that self-focus actually facilitated the performance of highly test-anxious subjects on a relatively easy and nonthreatening test. In interpreting this finding, they assumed that because of the easiness of the task, subjects generally had favorable outcome expectancies. To the extent that this is true (unfortunately, expectancies were not directly assessed), this finding supports the contention that outcome expectancy mediates the effects of anxiety and self-focus on task persistence. Self-focus can lead to either intensified efforts or earlier withdrawal, depending on one's expectancies.

Pyszczynski and Greenberg's (1987a, 1987b) self-regulatory perseveration theory suggests yet another way in which anxiety and self-awareness may be related. Self-regulatory perseveration theory posits that depression occurs when an individual persists in focusing attention on an undesirable self-relevant event that has already occurred and is unlikely to be corrected. We suggest that anxiety occurs when an individual focuses attention on an undesirable event that has not yet occurred but is perceived as likely to occur in the future. This idea goes back at least as far as Freud (1926), who conceptualized anxiety as a danger signal. Beck, Brown, Steer, Eidelson, and Riskind (1987) and Tellegen (1985) also conceptualized the distinction between depression and anxiety as depending on whether an aversive event has already happened or is expected to happen in the future. Of course, for Freud the danger resulted from internal conflict, whereas contemporary analyses focus on external threats. From a self-regulatory perseveration perspective, anxiety-related problems are likely when an individual becomes highly self-focused on an aversive event that he or she fears may happen in the future.

Recall that self-regulatory perseveration theory posits that the detection of a discrepancy between current and desired states leads to an increase in extent of self-focus. Carrying this analysis further, it may be that an increase in self-focus also is stimulated by the expectation of an aversive event because self-focus may facilitate attempts to avert the feared outcome. However, an increase in self-focus in response to the expectation of a future aversive event also is likely to increase anxiety. Focusing attention on a feared future event is adaptive insofar as the anxiety that it creates motivates the individual to take action to ensure that the feared event does not occur.

Focusing attention on a feared future event becomes maladaptive, however, when the event cannot be avoided, when the individual has doubts about his or her ability to avoid it, or when the anxiety becomes so intense that it interferes with the execution of goal-directed behavior. In the first case, the increased anxiety that continued self-focus is likely to create cannot be channeled into effective action because no such action is possible. In the second case, the increased anxiety that self-focus is likely to produce, coupled with low efficacy expectations, encourages a premature withdrawal from the goal and disengagement of the self-regulatory cycle. In the final case, either an individual propensity to experience anxiety or a situation laden with anxiety-provoking cues may lead to an overload of anxiety that interferes with the individual's ability to concentrate on the task at hand. As research has shown (e.g., Baumeister, Hamilton, & Tice, 1985), high levels of anxiety can inhibit successful performance on a variety of tasks. Although an increase in self-focus in response to the expectation of an aversive event may sometimes facilitate efforts to avoid the event, in other cases it is clearly maladaptive.

This analysis raises the issue of the close relationship often observed between depression and anxiety (e.g., Gotlib, 1984; Hollon & Kendall, 1980). Because of the high correlation typically found between measures of anxiety and depression, some researchers have voiced concerns about the discriminant validity of research in these areas. We suggest, however, that these high correlations exist, not because of flaws in the scales used to assess these disorders, but because these problems are, in fact, closely related. Given the above analysis, depressed people who have experienced a recent loss of a central source of self-worth are likely to experience anxiety when they consider the implications of the precipitating event for their futures. Similarly, people who are anxious about an upcoming event may experience depression if they become convinced that the aversive event is a foregone conclusion. We suspect that both of these types of thinking are fairly common among people faced with discrepancies of the sorts expected to produce anxiety and de-
pression. Given these considerations, it is probably fruitless to attempt to develop measures of anxiety and depression that are completely uncorrelated with each other. Nonetheless, researchers need to be aware of the relatedness of these two sets of problems.

All of the perspectives discussed thus far are concerned with relatively circumscribed cases of anxiety about specific life events, such as the outcome of a test or social encounter. Anxiety is viewed as resulting from the simple awareness of a discrepancy between current and desired state, the perception that there is a low probability that the discrepancy will be reduced in the future, or the awareness of a possible discrepancy arising in the future. Self-awareness also is seen as exacerbating existing feelings of anxiety.

Many clinical observers and theorists have suggested, however, that these circumscribed sources of anxiety ultimately derive from some very basic sources of concern, such as death, sexuality, and life itself (e.g., Becker, 1973; Freud, 1926; Rank, 1959). In other words, anxiety about specific life events is seen as reflecting some more basic, and largely unconscious, sources of concern. Interestingly, clinically oriented analyses of anxiety have tended to focus on either specific, circumscribed problems of living or more global existential problems, but have rarely attempted to explain how these two types of anxiety might be related. We suggest that a synthesis of self-awareness theory and the recently formulated terror management theory (Greenberg et al., 1986; Solomon, Greenberg, & Pyszczynski, in press; this volume) may provide a vehicle for understanding the relationship between anxiety stemming from deep sources and that stemming from specific life concerns.

To approach this issue, we must first ask the question, why does self-awareness lead to a comparison with standards and other self-evaluative activities? This relationship between self-awareness and self-evaluation is taken as an unexplained postulate both by Duval and Wicklund (1972) and Carver and Scheier (1981). Terror management theory suggests a possible answer to this question. In the following paragraphs we present a brief summary of the theory and how it can contribute to an understanding of the relationship between self-awareness and anxiety (for a more thorough discussion of this relationship, see Pyszczynski, Greenberg, Solomon, & Hamilton, in press).

Based on the work of Ernest Becker (1971, 1973), terror management theory proposes that the human capacity for self-awareness creates the potential for paralyzing terror concerning our vulnerability and ultimate mortality. A cultural anxiety buffer evolved to help assuage the terror that self-awareness engenders. This cultural anxiety buffer consists of a set of beliefs about reality, a set of standards of value associated with those beliefs, and the perception that one's behavior and characteristics meet those standards of value. From the perspective of terror management theory, the individual is protected from the anxiety that self-awareness creates by accepting and living up to the standards of value espoused by the culture to which the individual subscribes.

This anxiety-buffering function of meeting cultural standards of value may help explain why people compare themselves with standards when they become self-aware. If meeting one's standards provides immunity from anxiety resulting from self-awareness, then self-awareness would be expected to instigate processes aimed at ensuring that these standards are met. Comparison of oneself with whatever standard of value is currently most salient and then engaging in behavior to bring oneself in line with that standard would thus be an effective way of bolstering the anxiety buffer when confronted with a source of anxiety. Research clearly shows that self-awareness does, in fact, lead individuals to bring their behavior in line with their standards (e.g., Carver, 1975). This analysis also suggests that, when self-aware, individuals will be especially motivated to defend self-esteem. Indeed, research has shown that self-awareness increases the use of a variety of self-esteem maintenance strategies (e.g., Federoff & Harvey, 1976; Kernis, Zuckerman, Cohen, & Spadofora, 1982).

This analysis implies that one of the most important superordinate functions of self-awareness processes is to keep anxiety at a minimum. Carver and Scheier's (1981) concept of a hierarchy of standards can be profitably applied here to shed light on how the self operates to control anxiety. They suggest that behavioral standards are hierarchically organized, from the very concrete to the very abstract. As one moves up the hierarchy to increasingly abstract levels, the standard at any given level becomes the criterion behavior at the next highest level. Thus, the goal of getting an "A" on a psychology exam toward which a student's studying behavior is oriented becomes the criterion behavior through which he or she achieves the next highest level standard of getting a good grade in his
or her psychology course. Getting a good grade in his or her psychology course becomes the criterion behavior through which he or she meets the next highest standard of maintaining a high grade point average, and so on up the hierarchy.

As Carver and Scheier have suggested, near the top of this hierarchy is the superordinate goal of maintaining a positive self-image. The higher up in the hierarchy one moves, the greater the variety of pathways through which a goal can be met. Thus, subordinate to the general goal of maintaining a positive self-image are the many specific life goals through which a positive self-image is achieved and maintained.

We suggest that superordinate to the goal of maintaining a positive self-image are the goals of maintaining faith in the validity of the standards of value through which self-esteem is attained and faith in the cultural worldview from which the standards of value are derived. Above that is the goal of managing the terror associated with awareness of our vulnerability and mortality. In other words, deep existential concerns are represented near the very top of the hierarchy. By meeting standards subordinate to the goal of terror management, the individual is able to avoid direct confrontation with the basic existential dilemma. Conceptualizing different sources of anxiety at varying levels of a self-regulatory hierarchy illuminates the relationship between the various sources and how deep sources of anxiety may motivate behavior oriented toward more circumscribed sources.

The vast majority of one’s conscious attention is focused on the intermediate levels of the hierarchy at which one’s specific life goals are represented. Thus, rather than thinking a great deal about one’s ultimate value as a person, people tend to think about whether they will pass a specific test, get along with a particular other, or be hired for a particular job. As both Carver and Scheier (1981) and Vallacher and Wegner (1985) have suggested, a disruption at any given level of the hierarchy leads to a shifting of attention toward lower levels of abstraction. Thus, failing a test might lead a student to reconsider his or her approach to studying. We suggest, however, that if attempts to meet the standard continue to be unsuccessful, attention shifts upward in the hierarchy and the individual begins to question his or her value on superordinate standards. Thus, continued failure in a course may initially lead to questioning one’s academic ability. Perseverated focus on this problem may eventually lead to questioning one’s value as a person. An individual who either lacks alternative pathways to self-worth or experiences discrepancies in a large proportion of these pathways may question the standards of value through which self-esteem is derived and, ultimately, the conception of reality that gives rise to those standards. Thus, a severe threat to self-esteem can shake the very foundation of psychological equanimity (cf. Snyder, 1989).

This analysis implies that, although the potential for experiencing deeply rooted anxiety is present whenever one is self-aware, it is generally short-circuited by attempting to meet standards relatively low in the hierarchy. However, failures at a subordinate level can reverbereate up the hierarchy. Failing an exam is certain to create anxiety about one’s chances of passing the course, is likely to create anxiety about one’s ability to maintain a high grade point average, and may even create anxiety about one’s general academic ability. In some cases, conscious thoughts about one’s value as a person are also likely to surface. This reverberation up the hierarchy also is affected by the distance from the initial standard increases. Reverberation up the hierarchy is also affected by the extent of differentiation in the hierarchy. The more alternative means of meeting the standard the person has access to, the less continued failure to meet any one standard will reverberate up the hierarchy. A useful analogy may be to view sources of self-worth as pillars on which self-esteem is mounted. The more support one has, the less likely it is that damage to any one pillar will threaten the integrity of the structure (cf. Linville, 1985). This approach suggests that although one’s conscious attention may be focused on a specific goal at a relatively low level of abstraction, this goal is likely to be subservient to the meeting of deeper needs that often lie outside of the person’s awareness.

One interesting implication of this theory is that individuals experiencing “free-floating” or existential anxiety may be suffering from the consequence of persistent low-level threats that have reverberated up the hierarchy. Thus, rather than focusing on the existential matters per se, these individuals may simply need to shore up the lower level pillars that support their self-esteem. This should allow the individual to imbed him or herself back within the security of the cultural anxiety-buffer and thereby end the confrontation with the existential dilemma. Interestingly, Yalom
Alcohol Intoxication and Abuse

Clinical observations suggest that alcohol intoxication is often associated with the occurrence of negative life events (e.g., Marlatt & Gordon, 1979). It is also likely that alcohol use reduces negative affect resulting from the occurrence or anticipation of negative life events (cf. Russell & Mehrabian, 1975). Indeed, abuse of alcohol is especially common among individuals experiencing depression or anxiety-related problems (Chambless, Cherney, Caputo, & Rheinstein, 1987; Lutz & Snow, 1985). Given the important role that self-awareness appears to play in depression and anxiety, it seems likely that self-awareness also is involved in the use and abuse of alcohol. Indeed, Hull and his associates have suggested just that (Hull, 1981, 1987; Hull & Young, 1983).

Hull (1981) noted that the circumstances that precipitate alcohol abuse are those in which people ordinarily attempt to avoid or escape self-awareness. Specifically, alcohol abuse is likely when one has fallen short of an important ego-relevant standard and is unlikely to be able to reduce that discrepancy in the near future. Furthermore, the affective consequences of alcohol intoxication are similar to those resulting from reductions in self-awareness. These observations led Hull (1987) to suggest that alcohol reduces self-awareness "by inhibiting higher order cognitive processes related to the encoding of information in terms of its self-relevance" (p. 275).

In support of this position, Hull, Levenson, Young, and Sher (1983) found that alcohol-intoxicated subjects exhibited significantly lower levels of self-awareness than did nonintoxicated subjects. Hull, Levenson, and Young (1981) found that although unintoxicated, highly self-conscious subjects exhibited especially high levels of anxiety, no such relationship between self-awareness and anxiety was found among intoxicated subjects. Alcohol presumably reduced anxiety among highly self-conscious subjects by reducing their levels of self-awareness. Hull and Young (1983) supported these notions by showing that whereas subjects high in self-consciousness who received failure feedback on a supposed intelligence test consumed especially large amounts of alcohol in a supposed wine-tasting study, the wine consumption of subjects low in self-consciousness was not affected by failure. Finally, Hull, Young, and Jouriles (1986) demonstrated that among highly
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self-conscious subjects who had completed an alcohol rehabilitation program, those who experienced predominantly negative life events following detoxification had the highest relapse rate, whereas those who experienced mostly positive life events had the lowest relapse rates. Subjects low in self-consciousness showed intermediate rates of relapse that were not associated with negativity of life events. These results suggest that Hull's model is applicable not only to moderate alcohol use among college students, but to clinically significant alcohol abuse as well.

Taken together, the studies reported by Hull and his colleagues provide compelling evidence that the avoidance of self-awareness represents an important cause of alcohol use and abuse. Moreover, the studies by Hull and Young (1983) and by Hull et al. (1981) indicate that a high level of self-awareness does not in and of itself lead to alcohol use. Rather, alcohol use is predicted by the combination of high self-awareness and the occurrence of events that hold negative implications for the self. These findings support the view we propose in this paper; namely, that psychopathology is not simply a function of self-awareness per se, but is a function of the operation of self-awareness in the broader context of self-regulation.

Hull's work on the self-awareness-reducing properties of alcohol may have broader implications for understanding the role of self-awareness in psychopathology. If alcohol reduces self-awareness, one might argue that disorders for which alcohol abuse is an associated feature may be disorders in which high levels of self-awareness play a role. Accordingly, alcohol use should be associated with disorders characterized by negative outcomes, painful emotions, and negative self-evaluations. Thus one would expect affective disorders, anxiety disorders, and certain personality disorders to show a greater coincidence with alcoholism than disorders such as schizophrenia and other psychotic disorders in which negative affect and self-evaluation problems are less prominent. Consistent with this reasoning, research has shown a high coincidence of alcoholism with depression, anxiety disorders, and antisocial personality (Chambless et al., 1987; Lutz & Snow, 1985; Peace & Mellisp, 1987; Whitters, Cadoret, & McCalley, 1987; Wilson, 1988). In contrast, studies reviewed by Peace and Mellisp (1987) suggest a low rate of coincidence between schizophrenic and other psychotic disorders with alcoholism. To the extent that alcohol abuse covaries with these disorders, self-awareness is likely to play some role in its etiology or maintenance.

Other Clinical Phenomena Related to Self-Awareness

Although the bulk of the available research has been focused on the role of self-awareness in depression, anxiety, and alcohol abuse, there have recently been several attempts to apply self-awareness analyses to other problems. Both empirical and theoretical work on these other disorders undoubtedly will become more prominent in the years to come. We now briefly review the work emerging on other disorders and psychological problems.

Paranoid Ideation

Fenigstein (1984) suggested that self-awareness may lead individuals to see themselves as the targets of others' behavior. In two studies, he told students that one particular student, whom he did not name, had done particularly well or particularly poorly on a recent examination. When asked to estimate the probability that the exam was theirs, subjects high in self-consciousness were especially likely to overestimate this likelihood. Fenigstein interpreted these findings by suggesting that self-awareness increases the tendency to perceive the behavior of others as relating to the self by increasing the salience of the self as an object in the social environment. The tendency to believe that one is being observed, talked about, laughed at, or plotted against, which occurs in a number of psychological disorders, may be similar to the phenomena demonstrated in these studies. Although it is unlikely that high levels of self-awareness play an important role in paranoid schizophrenia or delusional (previously termed paranoid) disorder, it may be that high self-awareness does contribute to disorders such as paranoid, borderline, avoidant, and narcissistic personality disorders, and social phobias, all of which are associated with fears of disapproval or harm from others. However, regardless of whether one fears embarrassment, rejection, or harm, it is likely that the tendency to see oneself as the object of others' behavior will exacerbate these fears and increase the extent to which they interfere with social and occupational functioning.
Aggression

Antisocial aggression is undoubtedly among the most serious problems faced by any society. Excessive aggression also is commonly associated with several types of psychological disorders, including psychotic disorders, intermittent explosive disorder, and antisocial and borderline personality disorders.

Research on the relationship between self-awareness and aggression suggests that self-awareness generally increases the correspondence between behavior and salient standards regarding aggression. For example, Scheier, Fenigstein, and Buss (1974) reported that self-awareness was associated with reduced aggression by male subjects against a female confederate. The authors argued that cultural prescriptions exist against acting aggressively toward women, and that increased self-awareness brought subjects' behavior in line with this standard. In a similar study (Carver, 1974), self-awareness was associated with increased aggression if the use of punishing electric shocks was presented as an effective means of improving the performance of a confederate on a concept-formation task. These studies indicate that self-awareness in and of itself neither increases nor decreases aggression. Rather, self-awareness increases the correspondence between salient standards concerning aggression and aggressive behavior.

Decreased self-awareness, on the other hand, is more generally linked to increases in aggressive behavior. According to the cybernetic model, self-awareness increases the tendency for behavior to be guided by higher order goals. For most people in most circumstances, aggressive behavior is inconsistent with the pursuit of higher order standards. For example, a person whose higher order goal is to "succeed in one's career" would be unlikely to act aggressively toward his or her boss because such behavior would probably increase discrepancies between current conditions and standards. However, in the absence of self-awareness, the internal standards that usually inhibit aggressive behavior have less influence on behavior, and thus decreased self-awareness is likely to increase aggression. Support for the notion that decreased self-awareness can increase aggression can be found in the deindividuation literature. According to Diener (1979), emersion in a group reduces self-awareness and, consequently, disinhibits aggressive impulses. Also supportive of this notion is the fact that alcohol use, which decreases self-awareness, increases aggression (Taylor & Gammon, 1975).

Health-Related Behaviors

The notion that self-awareness leads to greater awareness of physical symptoms has been supported in a series of studies by Pennebaker and Lightner (1980). In these studies, subjects who exercised in an unstimulating environment experienced and acted on fatigue symptoms sooner than subjects who exercised in a stimulating environment that presumably distracted attention away from bodily sensation. This symptom perception effect closely parallels those studies (reviewed earlier) that demonstrate that self-awareness leads to intensified perceptions of emotions. The relationship between self-focused attention and the perception of physical symptoms has led investigators to suspect that self-awareness plays an important role in the regulation of health-related behavior.

Carver and Scheier (1982) have suggested that their self-regulatory theory may be usefully applied to understanding people's effectiveness in maintaining their health. In this regard, Mullen and Suls (1982) have shown that highly self-aware individuals reported fewer illnesses in the face of stressful life events than did subjects who were less self-aware. Mullen and Suls suggest that highly self-aware men are both more attentive to physiological signs of stress and more motivated to reduce the negative effects of stress than are low self-aware subjects. A related finding suggests that increased levels of self-awareness may inhibit superfluous eating behavior under certain circumstances (Polivy, Herman, Hackett, & Kuleshnyk, 1986). However, Carver and Scheier (1982) point out that a focus on physical symptoms may lead to misregulation of health behavior in certain circumstances. For example, the proper regulation of hypertension involves adherence to a regimen of maintenance medication. Because medication must ideally be taken even in the absence of hypertension symptoms, using the presence or absence of symptoms to guide medication use can lead to less than optimal health behavior.

SUMMARY AND CONCLUSIONS

From the theory and research reviewed in this chapter it is clear that there is not a simple linear relationship between self-awareness and psycho-
pathology. Disorders such as depression appear to result from excessive self-awareness, while research on aggression and impulsivity suggests that these problems may reflect a lack of self-awareness. The various roles that self-awareness processes might play in psychopathology are probably best understood within the broader context of self-regulation in general. For example, high self-awareness may promote a resistance to stress-related illness because the stress-producing discrepancies can be reduced effectively through active self-regulatory activities. In contrast, the discrepancies experienced by depressed people may for a variety of reasons be irremediable, and consequently, self-awareness leads only to painful perseveration and the experience of discrepancy-related negative mood. It is doubtful that the essence of any psychological disorder is too much or too little self-awareness. More likely, psychological disorders reflect the interaction of self-awareness and factors such as the absence of effective strategies for attaining goals, unrealistic expectations surrounding goal attainment, or an inhospitable social environment that interferes with one’s ability to satisfy one’s goals and needs.

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