Self-Focused Attention in Clinical Disorders: Review and a Conceptual Model

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Working largely independently, numerous investigators have explored the role of self-focused attention in various clinical disorders. This article reviews research examining increased self-focused attention in these disorders. Results indicate that regardless of the particular disorder under investigation, a heightened degree of self-focused attention is found. Hence, as ordinarily conceptualized, self-focused attention has little discriminatory power among different psychological disorders. Using information-processing constructs, a somewhat different model of self-focused attention is proposed, and it is suggested that certain deviations in this process constitute a psychopathological kind of attention. A meta-construct model of descriptive psychopathology is then outlined to examine how certain aspects of attention can be considered specific to certain disorders and others common to different disorders.

Descriptive psychopathology efforts have profited from examination of a number of cognitive variables. One cognitive variable that has generated much enthusiasm for such efforts is the construct of self-focused attention. Although this construct was originally derived from social-psychological theory and research on self-evaluation (Duval & Wicklund, 1972), Carver (1979) has defined it in this way:

When attention is self-directed, it sometimes takes the form of focus on internal perceptual events, that is, information from those sensory receptors that react to changes in bodily activity. Self-focus may also take the form of an enhanced awareness of one’s present or past physical behavior, that is, a heightened cognizance of what one is doing or what one is like. Alternatively, self-attention can be an awareness of the more or less permanently encoded bits of information that comprise, for example, one’s attitudes. It can even be an enhanced awareness of temporarily encoded bits of information that have been gleaned from previous focus on the environment: subjectively, this would be experienced as a recollection or impression of that previous event. (p. 1255)

Self-focused attention has thus been defined as an awareness of self-referential, internally generated information that stands in contrast to an awareness of externally generated information derived through sensory receptors.

Clinically, the cognitive literature now abounds with reports demonstrating a positive relation between a heightened degree of attention focused on the self and diverse psychopathological states. For example, several theoretical conceptualizations of self-focused attention (e.g., Carver, 1979; Carver & Scheier, 1981; Duval & Wicklund, 1972; Hull & Levy, 1979) have been related to a variety of specific clinical disorders such as alcohol abuse (Hull, 1981), depression (Lewinsohn, Hoberman, Teri, & Hutzinger, 1985; Musson & Alloy, 1988; Pyszczynski & Greenberg, 1987), anxiety (Carver & Scheier, 1986), test anxiety (Sarason, 1975, 1986; Wine, 1971, 1982), and social anxiety (Buss, 1980).

With the growing number of studies documenting associations between self-focused attention and a variety of clinical disorders, it is important to consider how this particular cognitive process may be related to so many different dysfunctional states at the same time. Indeed, it would seem incumbent on any theory relating self-focused attention to a particular disorder to specify not only the relations between self-focusing and that disorder, but also how such attention can be related to other presumably different disorders. It is not clear from such theoretical approaches if self-focused attention is meaningful in any real sense if it is not specific to the disorder. With this issue in mind, this article (a) reviews the empirical evidence for various disorders and increased self-focused attention, (b) examines theoretical issues regarding the nature of self-focused attention, and (c) builds on the empirical body of cognitive clinical, social-psychological, and experimental cognitive attention theory and research to propose a descriptive framework for viewing the role of self-focused attention processes in diverse states of psychopathology.¹

¹ This review is generally limited to published data on adult psychological disorders. Theory, data, and clinical descriptions, however, have suggested that heightened self-focused attention is related to a variety of primarily physical disorders, including but not necessarily limited to chronic pain (Turk, Meichenbaum, & Genest, 1983) and coronary disease (Scherwitz, Graham, Grandits, Buehler, & Billings, 1986; Scherwitz et al., 1983). Increased self-focused attention has similarly been related to psychological disorders of childhood (Dodge, 1985; Exner, 1973). Furthermore, some unpublished work has indicated that hypomanic individuals also evidence increased levels of self-focused attention (Shido, 1989). Indeed, the apparent ubiquitousness of this process in disorder makes it difficult to find anything dysfunctional that is not accompanied by increased self-focused attention.
Clinical Disorders

Depression

Several authors have discussed the theoretical possibility that an excessive degree of self-focused attention occurs in depression and may mediate a subset of depressive features (e.g., Lewinsohn et al., 1985; Musson & Alloy, 1988; Pyszczynski & Greenberg, 1987). The first empirical study to demonstrate a relation between depression (at a subclinical level) and self-focused attention was reported by Smith and Greenberg (1981), who found a significant relation between the Private Self-Consciousness subscale of the Self-Consciousness Scale (Fenigstein, Scheier, & Buss, 1975), a dispositional measure of self-focusing, and a shortened version of the Minnesota Multiphasic Personality Inventory Depression Scale (Dempsey, 1964). These results were subsequently replicated and extended in two studies by Ingram and Smith (1984). In the first study, the correlation between dispositional self-focusing and depression was replicated in three different college student samples, using a different measure of depression (i.e., the Beck Depression Inventory, or BDI; Beck, 1967). In the second study, depressed and nondepressed college students were compared on a state measure of self-focusing, in this case, a sentence completion scale (the Self-Focus Sentence Completion Scale, or SFSC; Exner, 1973) that uses the number of self-references in subject completions as an index of self-focused attention. As expected from the previous studies, depressed subjects produced significantly more self-focused responses than did nondepressed subjects. Two experiments reported by Smith, Ingram, and Roth (1985) again found significant relations between measures of depression and self-focused attention in college students. Finally, a recent study by Larsen and Cowan (1988) also found a link between subclinical depression and self-focused attention in a naturalistic setting. In this study, daily ratings of depression and self-focused attention over a 2-month period were found to correlate significantly.

Some research has also examined the association between increased self-focused attention and clinical depression. Ingram, Lumry, Cruet, and Sieber (1987), for instance, found that clinically depressed outpatients had significantly greater levels of state self-focused attention than did a sex- and age-matched community control sample. Interestingly, the level of self-focused attention in this sample was strikingly similar to that of the subclinical sample of Ingram and Smith (1984). The key difference in these samples was in the favorability of the self-focused responses: Whereas subclinical subjects had roughly equal numbers of positive and negative self-focused responses, clinical subjects had significantly more negative than positive responses.

Several researchers have suggested that a particular self-focusing style may be characteristic of depression. Research has found that self-focusing can be aversive after a negative event that cannot be rectified, and is thus avoided when possible (see Carver & Scheier, 1981). In a series of studies, Pyszczynski and Greenberg (1985, 1986; Greenberg & Pyszczynski, 1986) examined avoidance in depressed and nondepressed college students following either success or failure feedback. For instance, after manipulating success and failure on an anagram task, Pyszczynski and Greenberg (1985) had subjects work on both an ostensible self-focus task (i.e., completing a task in front of a large mirror) and a non-self-focused task. Following this procedure, subjects were asked to rate their liking and preference for each task. Likability results indicated that nondepressed subjects liked the self-focus task significantly more after success than after failure, and depressed subjects liked the self-focus task more after failure than after success. Furthermore, depressed subjects preferred the self-focus task less after success than did nondepressed subjects. No depressed–nondepressed preference differences were found in the failure condition.

In a second study, Pyszczynski and Greenberg (1986) repeated this methodology with the exception that subjects were given a choice of which task to work on. Results suggested that depressed subjects who succeeded spent less time working on the self-focused task and were also less likely to initially choose this task than were nondepressed success subjects and depressed failure and control (no-feedback) subjects. No differences were found among any of the nondepressed conditions. Although they did not actually assess self-focused attention, Pyszczynski and Greenberg (1985, 1986) interpreted these results to indicate that depressed individuals evidence a particular self-focusing style.

In another study (Greenberg & Pyszczynski, 1986), depressed and nondepressed college students were provided with either success or failure, and self-focusing was then assessed by the number of self-referent responses on a sentence completion scale. Results indicated that both depressed and nondepressed subjects evidenced significantly greater self-focusing immediately following failure than they did following success. In a follow-up experiment, this procedure was repeated with the exception that self-focused attention was assessed immediately following the feedback and after a time delay. Although both depressed and nondepressed subjects again evidenced an increase in self-focusing after failure, nondepressed subjects decreased self-focusing on delayed assessment and depressed subjects were more likely to retain their initially high levels. Thus, although both depressed and nondepressed individuals appear to have similar self-focusing tendencies following failure, these effects dissipate for nondepressed individuals, but are maintained over a longer period of time for depressed people.

Only one published study has not found an increased level of self-focused attention in depression. In the study by Exner (1973) reporting the development of the SFSC, depressed subjects were not found to have more self-focused responses on the scale than nondepressed controls. This study must be regarded cautiously, however, as raters were not blind to subject status and interrater reliability data were not reported.

Depressive Features

In their 1981 paper, Smith and Greenberg noted a number of parallels between the naturally occurring features of depression and the characteristics of essentially normal individuals who, within the context of experimental social-cognitive research, had been induced into a state of self-focused attention. Smith and Greenberg (1981) suggested that these parallels may indicate that self-focused attention mediates several depressive phe-
nomina, most notably affective intensity, dysfunctional causal attributions, enhanced accuracy of some kinds of self-reports, and lowered self-esteem. Several studies have evaluated the relation among depression, self-focused attention and these features.

**Affect.** Gibbons et al. (1985) assessed the relation between levels of affect and self-focused attention in individuals already experiencing salient emotion. The general strategy was to experimentally heighten self-focused attention and then to assess possible changes in level of affect. In Experiment 1, an inpatient psychiatric group composed primarily of affective disorder patients and a recovering alcoholic inpatient comparison group were placed in either an elevated self-focused condition (exposure to mirror) or a non-self-focused condition. Affect was then examined by using a shortened state version of the State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970), where items were divided into those assessing positive and negative affect. No self-focus manipulation effects were found for either positive or negative affect in the comparison group. Psychiatric subjects, however, showed significant increases in negative affect in the self-focus condition.

In Experiment 2 of Gibbons et al. (1985), self-focused attention was again experimentally manipulated in a depressed subsample that was identified from within a general psychiatric inpatient group. These subjects were compared with general medical patients who were nondepressed. This time the primary measures of affect were the positive and negative affect items of the Depression, Anxiety, and Hostility scales of the Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965). Results again indicated no significant effects of the self-focusing manipulation for control subjects for either positive or negative affect and no self-focusing effects for any kind of positive affect within the group of depressed subjects. For negative affect, however, the self-focus manipulation exacerbated depressive, anxious, and hostile affect in the depressed inpatient group. Thus, in both of these experiments, a self-focused attention manipulation was reliably linked to increases in negative affect for individuals already experiencing negative affect, suggesting that one variable that self-focusing may mediate in depression is the level of negative affect experienced. Similar affect-exacerbating results in depression have been found in a recent study by Gibbons (1987).

**Attributions.** Although several researchers have assessed attributions for task performance within studies of depression and self-focused attention (e.g., Pyszczynski & Greenberg, 1985), only a limited amount of research has directly assessed whether depressive attributions are mediated by self-focusing. For example, although Pyszczynski and Greenberg (1985) examined main effects involving attributions, they did not assess whether attributions were related to either self-focused attention or depression. In the study previously described, Gibbons et al. (1985) asked patients attribution-related questions about (a) the seriousness of their problem, (b) to what extent luck (as opposed to personal responsibility) played in their problem, (c) their perception of their responsibility for the problem, and (d) their perception as to their responsibility for treatment of the problem. It was expected that if self-focused attention mediates attributions, subjects in the self-focused condition would view their problem as more serious, view luck as less of a factor, and take more responsibility for the problem and its treatment than would subjects in the non-self-focused condition. Although results revealed that the comparison group attributed more responsibility internally for problem responsibility and treatment, no effects involving the self-focus manipulation were found for either group. In Study 2, this procedure was essentially repeated with the different groups of subjects described earlier, and again no effects involving the self-focusing manipulation were found. Thus, these studies could find no evidence of a link between attributions and self-focused attention in any psychiatric sample.

This lack of attributional results was echoed in a study reported by Smith et al. (1985). Examining a group of college students, Smith et al. assessed relations among depression, chronic self-focused, and attributional style as respectively measured by the BDI, the Private Self-Consciousness subscale of the Self-Consciousness Scale, and the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). Although the expected significant relation was found between depression and negative internal attributions as measured by the ASQ, no relation was found between self-focused and negative internal attributions, r(111) = .04. Thus, although limited to a very small number of studies, the data so far have offered little to suggest that increased self-focused attention mediates the attributional patterns observed in depression.

**Self-report accuracy.** Whereas studies have not found evidence that self-focused attention mediates attributions in depression, some have provided evidence to suggest that self-focused attention may mediate the increased self-report accuracy that is sometimes seen in depression (see Gibbons, 1983). In Study 1 reported by Gibbons et al. (1985), patients' self-reports of the number of their hospitalizations and of the duration of their problems were compared with hospital records of these variables. For number of hospitalizations, the ratio of reported hospitalizations to actual hospitalizations was analyzed. A significant main effect was found, suggesting that self-focus manipulation subjects' reports in both the psychiatric and alcoholic groups corresponded more to their actual number of hospitalizations. No significant differences were found regarding hospitalization duration self-reports. This pattern of accuracy findings was replicated in Study 2, where correlations between hospital records and self-reports of hospitalizations and problem duration were significantly higher for self-focused subjects than were the correlations for non-self-focused subjects. Gibbons (1987) also found that a self-awareness induction improved the accuracy of self-reports in depressed college students.

Further evidence of self-focused attention mediation of accuracy comes from a study by Musson and Alloy (1988). In attempting to examine possible mediating variables for depressive realism phenomena, Musson and Alloy (1988) had depressed and nondepressed undergraduates participate in an...
illusions of control paradigm. Subjects completed tasks in a self-focus condition (mirror), a distraction condition (number tracking), or a neutral control condition. Results indicated increases in accuracy for nondepressed subjects in the self-focus condition, whereas depressed subjects experienced decreases in accuracy in the distraction condition. Musson and Alloy (1988) also assessed the adequacy of their attention manipulations so that results could be credibly attributed to actual changes in levels of self-focused attention. Thus, data from the Musson and Alloy (1988) and Gibbons et al. (1985) studies support the suggestion that increased self-focused may mediate those instances in which depressed individuals are more accurate than nondepressed individuals.

Self-esteem. Self-esteem is a variable that has been both theoretically (e.g., Beck, 1967; Ingram, 1984) and empirically linked to depression (see Becker, 1979). Researchers have also suggested that depressive self-esteem may be mediated by heightened self-focused attention (Pyszczynski & Greenberg, 1987; Smith & Greenberg, 1981). However, despite several self-focused attention studies that have assessed depression and self-esteem variables within the same experiment (e.g., Brockner, Hjelle, & Plant, 1985; Pyszczynski & Greenberg, 1985), only limited attempts have been made to examine the relations among all three variables. Specifically, Smith et al. (1985) assessed self-esteem as defined by real-ideal self discrepancies. In a series of correlations with a sample of college students, self-esteem was found to be reliably associated with both depression and self-focused attention. When partial correlations were examined, statistically removing the influence of self-focused attention from the association between depression and self-esteem did not substantially alter this correlation. Likewise, removing the influence of depression did not alter the relation between self-focused and self-esteem. These results therefore provide little support for the suggestion that self-focused attention is an important source of variance in the relation between self-esteem and depression.

Summary of Depression Studies

Current depression models using self-focused attention constructs (e.g., Lewinsohn et al., 1985; Pyszczynski & Greenberg, 1987) differ in a number of regards. A common element in each of these theories, however, is that depression is characterized by an increase in self-focused attention. Empirical research examining the relation between self-focused attention and depression suggests both strong and tentative conclusions. This research strongly indicates a reliable relation between heightened self-focused attention and depression. A variety of studies assessing self-focused attention and depression with diverse measures and methodologies all converge on the finding of an increased, and perhaps prolonged, level of self-focused attention in depression, regardless of whether the depression constitutes a clinical or subclinical degree of disturbance (although other forms of depression such as bipolar disorder have not yet been examined).

Evidence regarding the mediational properties of self-focused attention in depression is less clear-cut. Findings thus far suggest the tentative conclusion that although self-focused attention may partially mediate some kinds of self-report accuracy and affective fluctuations, there is little evidence to suggest that self-focused attention plays an important role in the attributional-and self-esteem deficits seen in depression. However, relatively few studies have attempted to assess self-focusing mediation within depression, and more definitive conclusions regarding which depressive features are mediated by self-focusing and which are not must await future research.

Anxiety

Although approached from a somewhat different perspective than depression research, the hypothesis that anxiety disorders are characterized by excessive levels of self-focused attention has a long history. In 1952, for example, Mandler and Sarason described test-anxious individuals in a performance situation as “self rather than task oriented” (p. 166). Numerous other theoretical approaches have also suggested that increases in self-focused attention accompany anxiety states (e.g., Cacioppo, Glass, & Merluzzi, 1979; Defenbacher, 1980; Easterbrook, 1959; Houston, 1977; Liebert & Morris, 1967; Mandler & Watson, 1966; Sarason, 1972, 1975, 1986; Sutton-Simon & Goldfried, 1979; Wine, 1971, 1980, 1982). The present section comments on those empirical studies that have attempted to directly examine if anxiety is characterized by increased self-focused attention.

Test Anxiety

Several early studies examined whether test-anxious individuals experienced more self-focused attention when working on a task. Mandler and Watson (1966) administered digit symbol tasks to high and low test-anxious subjects and asked them, “How often during the testing situation did you find yourself thinking about how well or bad you were doing?” (p. 276). Results indicated that high anxiety subjects reported substantially more of these thoughts than did low anxiety subjects—findings that were subsequently replicated by Neale and Katahn (1968). To the extent that thinking about how one is doing (and not about the task) can be considered self-focused, these results suggest that anxiety states are associated with self-focused attention. Marlett and Watson (1968) also found that ninth-grade subjects with high test anxiety reported more self-focusing on a

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1 Brockner et al. (1985), for example, examined self-esteem as an independent variable, and Pyszczynski and Greenberg (1985) assessed changes in self-esteem as a function of depression level and success-failure but did not evaluate directly any relation between self-focusing processes and self-esteem.

2 It should be noted that many studies of anxiety have assessed a variety of types of cognitions. An early study by Doris and Sarason (1955), for example, found that high test-anxious subjects blamed themselves after a failure experience more than did low test-anxious subjects. Although results such as these have been discussed as evidence for self-focusing (e.g., Wine, 1971), and may indeed be related to self-focusing, there is little evidence in these studies directly linking anxiety to self-focusing. In addition, other studies (e.g., Geen, 1976) have inferred the presence of self-focused attention in anxious individuals, but have provided no measures of this process. Consequently, these studies are not addressed in this review.
questionnaire following a task than did low test-anxious subjects. Similarly, Ganzer (1968) found that test-anxious subjects made more self-evaluative and apologetic task-irrelevant comments while working on a serial verbal learning task than did low anxious subjects.

Self-focused attention in test anxiety was examined experimentally in a study by Deffenbacher (1978). Subjects worked on difficult anagram problems in either a high stress (evaluative) or a low stress (nonevaluative) context. Following completion of these tasks, self-focusing relevant measures were obtained of (a) estimated time spent thinking about the task (as opposed to task-irrelevant thinking), (b) anxiety-generated cognitive interference, (c) attention directed toward physiological arousal, (d) worry (task-irrelevant distractions), and (e) task-generated distractions (e.g., focusing on irrelevant task aspects such as thinking back to unsolved anagrams). Results suggested a pattern of self-focusing showing that high anxious–high stress individuals spent less time generating task-relevant cognitions, reported more anxiety and task-generated cognitive interference, experienced more task-irrelevant cognitive distractions, and correctly solved fewer anagrams. This same self-focusing pattern, however, did not obtain for high anxious–low stress subjects, suggesting that increased self-focusing may emerge as a function of a Trait Anxiety × Situation interaction.

The Anxiety × Situation interaction may account for the lack of significant findings in several studies examining the correlation between measures of test anxiety and dispositional self-focusing (i.e., the Private Self-Consciousness subscale of the Self-Consciousness Scale). For example, Carver and Glass (1976), Smith et al. (1985), and Turner, Scheier, Carver, and Ickes (1978) could not find evidence of an association between self-focused attention and test anxiety. Because all of these studies used unselected samples of college student subjects, there is no reason to believe that both subjects’ anxiety and heightened self-focused attention had been activated by any emotion-provoking situation. As Smith et al. (1985) noted, although self-reports of the tendency to experience anxiety during tests may not be correlated with self-focusing, the actual state of anxiety does indeed appear to be accompanied by increased self-focused attention.

Two other studies have examined self-focused attention in test anxiety. Slapion and Carver (1981) sought to investigate the effect of self-focusing on test performance by exposing male and female test-anxious and non-test-anxious subjects to a self-focusing manipulation (mirror presence) on one of two testing trials. The manipulation was found to enhance actual performance for both male and female test-anxious subjects relative to low anxious subjects on the first trial, and it marginally enhanced performance for test-anxious male subjects on the second trial. Although group means were not reported, test-anxious subjects apparently reported more self-focusing than did low test-anxious subjects as indicated by statistically significant differences on posttest questions regarding subjects’ degree of self-focused attention.

In a similar study by Carver, Peterson, Follansbee, and Scheier (1983), the difficulty of an anagram task and mirror presence were varied for high and low female test-anxious subjects. Results suggested that test-anxious subjects thought more about how their performance was related to their abilities in general, and specifically suggested that, in the mirror condition, test-anxious subjects reported more task-irrelevant intrusive thoughts and fewer task-relevant thoughts than did low test-anxious subjects. Moreover, low test-anxious subjects in the mirror condition reported spending a greater percentage of time thinking about the task than did test-anxious subjects.

To the extent that reports of cognitive intrusions, self-abilities, and percentage of task focus reflect levels of increased self-focused attention, these results raise the prospect that the manipulation increased self-focusing in test-anxious subjects and decreased self-focusing in low test-anxious subjects and that, in turn, these differences in self-focused attention influenced subjects’ task performance (i.e., lessened self-focus in low test-anxious subjects may have facilitated attention toward the task).

Although non-mirror-condition means were not reported, Carver et al. (1983) did report such a possibility when they noted that low test-anxious subjects in the mirror condition reported spending more time thinking about the task (and presumably less time thinking about themselves) than did low test-anxious subjects in the baseline condition. Indeed, the experimental instructions may have facilitated decreased self-focusing for low test-anxious subjects because they were explicitly instructed not to pay attention to the mirror. In any event, it is clear that test-anxious subjects in the mirror condition reported cognitive responses that are consistent with definitions of self-focused attention, whereas low test-anxious subjects did not. On the basis of Carver and Scheier’s model, Carver et al. (1983) might have suggested that the mirror increased self-focused attention for low test-anxious subjects, which subsequently initiated an increased task focus. There were no data reported, however, to support this proposal. The possibility that these kinds of manipulations can have very different attentional focusing effects on different kinds of people (i.e., Person × Situation interactions) is discussed in a later section.

Social and Generalized Anxiety

Although the majority of studies examining self-focused attention in anxiety have addressed test anxiety, several self-focused attention studies have investigated other types of anxiety. Hope and Heimberg (1985), for instance, found significant relations among the Social Anxiety, Public Self-Consciousness, and Private Self-Consciousness subscales of the Self-Consciousness Scale in a diagnosed sample of social phobics, indicating that increased self-focused attention characterizes individuals experiencing clinically significant anxiety. In the same study, Hope and Heimberg (1985) also found a positive correlation between private self-consciousness and generalized anxiety as assessed by the STAII, although interestingly, no significant relation was found between private self-consciousness scores and a measure of social anxiety. Support for heightened self-focused attention in social anxiety was also found in a study by Hope, Heimberg, Zollo, Nyman, and O’Brien (1987). In this study, college student subjects were selected for high and low social anxiety; they then kept a diary of their thoughts during social interactions. Content analyses of these diaries, examining specifically for self-focused versus non-self-focused thoughts, sug-
gested that socially anxious subjects were significantly more self-focused during their social interactions than were nonsocially anxious subjects.

Summary of Anxiety Studies

Despite a long theoretical history, substantial intuitive appeal, and the logical inferences of many studies, relatively few studies have directly examined self-focused attention in anxiety. Those studies that have made such an attempt, however, generally offer support for such a relation. Although correlations among self-report measures in unselected samples have been minimal, during task performance test-anxious subjects have consistently been found to report higher levels of self-focused attention. Further in line with Person × Situation conceptualizations, evidence has suggested that test-anxious individuals may be more responsive to self-focused stimuli and are thus more likely to attend internally in certain situations than are non-test-anxious people.

The evidence regarding social and generalized anxiety is also generally supportive of a relation between increased self-focused attention and anxious affect. In individuals with clinical levels of social anxiety, self-focusing does appear to be heightened and related to generalized level of anxiety. The few data on generalized anxiety also support a relation between this kind of affective distress and heightened self-focused attention. Overall, these initial data are largely supportive, although more studies examining social or generalized anxiety are clearly needed.

On the basis of the available evidence, few researchers would argue that anxiety states do not encompass a higher than typical level of self-focused attention. Because the first two sections of this article addressed anxiety and depression, at least one critical issue must be noted. Evolving from divergent theoretical antecedents, the bodies of literature in depression and anxiety have developed largely in isolation from each other, with the apparent assumption that increased self-focused attention is a relatively unique factor in each disorder. The problem is more than just theoretical, however. Depression and anxiety are so highly correlated (Gotlib, 1984) that any study purporting to select anxious subjects is also selecting depressed subjects and vice versa (Ingram, 1989; Kendall, Hollon, Beck, Hammen, & Ingram, 1987). Results may thus be due to depressive affect, anxious affect, or some unique combination of the two. Hence, virtually every study discussed thus far that pertains to either anxiety or depression is undoubtedly confounded with the presence of "other" affect. Ingram (in press) separated a sample of subjects into a depressed and not generally anxious group and a generally anxious but not depressed group. Results on two different measures of self-focused attention (the Private Self-Consciousness subscale and the Test of Attentional and Interpersonal Style; Nideffer, 1976) indicated no differences between these groups, although both evidenced significantly greater self-focused attention than a normal control group. Therefore, the little "specificity" data available indicate that self-focused attention is separately related to both depression and anxiety states.

Alcohol Abuse

Hull (1981) has offered a provocative hypothesis concerning the relation between self-focused attention and alcohol use. Specifically, he proposed that alcohol interferes with the cognitive processes essential to achieving a state of self-focused attention. Inasmuch as self-focused attention is thought to be necessary for critical self-evaluation and negative affect, inhibiting self-focusing by consuming alcohol should therefore provide a sense of relief or "escape" from the psychological effects of negative personal outcomes.

Hull has garnered support for this proposal in a series of studies. For instance, Hull, Levenson, Young, and Sher (1983) found evidence that alcohol consumption does indeed appear to decrease self-focusing. In the first experiment reported, subjects consumed either alcohol or tonic and then gave speeches about themselves. These speeches were then rated for frequency of self-statements. As predicted, subjects who consumed alcohol made fewer self-focused statements than did subjects who had consumed only tonic. These findings were replicated in a second experiment where alcohol consumption expectancy was manipulated by providing subjects with either alcohol or tonic and telling them either that they were receiving alcohol or that they were receiving tonic. Results indicated that actual alcohol consumption, but not the expectation of alcohol consumption, reduced self-focused attention. Finally, Hull et al. (1983) also administered the self-consciousness scale and then gave either alcohol or tonic to subjects. Following this procedure, subjects participated in a depth-of-processing incidental-recall task (Craik & Tulving, 1975). To analyze the data, a median split was performed on private self-consciousness scales to separate subjects relatively high and low in dispositional self-focusing. Findings suggested that high private self-conscious subjects recalled more self-relevant words in the tonic condition than did the low self-conscious subjects. Alcohol consumption, however, decreased self-relevant recall for private self-conscious subjects relative to the tonic condition, high private self-conscious subjects. Together, then, these experiments support the hypothesis that alcohol interferes with cognitive processing of self-relevant information, and thus, presumably, self-focused attention.

In another study, Hull and Young (1983) tested the notion that individuals consume alcohol to decrease self-focusing. Subjects high or low in dispositional self-focusing received either a success or a failure experience and were then given an opportunity to participate in a "wine tasting experiment." Alcohol consumption for low self-focused subjects was unaffected by success or failure. On the other hand, failure increased the amount of wine consumed by high self-focused subjects. Thus, consistent with Hull's (1981) model, individuals who were highly self-focused were more likely to drink after encountering a negative personal outcome, presumably to lessen their self-focusing and hence their negative affect.

In a subsequent study of alcohol treatment relapse, Hull, Young, and Jouriles (1986) assessed private self-consciousness and negative life events immediately before discharge from a detoxification program. High self-conscious subjects who reported many negative events were found to be particularly likely to relapse to previous drinking levels within the first three
months (i.e., 70% relapse), whereas high self-conscious subjects who had predominately positive life events were significantly less likely to relapse (14%). For low self-conscious subjects, quality of life events was unrelated to relapse.

Hull's data consistently support the hypothesized relation between increased self-focused attention and alcohol consumption. Not only does alcohol consumption appear to inhibit self-focusing, but evidence also indicates that individuals high in self-focusing will drink more to lower negative self-evaluation states, presumably because of alcohol's effect on self-focusing. Furthermore, an individual's level of chronic self-focus appears to interact with the quality of life events experienced to successfully predict alcoholism relapse.

Vulnerability

The evidence reviewed to this point clearly indicates that self-focused attention is a component of several dysfunctional states. There is also evidence to suggest that chronically high levels of self-focused attention may serve as a vulnerability factor by placing individuals at risk for the onset or prolonged maintenance of dysfunction. Two vulnerability dimensions can be identified. The first can be considered an intensification factor, suggesting that levels of salient internal dimensions should be magnified by self-focusing. With regard to psychopathology, self-focused attention intensification processes would serve to exacerbate or prolong the negative state.

The second factor is the initiation of psychologically dysfunctional states. Instead of maintaining existing negative functioning, initiation refers to the creation of this functioning. Initiation is undoubtedly related to intensification, but may be composed of functionally quite different processes. Self-focused attention, however, may contribute to both the intensification and initiation of psychopathology. Thus, with regard to initiation, self-focused attention would serve to contribute to the constellation of variables that bring about disorder. In particular, chronically high levels of self-focused attention across a variety of situational contexts may constitute a cognitive diathesis in a diathesis-stress relation with psychopathology. Moreover, self-focused attention may serve a substantially different function depending on whether it is examined from an intensification perspective or from an initiation perspective.

Intensification Effects

A variety of studies have suggested that self-focusing intensifies negative affect. Scheier and Carver (1977), for example, found that experimentally self-focused male subjects rated slides of nude women as more attractive than did non-self-focused subjects, a finding that they interpreted as support for the hypothesis that self-focused attention can "increase awareness of and reactions to positive affect" (p. 629). Scheier and Carver (1977) also found that a different group of subjects high in experimentally induced self-focused attention reported greater levels of negative affect after a Vetten mood-induction procedure than did non-self-focused subjects.

The experiments by Gibbons et al. (1985) reported earlier also support the intensification hypothesis. In both of these experiments, subjects who were characterized by predominantly negative affect (they had psychiatric diagnoses) reported increased anxiety and decreased positive affect (Experiment 1), and increased depression, anxiety, and hostility (Experiment 2) when their self-focused attention was experimentally heightened.

Several studies have examined the intensification of fear as a result of self-focused attention. Carver, Blaney, and Scheier (1979) selected subjects who were moderately fearful of snakes and then separated them according to whether they expressed relative doubt or confidence regarding their ability to approach a snake. They found that subjects whose self-focused attention was experimentally manipulated reported more arousal and a greater sense of inadequacy than did non-self-focused subjects. Furthermore, subjects who were doubtful withdrew earlier in approaching the snake when they were in the self-focused condition.

These findings were echoed to some degree in two experiments by Scheier, Carver, and Gibbons (1981). In the first experiment, a mirror manipulation was found to decrease the approach behavior of subjects who were preselected on the basis of high fear of snakes. Subjects with low fear of snakes were unaffected by the self-focused manipulation. In the second experiment, subjects high and low in private self-consciousness were given an opportunity to participate in an electric shock experiment for "humanitarian" reasons in which they would receive either mild (low fear condition) or strong (high fear condition) shocks. No shock effects were found for low private self-conscious subjects. High private self-conscious subjects, on the other hand, were significantly less willing to participate in the high fear than in the low fear condition. Additionally, for high private self-conscious subjects, the high fear manipulation intensified reports of negative emotional arousal relative to those of low fear subjects.

Initiation Effects

As noted, the initiation hypothesis represents a diathesis-stress approach to disorder onset that suggests that stressful life events interact with a chronic self-focusing diathesis factor to produce the onset of dysfunction. Studies reviewed in the previous section examined whether self-focused attention intensified affect that was either already present or had been directly induced; that is, the affect was already present or subjects had been specifically instructed to try to create a particular affective state. Such studies, however, do not allow for an evaluation of the individual's naturally occurring processes in the onset of affect. Some individuals, for example, may have certain vulnerabilities, whereas others may evidence protective factors. Fewer studies have examined the contribution of increased self-focused attention to the onset of negative affect when an emotion has not been created for subjects through a direct mood induction, but instead when subjects have instigated (or reduced) their own affective responses to stressful events.

Hull and his colleagues (Hull & Young, 1983; Hull et al., 1986) provided some initial evidence that individuals who are high in dispositional self-focused attention are more prone than normally self-focused individuals to experience negative affect.
in response to negative events. As part of an experiment described earlier, Hull and Young (1983) provided subjects with either a success or a failure experience; after this experience, they completed the MAACL and then participated in an ostensibly wine-tasting experiment. Of particular interest in the present context, MAACL scores indicated that, after experiencing failure, high private self-conscious subjects reported greater total negative affect than did low private self-conscious subjects. This effect was particularly pronounced for high self-conscious subjects who also had low self-esteem.

In another study, Hull, Levenson, and Young (1986) examined both verbal reports and physiological indices of anxiety in high and low private self-conscious subjects in response to a stressful speech manipulation. As expected on the basis of a self-focused attention initiation hypothesis, high private self-conscious subjects showed heightened affective and physiological reactions to the speech, suggesting that an increased tendency toward self-focusing places individuals at risk for increased negative affective responses to negative events.

In the first of several experiments reported by Ingram (1988), high and low private self-conscious subjects were presented with either success or failure feedback, and then both affective and cognitive reactions were assessed. This study, however, also controlled for the positive association between private self-consciousness and negative affect by screening subjects to ensure that only nondepressed subjects were selected. Findings indicated that low private self-conscious subjects were largely unaffected by the success-failure manipulation, whereas high private self-conscious subjects showed significantly more negative affect and thinking in the failure condition than in the success condition. The results of this study thus support the initiation hypothesis; subjects who were more likely to be self-focused across situations were also more likely to think and feel negatively after experiencing a negative personal outcome.

In a second experiment by Ingram (1988), four groups of subjects were monitored weekly over a 2½-month period. The group of primary interest was a chronically self-focused but nondepressed (vulnerable) group. These subjects were compared with groups of self-focused and depressive affect subjects, depressive affect and non-self-focused subjects, and nondepressed and non-self-focused control subjects. Over the course of this period, vulnerable subjects reported experiencing significantly more negative affect than did the normal control group, even though they started the experiment with similar levels of negative affect. These data thus support self-focused attention as a negative affect vulnerability factor in a naturalistic situation. Interestingly, the chronic self-focused group with preexisting depressive affect showed the highest degree of negative feelings of any group over the monitoring period, suggesting that the added component of self-focused attention with already depressed subjects served to intensify their negative feelings and symptoms.

The initiation hypothesis may also help to account for sex differences in affective disorders. In a series of studies, Ingram, Cruet, Johnson, and Wisnicki (1988) found evidence of differential sex-linked self-focusing patterns. In the first study, a mirror prompt was found to increase self-focused attention for female but not male subjects. These findings were replicated in a second study that showed that women become more self-focused in response to video focusing manipulations than do men. In the final study reported, Ingram et al. (1988) tested whether differences in reactivity to focusing stimuli as a function of sex role were related to exacerbated negative affective responses. After an initial depression screening to ensure no preexperimental group differences in existing depressive affect, male and female subjects were classified into masculine, feminine, and androgynous sex role groups. Half of the subjects were assigned to a mirror condition, and all subjects received a failure induction on an "interpersonal task" as a negative affect prompt. Following this induction, subjects completed the MAACL and the BDI. The BDI was scored according to clusters of item subsets that had been determined from a previous factor analysis. Results indicated that regardless of actual sex, the mirror manipulation was associated with the greatest amount of negative affect for feminine subjects. Androgynous subjects also experienced some heightened negative affect in the mirror condition, and, interestingly, masculine subjects showed somewhat of a decrease in negative affect in the self-focusing condition. Feminine subjects also had the highest scores for self-attribution and social irritation BDI item subsets. Thus, these results supported the hypothesis that sex-linked differences in the readiness to self-focus can serve to help initiate negative affect as a response to stressful events.

Most generally, results of the sort support diathesis-stress interpretations of self-focus initiation effects. That is, it seems reasonable to suggest that diathesis variables (sex linked in this case) interact with certain situations to produce varying levels of situational self-focused attention that can ultimately result in exacerbated negative affective responses to stress. Other studies have also provided data to suggest that certain individuals respond differently to environmental tasks typically thought to uniformly produce heightened self-focused attention. Carver et al. (1983), for instance, reported data indicating that a mirror manipulation increased self-focused attention for high test-anxious individuals, and there was some suggestion that self-focusing for low test-anxious subjects was decreased by the mirror. Thus, there may be any number of variables associated with particular subject groups that are more likely predisposed to increased self-focusing responsivity and, ultimately, to the dysfunction to which this internal attention might contribute.

Both theoretically and empirically it is important for future research to examine the mechanisms that play a role in increasing or decreasing self-focused attention. One perspective on the mediation of self-focusing concerns control processes. These processes refer to the potentially volitional aspects of cognitive processes such as self-focused attention (see Shiffrin & Schneider, 1977) and, as such, represent how individuals voluntarily act to process information. Some individuals, for example, may simply be more drawn to particular self-focusing stimuli because they are perhaps predisposed to self-focusing. Conversely, others may simply attempt to ignore such stimuli as they find them an impediment to the tasks at hand. Still others may be very aware of the stimulus, but may actively "work" to not become self-focused, especially if the stimulus has initially caused them some discomfort. During times when self-focusing may be aversive, these efforts may represent cognitive "coping" at-
tempts that lead the individual either to not increase self-focused attention or to decrease it. Thus, rather than adjust behavior or cognitive standards in response to self-focused attention (Carver & Scheier, 1981, 1983; Duval & Wicklund, 1972), it may be that some individuals instead adjust their attention from an internal to an external focus.

Apart from the theoretical and empirical significance of diathesis–stress perspectives on self-focusing initiation effects, these data also point to significant methodological considerations. As is evident from the preceding discussion, the assumption that self-focusing stimuli automatically produce self-focusing is untenable; for some kinds of individuals self-focused attention is increased, whereas for other kinds this attention is decreased. At the very least, explicit manipulation checks must be reported in studies designed to induce self-focusing. Going beyond this simple confirmation of intended states, however, there is a need for future research to address more precisely the specific processes that are affected by self-focusing stimuli, how these processes are affected, and what their determinants in different groups of people are (i.e., Person × Situation interaction determinants).

Summary of Vulnerability Studies

Studies of both the initiation and intensification of affect clearly support both of these self-focusing functions; an increase in self-focused attention appears to reliably exacerbate existing affect. On the other hand, the data suggest that heightened self-focused attention, typically operationalized as chronic self-focused attention, interacts with other situational and person variables to precipitate the onset of negative affect. Together these studies support self-focused attention as a cognitive diathesis variable; individuals who are self-focused are more vulnerable to the negative effects of negative situations, and those who are already experiencing negative affect are vulnerable to an exacerbation of the affect.

Although the data are quite consistent in suggesting that self-focused attention can act as both an intensification and an initiation variable, it is much less clear as to the nature of the mechanisms that underlie these functions. In the case of initiation, for example, it may be that stressful events create negative affect, which is in turn intensified by the individuals' chronic self-focused attention (Carver & Scheier, 1981). Alternately, it may be that self-focused attention serves to help trigger negative cognitive schemas in response to negative events that then precipitate dysfunctional behavior, including dysfunctional affect (Ingram et al., 1987). Given the consistency thus far in the data describing chronic self-focused attention as a vulnerability factor, research efforts that examine the path by which self-focused attention helps to initiate negative affect and thus place individuals at heightened risk are important.

Other Psychopathological Processes

Although self-focused attention in some areas of psychopathological functioning has been examined extensively, there are numerous other psychopathological processes that have received little direct empirical attention. For example, Weintraub (1981) reported several studies examining depressives, binge eaters, alcoholics, and “compulsives” and “impulsives” that found evidence of heightened self-focused attention relative to normals. This section reviews available data and theoretical perspectives on several diverse psychopathological states. Although these data are limited in terms of quantity, and much is necessarily of indirect relevance, it is nevertheless quite suggestive of relations between self-focused attention and divergent psychological disorders.

Schizophrenia

In an early study examining the psychometric properties of the Self-Focus Sentence Completion Scale, Exner (1973) found that both process and reactive schizophrenic patients produced more responses defined as self-focused than did nonpsychiatric control individuals. As this same instrument has been used to establish the relation between self-focused attention and other disorders, this constitutes some empirical evidence that schizophrenia may also be characterized by excessive self-focused attention.

Unfortunately, beyond Exner’s (1973) original research, few other empirical studies have addressed this relation. Many of the classic descriptions of cognition in schizophrenia, however, square well with a self-focus hypothesis. In reviewing the cognitive research in schizophrenia, for example, Magaro (1980) noted that for a variety of schizophrenia theorists, “an aspect of the schizophrenia problem is seen as residing in some attentional mechanism” (p. 167). Similarly, Nuechterlein and Dawson (1984) have argued that schizophrenic deficits are due to maladaptive allocation of attention. When such attentional constructs are combined with schizophrenics’ inability to attend to “appropriate” stimuli as well as their classically recognized distortion in the processing of reality (see Chapman & Chapman, 1973), these observations suggest the intuitively appealing possibility that schizophrenics are instead attending to internally generated self-stimuli at the expense of relevant external stimuli. In light of these observations, therefore, it is conceivable that an overreliance on self-focused attention may be an important concept in accounting for certain cognitive aspects of schizophrenia.

Psychopathy

In the same study that suggested that schizophrenics were characterized by increased self-focused attention, Exner (1973) found that a group of individuals diagnosed as psychopaths, who had a history of assaultiveness and had been institutionalized by court order, also evidenced increased self-focused attention relative to normal controls. Thus, the limited data available also suggest an increased level of self-focused attention in psychopathy. Moreover, the long-term history of egocentric functioning of these individuals (DSM III-R; American Psychiatric Association [APA], 1987) further suggests that a chronic self-focus is not unlikely. These data are particularly noteworthy in that psychopathic functioning tends to be characterized by a lack of depressive and anxious affect, two states that are separately related to self-focused attention. Although some have
suggested that the cognitive style of psychopathic individuals is externally oriented and that introspection is avoided (see Checkley, 1976; Hare, 1970), this appears to be more in terms of external blame for negative events and in perceiving the environment as hostile and dangerous. In fact, these inaccurate perceptions of external reality may be a reflection of an excessive attention to the self at the expense of attention to external data.

In considering these other psychopathological processes, it may be that the quality of the self-focused attention differs from state to state. According to such a viewpoint, for example, the content of self-focused attention in schizophrenia may vary from the content of the attention in anxiety. Theoretical content-process distinctions are discussed at a later point in this article.

**Undifferentiated Psychopathological States**

Several early studies have suggested that varying forms of psychopathology are characterized by heightened self-focused attention. Unfortunately, these studies have generally been unclear as to the precise type of psychopathology under consideration. For instance, Lorenz and Cobb (1953) reported evidence, as assessed by greater use of personal pronouns in speech samples, of increased self-focused attention by "psychoneurotic" patients. They also reported increases in self-focused attention by manic patients. Gottschalk, Glese, and Hambridge (1957) found similar empirical evidence of exacerbated self-focused attention in hospitalized psychotic patients. In their discussion of negative affectivity, Watson and Clark (1984) have also noted that persons high in such affectivity are more likely than those low in negative affectivity to focus on themselves. Thus, the negative affectivity construct, which is general rather than specific, along with these early empirical studies, offers further evidence of the prevalence of heightened self-focused attention across diverse disorders and emotional states.

**Therapeutic Change Processes**

A natural extension of findings that self-focused attention is related to psychological disorders is that attentional processes may also be important in considerations of alleviation of disorder. Natale, Dahlberg, and Jaffe (1978), for instance, have noted an inverse relation between the use of self-references and improvement in psychotherapy. Although few treatment methods have been developed with the specific intent of targeting self-focused attention, other researchers have suggested that among the effective change mechanisms of therapy are those methods that induce a decrease in self-focused attention (Gibbons et al., 1985; Ingram & Hollon, 1986; Schmitt, 1983). This proposal is based on the assumption that if self-focused attention is related to clinical disorders, and if these disorders improve as a function of intervention, then some intervention methods may work by decreasing self-focusing. This is highly speculative, of course, as it is not possible to identify basic psychopathological mechanisms from therapy outcome alone. Yet, given the empirical evidence on self-focused attention and clinical disorders, such a hypothesis does seem plausible.

**Overall Summary: The Incidence of Self-Focused Attention in Clinical Disorders**

In evaluating the evidence for a particular variable in psychopathology, it is important to distinguish among supportive evidence, equivocal (neither supportive nor nonsupportive) evidence, and nonsupportive (contradictory) evidence. The studies examined in the present review are remarkably consistent in providing supportive evidence. Additionally, the few studies not evidencing positive outcomes were much more likely to produce inconclusive rather than contradictory evidence. Thus, the weight of the available data clearly suggests an association between disorder (or vulnerability to disorder) and self-focused attention regardless of the particular disorder. Indeed, it appears difficult to find a psychological disorder that is not characterized by a heightened degree of self-focused attention. This conclusion seems to hold true for both relatively extensively researched disorders (e.g., depression, anxiety, alcohol abuse) as well as for less extensively researched disorders (schizophrenia, psychopathy, undifferentiated disorders). Such consistency is particularly striking when one considers that internal attention research in these different disorders has derived from disparate theoretical backgrounds and has used diverse methodologies.

**Causal Status of Self-Focused Attention in Psychopathology**

A fundamental issue in this literature is whether self-focused attention can be said to be a causal variable in any of the disorders with which it is associated. Causal mediation pathways can take different forms (see Hollon, DeRubeis, & Evans, 1987), and several pathways are possible. The first is that increased self-focused attention serves as one of a constellation of variables that bring about the onset of a disorder (causal status). A second possibility is that increased self-focused attention serves to govern the disorder once initiated (mediational status). This perspective is advocated by depression models that view excessive self-focused attention as a consequence of some disruption in the individual's life. Once this attention is activated by the disruption, it then plays a significant role in mediating a variety of depressive features. There is also no reason for the first two possibilities to be mutually exclusive. Thus, an additional possibility is that self-focused attention plays a dual role for which it is implicated in both the onset and governance of the disorder process. A final possibility is that self-focused attention is a mere consequence of disorder processes and thus exerts no significant influence on the disorder per se.

These causal possibilities may vary as a function of the disorder under consideration; for any specified psychopathological state, self-focused attention may be causal, mediational, causal.

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3 A lack of extensive research should not be confused with weak or contradictory data. Although a disorder such as schizophrenia may not have received sufficient attention with regard to a variable such as self-focusing, it cannot be concluded that the relation is therefore weak. Although research clearly needs to assess self-focused attention in these less-examined disorders directly, the extant data do point to an association.
and mediational, or consequential. Despite the relatively large number of studies that have examined self-focused attention, few studies have sought to directly test the causal nature of self-focused attention and how it may vary in different disorders. Although the vulnerability data reviewed earlier do offer some support for causal pathways in emotional distress, these data are quite preliminary and are limited in scope to distress involving relatively mild depressive and anxious states. Sufficient data are therefore not currently available that allow for clear-cut determinations of the causal status of self-focused attention in differing psychopathological states. An explicit recognition of this deficit suggests that an important research agenda for investigators will be to specifically test causal hypotheses in various disorders.

**Theoretical Issues Arising From the Consistency of Descriptive Data Across Disorders**

The association between self-focused attention and such a wide variety of fundamentally different disorders presents a conceptual dilemma. For example, the actual theoretical and empirical utility of self-focused attention as a variable in psychopathology is limited by its wealth of associations to different disorders. In terms of understanding the essential process of a given psychopathology, it could easily be suggested that self-focused attention provides little meaningful information concerning the critical processes that converge to determine the disorder. That is, if there are genuine differences in the fundamental aspects of various disorders, yet all are characterized by heightened self-focused attention, then the value of self-focused attention as a variable is severely limited, at least without further conceptual elaboration.

Although some researchers have suggested that self-focused attention may be a core process in general dysfunction (Carver & Scheier, 1984), associations with numerous disorders also represent a substantial conceptual problem for theoretical models of specific disorders that incorporate self-focused attentional constructs, particularly those models that view self-focused attention as central to the disorder. Such models, for example, do not typically examine specificity issues regarding the construct but instead appear to assume specificity. The relation of increased self-focused attention to varying disorders therefore casts some doubt on the ability of such models to invoke self-focused attention processes to meaningfully describe a given disorder.

Despite these limitations, it appears that self-focused attention can provide meaningful information about psychological disorders when given an appropriate theoretical context. Hence, modifications building on the basic construct of self-focused attention are necessary to propose a meaningful contribution of this process to psychopathology. The second half of this article therefore develops a conceptualization of self-focused attention within a framework that is somewhat different than current self-focused attention models, but that is consistent with existing attention constructs. Using this conceptualization, a descriptive model of psychopathological self-focused attention is proposed. Following this, it is shown how the elements of this dysfunctional self-focused attention can be classified within a model developed to account for the specificity and nonspecificity of different levels of variables across different disorders.

**Conceptual Issues**

**Attentional Constructs**

Attention is a construct central to a variety of models of cognition (see Parasuraman & Davies, 1984). Yet as central as this concept is, there is little consensus on what constitutes the nature and general parameters of attention, and indeed, few basic definitions have been offered (Carver & Scheier, 1981). This lack of conceptual clarity has engendered a variety of controversies regarding various aspects of attentional phenomena. For instance, issues concerning late versus early selection (Kahneman & Treisman, 1984), structural versus capacity theories (Wickens, 1984), distinctions between automatic and controlled processing (Schneider, Dumais, & Shiffrin, 1984; Shiffrin & Schneider, 1977), and differing definitions as to what constitutes automatic processing (e.g., Norman & Shallice, 1980) are a few of the major issues in contemporary attention theory and research. Recognizing the limited agreement concerning the basic processes of attentional phenomena, this section outlines some broad assumptions concerning the nature of attention as a basis for discussing attention as it relates to self-focusing and psychopathology. In the absence of clear-cut data supporting any particular model or conceptualization of attention, these assumptions are both theoretically reasonable and consistent with current attention conceptualizations.

**Cognitive Processing Capacity**

The finite limits on attention or processing capacity have been conceptualized in several different ways. Structural approaches to limited processing capacity view attention limits as a function of a single mechanism, sometimes called a limited capacity central processor (LCCP; Kerr, 1973) that can handle only a single attentional operation at a time. When the LCCP is engaged in a given task it is not available for attention to other tasks until that operation is complete. Alternatively, capacity theories of limited processing are less concerned with the structural aspects of attention. Instead, these approaches focus on the flexibility of attention and characterize capacity as a limited pool of resources that can be allocated to various tasks (e.g., Kahneman, 1973; Wickens, 1984). Available capacity can thus be split among different tasks, each using some proportion of the capacity; when capacity is not at its limit, information can be added to awareness until that limit is reached. The conceptualization presented here assumes a finite but flexible capacity model that allocates attentional resources to a limited number of tasks.

**Schemata**

The cognitive schema is generally regarded as the structure underlying attention (see Neisser, 1976). Despite its wide usage, there is no clear-cut and universally agreed-on definition of the schema construct (see Holon & Kriss, 1984; Kihlstrom & Nasby, 1981; Nasby & Kihlstrom, 1986; Taylor & Crocker,
Although many "different" types of schemata have been described, the construct can be divided into two general categories of function. Declarative schemata (Kihlstrom & Nasby, 1981; Nasby & Kihlstrom, 1986) contain some kind of propositional knowledge or content. Alternatively, procedural schemata are those structures that contain operating information about sequences of behavioral routines for a variety of actions ranging from molecular (e.g., muscle movements involved in riding a bike; see Norman, 1981) to molar levels of behavior (e.g., executing the appropriate behaviors in a given social situation; see Abelson, 1981; Schank & Abelson, 1977). As used in the present context, schemata are viewed as memory structures that are the basic unit of the information-processing system and thus control attention. Subsequent discussion refers largely to self-schemata; that is, declarative schemata that contain, organize, and process information specifically relevant to the self.

**Activation**

Although the cognitive schema represents the structural mechanism linked to attention, the processing mechanism by which the schema functions is embodied in the activation concept. Individuals possess a variety of schemata; the particular schemata that influence information processing during any specified instance are those that are excited or activated. Attention, or conscious awareness of information, is seen as occurring when given schema components are activated above some threshold level (see Anderson, 1983) either by external stimulation (e.g., an externally induced orienting response) or by spreading activation (Bower, 1981). Patterns of awareness are therefore determined by the activation or excitation among different patterns of nodes within and across cognitive schemata (Johnston & Dark, 1982; Shiffrin & Schneider, 1977). This activation can occur either by intentional means or in an unintentional and automatic fashion.

**Generalized Self-Focused Attention Assumptions**

Although differing in some respects, extant models of self-focused attention have a number of common assumptions. The current approach shares several of these assumptions, particularly in regard to a reliance on information-processing conceptualizations, although in other respects it uses a different level of analysis and a somewhat different set of information-processing constructs.

**Capacity Assumptions**

Previous models of self-focused attention have generally implied a dichotomy between internally and externally directed attention; at any given time attention can emanate from either internal or external sources, but not from both at the same time (e.g., Carver & Scheier, 1981; Duval & Wicklund, 1972). Although such a description may be largely for the sake of convenience, such terminology nevertheless has important empirical and theoretical implications. Empirically, this assumption leads to methodologies designed to shift the individual "into" this state; subsequent conclusions suggest that either subjects are self-focused or they are not. Given this assumption there is little need to address potential quantitative aspects of the state. Presumably, a shift into the state for a sufficient duration will allow for the observation of the state’s psychological consequences, and there is thus little need for assessing how much self-focused attention has been achieved. From a theoretical standpoint, this viewpoint derives from a fixed capacity model of attention that implicitly assumes structural capacity limitations (e.g., an LCCP) and that is capable of processing only one task at a time. Thus, although attentional focus can shift back and forth, perhaps rapidly enough to blur the distinction, the implication of a structural viewpoint leads to a functional view of attentional direction as an either-or phenomenon. In contrast, the current model assumes a fixed but flexible model of attentional capacity. Although this capacity can be engaged to the extent that no other processing is possible, available capacity is typically seen as being allocated among multiple tasks, some self-focused and some not.

**Directional Process Assumptions**

**Degree of internal or external attention parameters.** Assumptions of flexible capacity, or attention allocation, allow for theoretically viewing direction as constituting a continuum with complete internal and external attention falling at the respective endpoints of the continuum and some balance between the two at the midpoint. Individuals can therefore attend to a combination of internal and external attention simultaneously. Even when attending externally, for example, people can still have an awareness of themselves. Likewise, when attention is turned inward, the external environment, although perhaps not salient, nevertheless receives some attention; one can drive a car and be self-focused at the same time. Thus, in a flexible capacity system the typical attentional state can be characterized as a balance between external and internal attention.

This view is analogous in many respects to Norman and Bo- brow’s (1975) description of conceptual versus data-driven processes (or top-down versus bottom-up processing). At one end of the continuum, processing is conceptually or internally driven; at the other end, the focus of attention is on the environment or the “data” in the environment. Presumably, optimal functioning consists of a balance between the two. Neisser’s (1976) suggestion that perception is characterized as an interaction between cognitive structures and sensory data is also consistent with a continuum conceptualization.

When viewed as a continuum, several assumptions concerning internal attention can be articulated. For example, the distribution of attention resources can be seen as approximating a normal curve; although attention can shift to a relatively internal or external focus, some balance between the two seems likely for optimal functioning. Internally focused attention can therefore be defined as any time this balance shifts to a greater proportion of internal attention relative to external attention. This attentional distribution viewpoint also clearly suggests that different degrees of internal attention are possible. Figure 1 provides a conceptual illustration: A slight shift can be considered mildly self-focused, and proportionally greater shifts can be described as respectively moderate to extreme. The ordinate
in Figure 1 depicts the frequency of occurrence of the relative attentional proportions for average individuals across situations. However, the distribution is slightly skewed to illustrate that the “average” frequencies for the normal population are unknown and do not necessarily have to be balanced 50/50, although an equal or close-to-equal balance seems most adaptive. Most normal individuals probably hover around the mid-point most of the time, but shift toward the endpoints as various situations dictate.

*Duration parameters.* In addition to the degree of the shift in attentional direction, one can also describe attentional direction in terms of the *duration* of the shift. Shifts in either an internal or an external direction can range from an extremely brief amount of time to a much more sustained amount of time. It should further be noted that duration and degree parameters are conceptually if not empirically independent; although a shift in an internal direction may be accompanied by a sustained duration, there is no theoretical reason why this must be so.

Degree and duration parameters of attentional focus highlight some of the theoretical ambiguity of previous self-focused attention research. Many studies, for instance, have interchangeably used terms such as *self-focused* or excessive, increased, or heightened self-focusing. Although it is clear that such terminology is for the sake of descriptive convenience, the present model suggests that these descriptions confuse theoretical assumptions and parameters. If structural capacity constructs are assumed, then strictly speaking increased or heightened self-focused attention is not possible, because these labels imply flexible capacity assumptions and consequent degrees of internal attention. In addition, heightened self-focusing (a shift to relatively more internal focus) may not be the same as excessive self-focusing (a shift to a severe degree). Moreover, it is not clear from many studies of self-focused attention whether merely a shift to a self-focused state (degree parameter) or a prolonged shift to such a state (duration parameter) is of interest. Thus, whereas self-focused attention may imply a virtually total state of self-focused attention (structural assumptions), it may also imply a shift in a self-focused direction, or a more sustained duration of this shift. The current model provides a means for making theoretical distinctions among these assumptions and parameters.

*Flexibility parameters.* Previous approaches have suggested that shifting attentional directions can occur quite rapidly. Undoubtedly one reason for the ability to engage in such rapid shifts is to accommodate various situational demands. Effective functioning in some situations requires a shift into a relatively externally focused state; other situations require shifts in an internal direction. The individual’s flexibility in being able to shift attentional directions is thus a parameter that has significant adaptive value. Such flexibility would appear to be executed by a combination of automatic and controlled processes. That is, shifts in a particular direction are “drawn” by some situations, and other shifts can be controlled by the individual’s decision as to where to attend.

*Content Parameters*

Distinctions between attentional process and content are critical to understanding the causes and effects of self-focused attention. Attention is a cognitive *process* of bringing to awareness sensations and perceptions arising both internally and ex-
ternally. Internally focused attention refers to the direction of this process. The sensations and perceptions, once in awareness, are the content of this attention. Previous theorists have drawn similar distinctions. Carver and Scheier (1981), for instance, made a related point in noting that internal attention can be divided into two subjects: self-relevant and non-self-relevant. A content distinction can also be made between attention focused on private self-aspects and attention focused on public self-aspects (see Nasby, 1989). Similarly, a central aspect of Carver and Scheier's conceptualization of the functioning of self-focused attention, the individual's task expectations, refers to a content as opposed to a process parameter. Thus, theoretical explication of self-focused attention requires not only reference to a particular cognitive process (internally directed attention), but also to a particular kind of content (self-relevant).

As noted by Carver and Scheier (1981), self-content can be distinguished in general and specific categories. Whereas self, a superordinate category, refers only to attentional content that is self-relevant, more specific categories of self-focused attention content are possible and refer to the many different aspects of the self that can be attended to. Carver (1979) argued, for instance, that autonomic bodily activity, awareness of past or present behaviors, or memories of previous self-relevant events are all examples of specific self-content.

Pathological Self-Focused Attention: Self-Absorption

As previously discussed, data suggesting that elevated self-focused attention characterizes numerous disorders portend a critical conceptual dilemma for models seeking to meaningfully account for attentional processes in dysfunction. For example, the theoretical and practical significance of self-focused attention as it is typically defined may be diminished for descriptive psychopathology efforts because it cannot distinguish fundamentally different psychopathological conditions. Two further theoretical clarifications are therefore proposed. First, using the attentional parameters outlined earlier, a particular kind of self-focused attention is proposed that invariably accompanies disordered functioning. Second, the elements of self-focused attention are related to a metaconstruct model of psychopathology that provides a means for describing both the specificity and nonspecificity of variables across disorders.

The maladaptive self-focused attention to be described is referred to as self-absorption. This label is quite arbitrary in the sense that many other labels could as easily have been invoked. The term self-absorption is simply aimed at capturing the dysfunctional quality of maladaptive self-focused attention.

**Conceptual Characteristics of Self-Absorption: Process Variables**

Three attention process parameters were outlined: degree parameters, duration parameters, and flexibility parameters. Self-absorption is defined as a dysfunctional shift in the combination of these parameters. In particular, shifts to internal, sustained, and inflexible attention are proposed to characterize psychopathological states of functioning. For instance, excessive internal attention (degree parameters) is proposed to correspond to a greater likelihood of maladaptive functioning; mildly self-focused attention would be unlikely to be associated with psychopathology, whereas more extreme shifts would be more apt to characterize a disorder. Sustained internal attention (duration parameters) is also a necessary element of self-absorption and suggests that internal attention is more likely to be dysfunctional when it is sustained for protracted periods of time. Finally, self-absorption also encompasses cognitive intransigence (flexibility parameters). Recalling that adaptive attentional focusing is a flexible process, this parameter indicates that self-absorption is characterized by a rigid reliance on internal attention across a variety of situations. Internal attention is clearly appropriate in many situations; however, it is also clearly less appropriate in some situations (e.g., performance situations where attention to task parameters is necessary for effective performance). These process aspects thus suggest that self-absorption is defined by excessive, sustained, and rigid attention to information emanating from internal sources.

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**Conceptual Characteristics of Self-Absorption: Content Variables**

Although internal attention represents the process, the general content of self-absorption is self-relevant by definition and thus quite nonspecific. The specific content (or subject) of self-absorbed attention in psychopathology can vary considerably. Given that schemata are thought to be the structures underlying attentional processes, several clinical theorists (e.g., Beck, 1976; Kuiper, Olinger, & MacDonald, 1988; Teasdale, 1988) have proposed models that would suggest that the specific content of self-absorption in varying disorders is determined by the prepotent schema. As such, although the process of self-absorption characterizes diverse psychopathological states and is common to generally dysfunctional states, the key to cognitively differentiating these states lies in the particular schema, or cognitive-affective network (Bower, 1981), that is accessed (e.g., self-degrading content in depression, fear or harm in anxiety, disorganized self-content in schizophrenia, grandiosity in mania). Hence, the self-relevant content of self-absorption is viewed as a function of the particular schema operating in the disordered state (for empirical evidence on some of these distinctions, see Beck, Brown, Steer, Eidelson, & Raskind, 1987; Clark, 1986; Ingram et al., 1987).

Self-absorption can therefore be distinguished in several ways from traditional concepts of self-focused attention in the normal population. In addition to variations in the degree and duration of internal attention states, it is important to note the subtle but important distinction between self-absorption and the notion of chronic self-focused attention (e.g., Carver & Scheier, 1981). The idea of chronic self-focused attention suggests that individuals may be inclined to focus internally across a variety of different situations; the current model adds an in-

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* It is important to note that although the description of these parameters is consistent with existing research, each represents attentional constructs that have been developed to account for this research. Prospective studies examining these proposals are thus necessary to accurately test the role of these parameters in psychopathology.
flexibility dimension to this process. Thus, chronic self-focused attention per se is not dysfunctional; an inability to shift out of this state in response to situational demands is. Experimentally, these parameters should also be distinguishable and testable. Although indices of self-focused attention are not as yet particularly sophisticated, social-cognitive research has used several measures to assess this state. Thus, in principle, different degrees of self-focused attention should be able to be assessed by measures that provide some quantification of the process (e.g., the Self-Focus Sentence Completion Scale). Similarly, these measures should provide a means to assess the duration of self-focused attention. Greenberg and Pyszczynski (1986), for instance, provided a relevant illustration of this in their study, which suggested that over a period of time, subclinically depressed individuals sustained a higher level of self-focused attention than a nondepressed group. Finally, it is also possible to develop experimental situations where it is adaptive to shift one's focus from internal to external sources (e.g., adequate task performance, successful interaction with another person). Such experimental situations allow for tests of the intransigence of attentional processes in disordered individuals.

Comparisons With Other Models Applying Self-Focused Attention to Dysfunction

Although models of self-focused attention inevitably share a number of features, they can also be distinguished on several grounds. With regard to self-focused attention in dysfunctional states, there are three current models that are particularly relevant to the present proposal: Hull and Levy (1979), Carver and Scheier (1981, 1982), and Pyszczynski and Greenberg (1987). The central aspects of these models are briefly reviewed and their differences with the present approach are discussed.

Hull and Levy's Model of Self-Awareness

In many respects, Hull and Levy's (1979) model is the most similar to the current set of proposals. Hull and Levy proposed that self-awareness relates to a person's manner of organizing information for encoding. In particular, they suggested that self-focused attention corresponds to information that is encoded specifically in relation to its self-relevance. Hull (1981) further suggested that alcohol consumption interferes with the processes essential to achieving a state of self-focused attention. Such a theory is consistent with suggestions that a variety of negative states are associated with increased self-focused attention and that some individuals may thus choose to drink to diminish this self-focused attention and the negative affect that goes along with it. The key difference between Hull's model and the current model resides in the fact that Hull's model is intended to be more specific and does not explicitly discuss the myriad of negative states that are associated with self-focused attention. However, given the focus of this model on alcohol as relief for negative states, it is not necessary to account for the relation between self-focused attention and these various negative states.

Carver and Scheier's Control Theory

In addition to specifying normal self-regulatory functions, Carver and Scheier have also applied their model to dysfunctional states, most notably anxiety (e.g., Carver & Scheier, 1986). Although Carver and Scheier's model and the current model are similar in some respects, they differ in other important regards. Derived from Duval and Wicklund's (1972) original work on self-awareness, control theory suggests that an important element in self-regulation is self-evaluation. Thus, when the individual enters a state of self-focused attention, an evaluation process comparing behavior and behavioral standards is spontaneously engaged. In the case of dysfunction, Carver and Scheier proposed a sequential process where self-focused attention necessarily and invariably leads to a focus on outcome expectancies. Such expectancies are centrally important in dysfunction in that disorders such as depression and anxiety are characterized by unfavorable task expectations.

In addition to the process parameters previously discussed, the primary difference between Carver and Scheier's (1981, 1982) control theory and the current model is in regard to the centrality of negative task expectations in dysfunction. Whereas Carver and Scheier suggested that self-focus inevitably leads to expectancy assessment, the current model views expectancies as just one of a number of content dimensions that can become salient when an individual is self-focused. Accordingly, the role of expectancies is considerably less important in the present model. This position is taken for two reasons. First, there is little evidence to suggest that self-evaluation or expectancy assessment always follows from self-focused attention. In the domain of psychopathology, extant data have not suggested that expectancy assessment spontaneously occurs in response to self-focused attention; most studies either specifically prompt inquiries concerning self-evaluation or attempt to manipulate expectancies. Hull (1981) has made a similar point in his discussion of self-focused attention in alcohol abuse. Second, empirical studies have generally been unable to provide statistically reliable evidence that expectancies play such a key role in self-focused attention and dysfunction (e.g., Burgio, Merluzzi, & Pryor, 1986; Carver et al., 1983; Strack, Blaney, Ganellen, & Coyne, 1985).

Pyszczynski and Greenberg's Self-Regulatory Model of Depression

In line with Carver and Scheier's (1981, 1982) approach, Pyszczynski and Greenberg (1987) suggested that the disruption that leads to depression instigates a self-focused attention process that engages a self-evaluation process. These factors lead to a self-regulatory cycle from which the depressed individual does not disengage. As a result of this perseveration, depressed individuals develop a self-focusing "style" that results in self-esteem deficits, exacerbated negative affect, and task performance deficits. Pyszczynski and Greenberg further speculated that the depressive self-focused style can account for "negative automatic thoughts, anxiety, sleeplessness, poor concentration, anger, aches and pains, fatigue, and psychomotor retardation" (p. 133). Moreover, they suggested that the self-focusing style
causes a motivation to maintain a negative self-image in which positive thoughts, feelings, signs of competence, and personal value become anxiety provoking. In short, Pyszczynski and Greenberg suggested that self-focusing is the central and integrative process in virtually every category of depressive symptoms and features.

There are several similarities between Pyszczynski and Greenberg's (1987) model and the current framework. For example, although they are conceptualized somewhat differently, the concepts of sustained attention and perseveration are similar. Although there are also several differences between these approaches, there are two major distinctions. First, the present model does not view attentional focus as the central process in virtually all depressive symptomatology that is suggested by the perseveration model. Indeed, research has suggested that some of the depressive features proposed to result from self-focused attention (e.g., attributions [Gibbons et al., 1985], self-esteem [Smith et al., 1985]) are unrelated. In other instances, virtually no studies have attempted to address the multitude of features thought to result from self-focusing. It seems unlikely, however, that the attentional variables described by Pyszczynski and Greenberg can account for such numerous and diverse depressive symptoms.

The second major distinction concerns the specificity of self-focused attention and depression. Although self-regulatory theory provides an elaborate account of the relation between self-focusing and diverse aspects of depression, some of which are presumably unique to depression, it is silent with regard to the other psychopathological states in which self-focused attention is characteristic. Although the present framework is intended specifically to account for these diverse states, it is unclear as to how self-regulatory theory can accomplish this task and at the same time describe processes that appear to be specific to depression.

Self-Absorption as Applied to a Model of Psychopathology: The Meta-Construct Model

In further attempting to explicate the role that self-absorption plays in dysfunction, it is important to consider that there are a number of diverse factors that contribute significantly to the development and course of psychopathology. This final section illustrates how the content and processes elements of self-absorption can be classified according to a model that provides a means for categorizing the specific and nonspecific variables in disordered functioning. Before relating this model to self-focused attention, the basic constructs of the approach are noted. Specifically, this model integrates two conceptual systems that have been described separately elsewhere: a taxonomy of the classes of cognitive constructs (Ingram & Kendall, 1986) and a variance partition model (Ingram & Kendall, 1987; Kendall & Ingram, 1987).

Cognitive Taxonomy

The fundamental difference between cognitive structures and processes are generally well known and have been clinically elaborated in several proposals (e.g., Goldfried & Robins, 1983; Hollon & Kriss, 1984; Kihlstrom & Nasby, 1981). Building on these proposals to differentiate the various aspects of what constitute cognition, Ingram and Kendall (1986), Ingram and Hollon (1986), and Kendall and Ingram (1987) have proposed a taxonomy for categorizing classes of cognitive constructs. Contemporary cognitive variables can thus reasonably be described as belonging to a given category: structures, propositions, operations, or products.

Cognitive Structures

These constructs represent the architectural properties of the information-processing system within which data are stored. Although "contentless" themselves, these structures reflect the mechanisms that organize information and encompass concepts such as the linkages and associations among stored memories. Cognitive structure constructs include short- and long-term memory, sensory- iconic storage, and cognitive networks.

Cognitive Propositions

Propositions refer to the information, or content, that is represented within cognitive structures. Semantic and episodic knowledge can be considered examples of cognitive propositions or content. Together, cognitive structures and content are typically referred to as "schemata."

Cognitive Operations

This category includes process constructs representing the various procedures by which the cognitive system functions to manipulate information, such as encoding and retrieving information. Conceptualized as the process by which either internally or externally derived information is brought to awareness, attention is a construct belonging within the operational category.

Cognitive Products

Cognitive products are an end result of the operation of the information-processing system and encompass the individual's cognitions. In a sense, cognitive products represent the "surface" manifestations of the individual's cognitive propositions (Hollon & Kriss, 1984). This level of analysis includes concepts such as attributions (see Peterson & Seligman, 1984) and self-statements (Kendall & Hollon, 1981).

Partitioning the Variance in Psychopathology

Given the diversity of cognitive constructs that have been applied to psychopathology, it is inevitable that there will be overlap of at least some constructs among fundamentally different disorders. This overlap does not necessarily imply that various constructs are invalid or not useful simply because they lack specificity (cf. Coyne & Gollob, 1983). Rather, overlap has important theoretical and empirical implications in its own right. To examine these implications, however, theoretical frameworks are needed that account for variables that are either specific to certain psychopathologies or that overlap among many.
psychopathologies. Ingram and Kendall (1987) and Kendall and Ingram (1987) have proposed that a useful approach to this problem is an analogy to statistical techniques that partition variance. For example, variance in an analysis of variance (ANOVA) procedure is partitioned into variance that is unique to a given factor (a main effect), variance that is common or shared among different factors (an interaction), and variance due to individual differences (error variance). Similarly, factor analytic techniques break a large number of items into underlying sources of variance. Some of these sources are common across resulting factors, and some are specific to given factors. By adopting a conceptual analogy based on such statistical partition methods, the expression of a given psychopathology can be thought of as a function of several converging sources of variance that are either specific to the disorder or common to disordered functioning in general. Thus, psychopathology variance can be partitioned in a conceptual sense in much the same way that variance is partitioned empirically by an ANOVA or factor analysis; the diversity of cognitive constructs that have been studied in different disorders can be categorized according to whether they appear to describe variables unique to a disorder or whether they appear to contribute to a variety of disorders. Hence, the variance in psychopathology could be conceptually partitioned as follows:

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\text{Expression of given disorder} = \text{psychopathological features} + \text{error variance} + \text{individual differences}
\]

In such an analogy, critical psychopathological features are the main effects, or sources of specific variance, and thus reflect those constructs that are relatively unique to a particular disorder. Within the general domain of maladaptive functioning, these features differentiate one disorder from another. Common psychopathological features represent interactions or variance that is shared among independent variables (i.e., different disorders). These variables characterize a variety of diverse disorders, and although they do not differentiate various disorders, they do differentiate maladaptive functioning from adaptive functioning. Thus, these variables are important even though they are of little use in determining what kind of nonadaptive functioning has occurred. Finally, error variance, or individual differences, represents the unique factors that any given individual brings to daily functioning or dysfunctioning. Thus, despite the presence of theoretically predictable critical and common features, any type of psychopathology will be expressed in a somewhat different way because of the particular characteristics of the individual involved. Because error variance is unpredictable by definition, and is presumably less important than systematic sources of variance, it is not discussed further.

**Meta-Construct Model**

The cognitive taxonomy and variance partition frameworks together form the basis of a meta-construct model of descriptive psychopathology. The intention of this model is to facilitate the classification of the myriad components that characterize psychopathology. It can be applied to a given psychopathology to examine theoretically or empirically derived components of the disorder at each of the various levels, or, as in the present case, it can be used to classify a set of variables characterizing a particular psychopathological process.

The meta-construct model is illustrated in Table 1. As can be seen from this table, the cognitive level of analysis is further divided into the categories suggested by the cognitive taxonomy. Hence, a particular cognitive construct can be classified depending on whether it is proposed as a structural, propositional, operational, or product variable. In addition, each construct, based on existing theory and empirical data, can be further categorized according to whether it describes a variable specific (critical) to a particular disorder or whether it is common across disorders. As can also be seen from this table, a variety of levels of analysis using this framework are possible. The present discussion is, of course, limited to the cognitive level, specifically as it pertains to self-absorption.

When applied to self-absorption, the meta-construct model suggests several classifications, which are illustrated in Table 1. When one recalls that the process of self-absorption is defined as internal attention that is excessive, rigid across situations, and prolonged, these components are most appropriately viewed as operational variables. Because the data suggest that these operations occur in many disorders, they are further considered to be common features of psychopathology. To the extent that certain psychopathological symptoms may be governed by attentional processes, such commonality suggests that self-absorption may account for the considerable symptom overlap that is observed across diverse disordered states (DSM III-R: APA, 1987).

The remaining aspects of self-absorption are defined as content variables. The most general aspect of this content, predominantly self-relevant thinking, constitutes a product variable that is common to disorders in general. As noted previously,
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however, the particular kinds of self-relevant cognitions are schema-based and thus unique to the specific disorder (critical features). Finally, because these thoughts are assumed to be the surface manifestations of the individual’s beliefs and stored information, these beliefs represent the propositional level of analysis. Thus, the pathological equivalent of self-focused attention, self-absorption, is defined in such a way that several of its components are likely to occur across a multitude of disorders. At the same time, it is proposed that the specific content or subject of the attention will be a reflection of the schema operating in the particular disorder and thus will be specific to the disorder.

It is apparent that although the components of self-absorption fit into this conceptual scheme in several different areas, a number of categories are blank. This reflects the fact that any specific psychopathology is a multidetermined state and that a variety of interacting cognitive (as well as other) factors contribute to various disorders in a complex fashion. Hence, any given disorder is not a disorder of self-absorption but, rather, self-absorption appears to constitute a cluster of variables that contribute to different disorders.

Summary

Numerous investigators, working largely independently, have explored the role of self-focused attention in diverse disorders. Similarly, theoretical models describing the role of self-focused attention in particular disorders have been advanced, also largely independently. Given the sheer number of empirical and theoretical descriptions of self-focused attention in psychological dysfunction, no synthesis of this diverse yet remarkably consistent literature across psychopathological domains has been proposed. After reviewing the literature, this article suggests that self-focused attention is a nonspecific process in psychopathology. Although this characterization appears accurate, it also diminishes the potential importance of this variable for efforts to describe the key processes in psychopathology. Furthermore, if self-focused attention is important in psychopathology, it is unclear what differentiates “normal” self-focused attention from attentional processes that contribute to dysfunction. By suggesting deviations in the degree, duration, and flexibility of self-focused attention, however, it is possible to describe a conceptual variant of this normal process, self-absorption, that is proposed to invariably accompany psychopathological functioning. Finally, to illustrate how self-absorption can occur across such a diversity of disorders, a classification model of psychopathology, the meta-construct model, was briefly reviewed. This model suggests that the process aspects of self-absorption (i.e., excessive, sustained, and rigid attention) can be seen as common variables in disorders, whereas the content variables that appear to differentiate various disorders are unique to the particular psychopathological schema that controls the more generalized attentional process. Future theory and research is necessary to confirm or disconfirm the veracity of the categories proposed by the model, the placement of the various components of self-absorption within these categories, and, if appropriate, to fill in the remaining gaps.

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