SOCIOEMOTIONAL FUNCTIONING IN DEPRESSION

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Major depressive disorder (MDD) is a psychiatric syndrome characterized by impaired functioning in multiple domains, including biology, behavior, emotion, and cognition. Investigators working within each of these domains face an ever-expanding corpus of theory, methodology, and empirical findings. Perhaps in part due to these burgeoning literatures, different groups of researchers have typically focused on only one of these domains of functioning. While understandable, the consequence of this situation is that there is a lack of integrative theory and research in which the range of dysfunctions that are associated with depression are synthesized to form a meaningful overall pattern (Gotlib & Hammen, 1992, 2002).

For several reasons, the social and emotional dysfunctions observed in depression appear to be particularly good candidates with which to begin to develop such an integrative approach. It is clear, for example, that depressed individuals exhibit striking deficits in both of these domains. And perhaps more important, the social and emotional deficits in MDD appear to be interwoven. It is not difficult to imagine, for instance, that a depressed woman’s inability to experience pleasure (emotion deficit) might lead her to withdraw from pleasant activities involving others (social deficit). Indeed, a growing body of research conducted with “normal” samples reinforces the formulation that there are strong bidirectional linkages between the social and the emotional domains (e.g., Fridja, 1986; Fridlund, 1992). Emotions are critical in coordinating the trajectory of social interactions (Ekman, 1992). In turn, social interactions set the conditions under which the majority of all emotional episodes occur (Scherer et al., 1986). These insights concerning the linkage of social and emotional phenomena have only recently been applied to the understanding of psychopathology (e.g., Keltner & Kring, 1998). We believe that this is an opportune time, therefore, for researchers and theorists in the field of depression to consider the interconnections between the social dysfunctions (e.g., Barnett & Gotlib, 1988) and the emotional dysfunctions (e.g., Rottenberg et al., 2002) that are typically observed in individuals who are experiencing this debilitating disorder.
Certainly, the formulation of a socioemotional linkage in MDD is not entirely novel. Several well-validated interventions for depression, such as interpersonal therapy (IPT) (Klerman et al., 1984), social skills training (Becker et al., 1987), and marital and family therapy (Beach & Jones, 2002), make strong assumptions about the existence of tight connections between the state of depressed persons’ interpersonal functioning and their emotional state. In fact, a central claim of these interventions is that improving depressed patients’ social functioning will alleviate their depressive symptoms (including the emotional symptoms). Despite the demonstrated efficacy of these therapies, the mechanisms through which socially based therapies effect changes in emotional functioning remain largely unknown.

The purpose of this chapter is to present an overview and integration of the literatures on social and emotional functioning in depression. Using the general concept of socioemotional linkage as a framework, we begin this chapter by discussing normative aspects of the relation between social and emotional functioning. Our overarching goal in using the concept of socioemotional linkage is to go beyond a simple “snapshot” description of how depressed individuals function in social settings and offer a more dynamic explanation of why depressed persons engage in dysfunctional social behaviors. In this context, examining the emotional functioning of depressed individuals can provide important insights concerning their social behaviors. After reviewing the literatures concerning the social and emotional functioning of depressed persons, we attempt to integrate these literatures by considering the contributions both of broad motivational systems and of specific emotion deficits to the problematic social functioning of depressed individuals. We conclude this chapter with recommendations for future research designed to examine the roles of social and emotional functioning, over time and across clinical state, as possible risk factors for MDD.

**SOCIOEMOTIONAL LINKAGE IN NORMATIVE FUNCTIONING**

For all people, social and emotional functioning are undoubtedly connected in a multitude of ways. In examining these associations, we will focus on two levels of analysis or examination—macro and micro—that differ both in their breadth and in their timescale. Whereas the macro level of analysis involves an examination of the nature of the relation between broad motivational systems and overall patterns of social activity, the micro level of analysis considers the role of emotional responses in shaping the course of ongoing social interaction. We now consider each of these levels of analysis in turn.

**Macro-level linkages**

Attachment behavior offers one illustration of a macro-level association between social and emotional functioning. At its core, attachment theory describes how emotional states such as love and anxiety concerning separation can motivate interactive behaviors aimed at forming and maintaining social bonds (e.g., Bowlby, 1969, 1973). More specifically, attachment theory posits that proximity to available and responsive caretakers during development is critical in enabling children to manage anxiety and distress successfully, a process that will be reflected in a secure attachment style and adequate coping to deal with anxiety and distress later in life. Conversely, early disturbance of this comfort- and security-seeking attachment...
system is posited to lead to maladaptive social behavior later in life in the face of significant stressors (Bowlby, 1973). Three attachment styles, each with accompanying socioemotional behaviors, have been described: secure attachment is associated with trust, relationship satisfaction, and constructive approaches to conflict; avoidant attachment is related to low levels of intimacy, commitment, and care; and anxious/ambivalent attachment is linked with dependency, relationship conflict, and low relationship satisfaction (e.g., Collins & Read, 1990). As we will discuss later in this chapter, there is considerable evidence indicating that this socioemotional node is disturbed in depressed individuals.

Neurobiological models of motivation and personality provide a second macro-level link between social and emotional functioning. A number of researchers, most notably Gray (1982), have used animal models to identify two distinct motivational systems: an approach-related, positive-incentive system (the behavioral activation system [BAS]), and a withdrawal-related, threat-sensitive system (the behavioral inhibition system [BIS]). These two motivational systems have been found to be useful in conceptualizing human emotional functioning. Indeed, several other theorists have postulated similar functionally independent systems involved in behavioral regulation (e.g., Higgins, 1997; Watson et al., 1999). Importantly, researchers and theorists have now begun to relate BIS/BAS system activity to social functioning. For example, BAS levels have been related conceptually to levels of extraversion and positive affect (Gable et al., 2000; Jorm et al., 1999), two aspects of personality that themselves have been linked to sociability (Watson & Clark, 1988). Similarly, levels of behavioral inhibition have been linked conceptually to difficulties in social functioning through neuroticism, negative affectivity, and shyness (Asendorpf, 1989). Empirical work is lagging behind these conceptual formulations of the relation of the BAS and BIS systems to social behavior, representing an important direction for future research in this area. Nevertheless, as we discuss later in this chapter, several investigators have already begun to examine how abnormalities in the BIS and BAS systems might be implicated in a number of different forms of psychopathology (e.g., Fowles, 1988; Kring & Bachorowski, 1999) and, more specifically, in depressive illness (e.g., Beevers & Meyer, 2002; Depue & Iacono, 1989; Kasch et al., 2002).

**Micro-level linkage**

Much of human emotion unfolds in social contexts. Indeed, the close association of social and emotional functioning in the context of ongoing interpersonal transactions has been noted by several investigators (Campos et al., 1989; Ekman, 1992; Lazarus, 1991). In particular, a number of specific interconnections of social and emotional functioning have been identified (see Keltner & Haidt, 1999, for a review). In very systematic ways, for example, emotional experience relates to specific types of social relationships. The experience of embarrassment and shame relates to perceptions of low social status vis-à-vis others (Gilbert & Trower, 1990); the experience of anger arises from the perception of wrongful actions by others (Lazarus, 1991); and the experience of joy arises from unfettered social play (Boulton & Smith, 1992).

Ever since Darwin’s (1872) work on emotional expression, scientists have recognized the critical role of emotional behavior in signaling conspecifics. One type of behavioral signaling performs an informative function. That is, facial and vocal displays of emotion communicate information in a fairly reliable fashion to receivers about the senders’ emotion
and their social intentions (e.g., Ekman, 1993, Fridlund, 1992; Scherer, 1986). For example, senders’ displays of embarrassment communicate appeasement and a future intent to submit to the receivers’ desires (Keltner & Buswell, 1997). Emotions also clearly have an **evocative** function in social interactions. That is, emotional behaviors have the capacity to elicit responses from others that are relevant to the emotional situation or event. For example, smiling evokes affiliative tendencies (Keltner & Bonanno, 1997); displays of anger motivate fear responses in others (Oehman, 1986); and, perhaps most relevant to this chapter, displays of sadness and distress typically elicit sympathy, helping, and increased proximity to the individual (Averill, 1968). In sum, it is clear that social and emotional functioning work together to form a dense network, and that disturbances in various parts of this network might contribute to the problematic interpersonal functioning that is characteristic of depression.

**SOCIAL FUNCTIONING IN DEPRESSION**

Depressed individuals are characterized by a wide range of social deficits (see Barnett & Gotlib, 1988; Segrin, 2000, for reviews). It is noteworthy that there is no single cohesive theory to account for the origins of these social difficulties. Instead, relatively isolated bodies of empirical research (for example, studies examining the associations between depression and stressful life events, social networks, marital functioning, etc.) have implicated different aspects of interpersonal functioning as being important in understanding the etiology and maintenance of depression, as well as relapse of this disorder. Given recent reviews of the social functioning of depressed persons (e.g., Hirschfield et al., 2000; Segrin, 2000), we will not attempt to present an exhaustive review of this research in this chapter. Rather, we will organize our discussion of the social functioning of depressed persons by describing two main types of social deficit in MDD: those that involve problems with the **quantity** of social interactions, and those that involve the **quality** of social interactions.

**Quantity of social interactions in MDD**

One major characteristic of the interpersonal functioning of individuals while they are experiencing an episode of depression is a reduced overall level of social activity. Not only do depressed persons report having fewer people in their social networks than do nondepressed individuals, but they also have less frequent contact with people in their social networks (e.g., Youngren & Lewinsohn, 1980). In addition, compared with nondepressed controls, depressed persons report having fewer social intimates (Gotlib & Lee, 1989) and fewer friends (Brim et al., 1982), and experiencing fewer contacts outside their immediate families (Henderson et al., 1981). Importantly, these findings of reduced levels of social interaction in depression are obtained in studies using both self-report and interview methodologies; moreover, they are corroborated by other informants, such as family members (e.g., Billings et al., 1983; Brim et al., 1982).

It is important to note that this pattern of reduced levels of social activity appears to be a relatively stable characteristic of individuals who are vulnerable to depressive episodes. For example, investigators who have tested depressed individuals both during and after depressive episodes have found that although there was some recovery in the number of social contacts reported by depressed individuals 1 year following their depressive episode,
continued to report restricted social networks even when they were no longer symptomatic (Billings & Moos 1985a, 1985b; Gotlib & Lee, 1989). Moreover, there is strong evidence that depression is associated with such stable characteristics as low assertiveness, social withdrawal, avoidance, and shyness—all traits that have been found to be associated with reduced social activity (Alfano et al., 1994; Anderson & Harvey, 1988). In fact, both the lack of assertiveness (Ball et al., 1994) and the presence of social withdrawal (Boivin et al., 1995) have been found to predict future depression, a pattern of results that suggests that reduced social activity may serve as a risk factor for depression. Although promising, it is clear that more research using prospective designs needs to be conducted before we are able to understand fully the causal nature of the relation between reduced social activity and episodes of depression.

In this context, there are several reasons why depression may be associated with reduced social activity. One possibility is that because depressed persons do not find social activities pleasurable or reinforcing (e.g., Lewinsohn, 1974), they actively curtail or avoid social activity. Another, albeit not mutually exclusive, possibility is that the impetus for reduced social activity comes from the interaction partners of depressed persons. Indeed, it has been postulated that because partners find interacting with a depressed person to be aversive, they ultimately seek to limit further contact with him or her (Coyne, 1976; Gotlib & Robinson, 1982). Regardless of the explanation, it is clear that when depressed persons interact with strangers, friends, or family members, the interactants are often dissatisfied. Therefore, it is clear that it is not simply the quantity, but also the quality of social interactions that is reduced during episodes of depression.

Quality of social interactions in MDD

Depressed persons report lower quality in a wide variety of social relationships relative to nondepressed persons. These differences appear to be pervasive and are observed when depressed individuals report on their relationships with their parents (Gotlib et al., 1988), their spouses (Whisman, 2001), their friends (Gotlib & Lee, 1989), or their children (Goodman et al., 1994). Moreover, evidence indicates that these differences are veridical, and not the simple result of a negative reporting bias in depression (Gotlib et al., 1988; Gotlib & Lee, 1989).

Not surprisingly, therefore, a significant body of literature has examined impairments in the quality of social interactions in depression. For example, early behavioral formulations of depression viewed depression as resulting from a lack of environmental reinforcement (e.g., Lewinsohn, 1974). According to this perspective, depressed persons lack the skills that are critical in eliciting reinforcement from others in social situations. Subsequent studies have demonstrated that, in both dyadic and group interactions with strangers, depressed individuals do indeed exhibit a number of behaviors that are indicative of social-skill deficits. For example, when engaging in conversation, depressed individuals have been found to smile less frequently than do nondepressed individuals (Gotlib, 1982; Gotlib & Robinson, 1982). Compared with nondepressed controls, depressed persons tend to make less eye contact with those with whom they are interacting (Gotlib, 1982); they speak more slowly and more monotonously (Gotlib & Robinson, 1982; Libet & Lewinsohn, 1973; Younghren & Lewinsohn, 1980), and with less volume and voice modulation; and they have longer pauses in their speech patterns, and take longer to respond when someone else addresses them...
Depressed individuals also take longer to respond to others in a conversation and offer responses that are inappropriately timed (Gotlib & Robinson, 1982; Jacobson & Anderson, 1982; Libet & Lewinsohn, 1973). They are also more self-centered in the interactions and tend to direct the conversations to negative content, often communicating themes of self-devaluation and helplessness (Biglan et al., 1985; Hokanson et al., 1980). Understandably, as a result of these behaviors, many individuals will express a desire to withdraw from interactions with depressed partners (Segrin, 2000).

While these effects are clearly observable in interactions of depressed individuals with strangers, it is apparent that depression affects meaningful social relationships to a greater extent than it does more superficial relationships. For example, Segrin and Flora (1998) found that depressed individuals were more likely to disclose negative topics when talking with a friend than when talking with a stranger. Perhaps the most dramatic effects, however, are found in the marital relationships of depressed persons. Beach and Jones (2002) present considerable data indicating that the marital interactions of depressed persons are characterized by high levels of anger, conflict, and negative affect. Depressed spouses have been found to derogate themselves and their partners, and both spouses escalate their negative affect and behaviors over the course of the interactions. Interestingly, expressions of sad affect in the depressed spouse appear to have the effect of suppressing anger and aggression in the partner, suggesting that depression may play a functional albeit maladaptive role in the marriage (e.g., Hops et al., 1987). With respect to their children, depressed individuals report that they find it difficult to be warm and consistent parents, that they do not derive satisfaction from their children, and that they feel inadequate in their parenting role (Goodman et al., 1994). Consistent with these self-reports, in interactions with their children depressed mothers display sad and irritable affect (e.g., Cohn et al., 1990), and are either unresponsive or intrusive (see Gotlib & Goodman, 1999, for a more detailed review of this literature). Interestingly, depressed individuals report experiencing their own relationships with their parents as children as being relatively low in quality, and characterize their parents as being cold and overprotective (Gotlib et al., 1988). These findings suggest that later problems in relating to significant others may be a consequence of earlier attachment difficulties.

In sum, there is evidence that depressed persons have difficulties in their relationships with both intimates and nonintimates, and are generally less engaged in social activity. Undoubtedly, these patterns of problematic interpersonal functioning are complex and stem from a number of sources. However, a number of recent findings increasingly point to the possibility that disturbances in emotion processing can explain several aspects of dysfunctional social behavior in this disorder. To clarify the role that emotion plays in depressed persons’ social dysfunction, we now briefly review the emerging literature on emotional functioning in depression.

EMOTIONAL FUNCTIONING IN DEPRESSION

Emotions are usually conceptualized as multisystem responses that involve changes in linguistic, behavioral, and/or physiological functioning (e.g., Lang, 1978). When an organism is confronted by relevant stimuli and challenges in the environment (such as a charging bear), its emotion systems generate responses that prepare it for adaptive action (Ekman,
1992; Tooby & Cosmides, 1990). Two of the major challenges faced by organisms are obtaining the resources necessary for survival and reproduction (such as food or sex), and avoiding situations or experiences that might threaten these goals (such as physical damage or loss of status). Consequently, a number of theorists have posited the existence of two primary motivational systems that are responsible for different forms of emotional activation: an appetitive system, associated with positive feeling states and prototypically expressed by behavioral approach, and a defensive system, associated with negative feeling states and prototypically expressed by behavioral escape or avoidance (Gray, 1982; Lang, 1995).

How does depression affect the generation of emotional states? From depressed patients’ prototypical reports of emotion, it appears that MDD involves disturbances in both appetitive (positive) and defensive (negative) motivational systems. That is, depressed individuals typically report experiencing low levels of positive feeling states such as joy or amusement, and high levels of negative feeling states such as sadness, anxiety, and shame (Clark et al., 1994). Given this pattern of reporting, it is reasonable to hypothesize that depression should serve to decrease responsiveness to positive incentives and increase responsiveness to negative incentives. Interestingly, empirical research examining emotional reactivity in MDD provides only partial support for this hypothesis, suggesting instead that depression serves to diminish emotional reactivity to both positive and negative stimuli.

**Appetitive motivation in MDD**

A number of theorists have hypothesized that appetitive motivation is deficient in depression (Clark et al., 1994; Depue & Iacono, 1989; Fowles, 1988). Evidence for this idea is robust. A common set of clinical features of depression, for example, involves impairment in appetitive motivation: depressed individuals frequently exhibit anhedonia, psychomotor retardation, fatigue, anorexia, and apathy. These features are all easily interpretable in terms of a reduced responsivity to appetitive stimuli and/or a reduced drive to engage with positive or rewarding features of the external environment in MDD. Not surprisingly, and also consistent with this interpretation, depressed individuals have been found to report lower levels of appetitive motivation than do nondepressed controls (Kasch et al., 2002).

Perhaps the strongest evidence of appetitive deficits comes from laboratory studies in which positive emotional stimuli are presented to depressed individuals. For example, compared with nondepressed controls, depressed individuals have been found to exhibit less positive emotion-expressive behavior in response to pleasant film and pleasant drink stimuli (Berenbaum & Oltmanns, 1992), and pleasant slides (Sloan et al., 2001), and to be less behaviorally responsive to reward contingencies (Henriques & Davidson, 2000). Depressed individuals have also been shown to be characterized by attenuated reports of positive emotion in response both to slides depicting pleasant scenes (Allen et al., 1999; Sloan et al., 1997, 2001) and to an amusing film clip (Rottenberg, Kasch, et al., 2002). Finally, and perhaps most germane to our focus on social functioning, in our laboratory we have found that smiling human faces evoke less neural reactivity (as measured by functional magnetic resonance imaging [fMRI]) in depressed individuals than in nondepressed controls (Gotlib et al., 2001). Indeed, based in part on this accumulating evidence, clinical theorists and researchers have argued that deficits in appetitive motivation are a characteristic emotional “signature” of depression that distinguishes this disorder from other forms of psychopathology (e.g., Clark et al., 1994; Henriques & Davidson, 1991).
Defensive motivation in MDD

Certainly, no overall characterization of emotional responding in MDD is complete without a consideration of how depressed individuals respond to negative emotional stimuli. From early psychoanalytic formulations of depression to contemporary cognitive conceptualizations of this disorder, theorists have postulated that depressed individuals are characterized by a magnified response to negative stimuli. For example, cognitive theories of depression conceptualize this disorder in terms of biases in information processing, in which attention to, and/or memory for, negative stimuli or environmental events are potentiated (e.g., Beck, 1967, 1976; Beck et al., 1979). Indeed, given the pervasiveness of negative thinking and negative affect in this disorder, the hypothesis that depression enhances reactivity to negative stimuli is a reasonable one.

Surprisingly, however, there is little empirical evidence to support the view that depression enhances reactivity to negative stimuli. Not only have several investigators obtained null results (e.g., Sloan et al., 2001), but also a growing number of experimental studies have actually reported findings in the opposite direction, indicating that depressed persons exhibit diminished reactivity to negative stimuli. For instance, in early studies comparing depressed individuals and nondepressed controls, depressed participants have been found to report experiencing less pain in response to heat (Hall & Stride, 1954; Hemphill et al., 1952), pressure (Merskey, 1965), and electric shock (Davis et al., 1979; von Knorring & Espvall, 1974; but also see Lewinsohn et al., 1973). This pattern of findings has been replicated in more recent studies using pressure and cold stimuli (Lautenbacher et al., 1999), and heat stimuli (Dworkin et al., 1995; Lautenbaucher et al., 1994; but see also Adler & Gattaz, 1993). In fact, in our laboratory, this pattern of blunted, rather than enhanced, responding has even been observed in tearful crying, an emotional response that one would reasonably expect to be enhanced by depression. Crying is ordinarily associated with the report and display of sadness and with physiological arousal (Gross et al., 1994). Given the clear elevations among depressed people in reports and displays of sadness, combined with clinical reports of crying as a characteristic of depression, we hypothesized that individuals diagnosed with MDD would be more likely than would nondepressed controls to cry in response to a sad film. Contrary to this prediction, we found, first, that depressed individuals were no more likely to cry than were nondepressed controls, and, second, that crying-related increases in the report and display of sadness and in heart rate and electrodermal responding were smaller among depressed than among nondepressed individuals (Rottenberg et al., 2002).

Response stereotypy: A reformulation of emotional deficits in MDD

Considered collectively, these findings indicate, contrary to what might be assumed, that diminished emotional reactivity in depression is not restricted to positively valenced stimuli. Rather, it appears that depressed persons exhibit a more general insensitivity to environmental stimuli. Although there is not yet a fully developed theoretical framework to account for this stereotyped and inflexible pattern of emotional reactivity (Davidson et al., 2000), it is nevertheless consistent with conceptualizations that emphasize depressed persons’ pervasive withdrawal from environmental events (Nesse, 2000). Indeed, considerable evidence indicates that depressed persons exhibit a reduced sensitivity to changing emotional
contexts. For example, compared with nondepressed controls, depressed persons have been found to show less affective modulation of startle (Allen et al., 1999), less electromyo-
graphic modulation during affective imagery (Gehricke & Shapiro, 2000; Greden et al.,
1986), less facial reactivity in response to expressive facial stimuli (Wexler et al., 1993),
less valence-related modulation of event-related brain potentials (Deldin et al., 2001), less
differential neural responding to emotion face stimuli (Gotlib et al., 2001), and a lack of
autonomic responding to a variety of stimuli (Dawson et al., 1977).

The results of naturalistic studies also indicate that depressed individuals exhibit emo-
tional stereotypy, showing little modulation of their facial affect (e.g., Andreasen, 1979;
Kulhara & Chadda, 1987) or vocal characteristics (e.g., Hargreaves et al., 1965). These
findings are especially important because they indicate that depressed individuals exhibit
stereotyped emotional responses in social situations. Indeed, as we will discuss in the fol-
lowing section, we believe that the capacity to shift affect appropriately is crucial if one is
to interact effectively with others. In this context, therefore, the lack of affective modula-
tion among depressed individuals is likely to have important implications for their social
functioning.

TOWARD AN INTEGRATION: SOCIOEMOTIONAL LINKAGE
IN DEPRESSION

A growing body of work aimed at understanding normative functioning has demonstrated
close interconnections between the social and emotional domains. Investigators examining
depression (and other forms of psychopathology) have only recently begun to take ad-
vantage of these insights. Despite the fact that depressed individuals exhibit characteristic
impairments in both the social and emotional domains, our overall picture of depressive
deficits remains fragmented and in need of a unifying theory. In this section, we will outline
a conceptual basis for integrating social and emotional impairments in MDD by identi-
fying two areas of socioemotional linkage that differ in their breadth and timescale of
operation.

Macro-level linkages

We have considered evidence indicating that individuals who are vulnerable to depression
exhibit lower overall levels of social activity (e.g., Gotlib & Lee, 1989). In light of this evi-
dence, one question that remains unanswered is why levels of social activity are persistently
low in vulnerable individuals. Although several factors are almost certainly involved, our
account here will focus on macro-level socioemotional links between typical levels of social
activity and the appetitive and defensive motivational systems. These two motivational sys-
tems, as we have reviewed, influence a person’s characteristic affective reactions to stimuli
in the environment (including social stimuli). Consistent with this premise, temperament
research indicates that a person’s characteristic affective style (Davidson, 1998) develops
from an early age, is stable, and has a significant biological basis (e.g., Kagan, 1998). The
long-range stability exhibited by the appetitive and defensive motivational systems raises the
possibility that the motivational systems of depression-vulnerable individuals “set” social
activity at abnormally low levels.
The appetitive system has a role in facilitating social relations. Supporting this notion, individuals who typically experience high levels of positive affect also report higher levels of social activity (Clark & Watson, 1988). In contrast, low levels of positive affect (such as that reported during depressive episodes) are associated with a reduced drive to socialize with others (e.g., Blanchard et al., 2001). If weakness in the appetitive system generates the low prevailing levels of social activity seen in individuals who are vulnerable to experiencing depression, appetitive system abnormalities should be observable during well periods independently of depressive symptomatology. To date, however, empirical findings bearing on this point are mixed. Although self-reports of social anhedonia have been found to track depression symptom levels (Blanchard et al., 2001), other indicators of appetitive deficits, such as low levels of self-reported reward responsiveness (Kasch et al., 2002) and hypoactivation of the left frontal lobes (e.g., Henriques & Davidson, 1990), occur independently of current depression symptom levels. These latter findings underscore the possibility that the smaller and less active social networks characteristic of depression-vulnerable individuals originate from low tonic activation of the appetitive system. This formulation, we think, is inherently plausible. For example, depression-vulnerable individuals might not seek out novel social contacts because they do not anticipate receiving pleasure from such contacts. Clearly, further examination of the relation between social activity and appetitive deficits in depression will be an important avenue for future work.

There is reason to believe that the defensive motivation system also exerts an ongoing influence on social activity levels. In contrast to the appetitive system, which facilitates socializing, activation of the defensive system dampens social exploration. Previous work in other areas suggests that behaviorally inhibited children (that is, children who are fearful when confronted with novel persons or stimuli) are less likely to seek out new friendships and are considered shy by their peers (Kagan, 1998). Importantly, both adults and children who are vulnerable to depression have been found to have high scores on measures of defensive motivation (that is, behavioral inhibition) (Kasch et al., 2002; Rosenbaum et al., 2000). These findings are also consistent with the possibility that the high tonic activation of the defense system sets social activity levels at low prevailing levels. Indeed, consistent with the idea that individuals who are vulnerable to depression are highly tuned to social threats, depression-vulnerable individuals appear to be differentially sensitive to the effects of peer rejection (Boivin et al., 1995) and to criticism by intimates (Hooley & Gotlib, 2000). And, as we will discuss in the following section, currently depressed persons’ social behavior appears to be shaped more by the harm-avoidance function of the defense system than by the pleasure-seeking function of the appetitive system.

Micro-level linkages

A variety of evidence indicates that depressed individuals experience low quality in their interactions with others. Again, a consideration of emotion processes might help explain why it is that depressed individuals exhibit this pattern of social dysfunction. An emerging view of emotional functioning in depression suggests that the primary problem in depressed individuals is that they exhibit emotional stereotypy, or a loss in the capacity to generate emotional responses that are appropriate to changing environmental contexts. Stereotypy of emotional behaviors has a number of implications for social functioning. We now consider the effects of emotional stereotypy on the interaction partners of depressed individuals,
highlighting the role of micro-level socioemotional linkages between social and emotional behavior as it unfolds in specific interactions over relatively brief periods of time.

Because emotions provide such valuable social information, disturbances in emotional responsiveness are likely to disrupt relationships in important ways. As we have reviewed, a growing body of evidence indicates that depressed individuals exhibit stereotyped emotional behaviors that are insensitive to changing environmental contexts. This emotional stereotypy often leads to inappropriate social behavior. Consistent with the chronic over-activation of their defense system, depressed individuals’ social behaviors often communicate self-derogation, helplessness, and problem disclosure. Importantly, because these emotional behaviors are often emitted without respect for the immediate audience or social context, they are naturally judged as often being inappropriately self-disclosing (Jacobson & Anderson, 1982). Indeed, when they are motivated to socialize, depressed individuals often communicate to others that they are overwhelmed by their problems, seek reassurance, and attempt to draw others in to solve their problems—requests that may or may not be granted (Joiner, 2002). Interestingly, in some contexts, this set of depressed behaviors can be successful in reducing threat and eliciting support. For instance, Biglan et al. (1985) and Hops et al. (1987) have shown that depressive behavior can serve to reduce the likelihood of aversive responses from family members. In this respect, depressive behavior appears to be similar to displays of distress in nondepressed individuals, which have the capacity to elicit signs of distress, concern, and overt attempts at helping in others (e.g., Batson & Shaw, 1991; Zahn-Waxler et al., 1992).

Although the stereotypy of emotional behavior in depression might temporarily recruit social support, it is likely to carry with it extremely high costs for the quality of the social interaction. For example, it is clear that stereotyped emotional behavior violates a number of assumptions about how typical interactions should proceed (e.g., Davis, 1982; Segrin & Abramson, 1994). Theorists have observed, for instance, that most communicative behaviors carry an implicit demand for an appropriately elaborate and relevant response (e.g., Davis, 1982). People whose behavior is rigid and unchanging over the course of one or several interactions would naturally frustrate their partners’ desire for dynamic feedback both about their own performance and about the state of their relationship. Emotional stereotypy also is likely to be aversive to others because it violates basic expectations about emotion-expressive reciprocity. Indeed, considerable research indicates that, while interacting, people mirror one another when they are emotionally expressive. This pattern of behavior has been observed with respect to both embarrassment (Miller, 1987) and laughter (Provine, 1992). In short, we believe that emotional stereotypy erodes the quality of social interactions. Clearly, this is an important deficit to understand as we begin to integrate social and emotional functioning in depressive disorders. Further study of this deficit has the potential to illuminate several different elements of depressive social behavior, including the paradoxical finding that behaviors that are emitted by depressed people have the capacity to elicit both care and rejection from their interaction partners (Coyne, 1976).

CONCLUDING REMARKS

In this chapter, we have developed and illustrated the idea of socioemotional linkage, an idea with wide application to normal and pathological states. In depression research, this idea holds particular promise as a basis for integrating the disparate literatures on social
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and emotional functioning, and synthesizing the pattern of deficits that are observed in this disorder. To bring this integration forward to a full fruition will require investigators to deal with several unresolved issues.

Perhaps the most pressing of these issues concerns how socioemotional linkages evolve over time and across changes in clinical state. One problem in commenting on this question at the present time is that in the overwhelming majority of studies of emotional functioning in depression, individuals have been assessed only when they are acutely ill. Without inclusion of groups of participants who have a history of MDD but who do not have current symptoms of the disorder, or without following participants after recovery from depression, it remains possible that deficits in emotion processing (that is, reduced reactivity and/or emotional stereotypy) are simply products, or symptoms, of the depressed state. Determining whether or not these emotion deficits are more stable characteristics of depression-vulnerable individuals that are present independently of depressive symptomatology will be critical for clarifying their role in social dysfunction and for determining their etiological role in precipitating depressive episodes.

Another issue related to the causal status of emotion deficits involves an examination of their interactions with other factors in contributing to a vulnerability to depression. It is unlikely that a chronic deficit in emotional functioning (such as low tonic activation of the appetitive system) would operate as sufficient or proximal cause of depressive episodes, given that individuals who possess the risk factor are generally not in an episode of depression. Far more likely, then, is the possibility that emotional deficits interact with other factors such as stress or social support to lead to depression. For example, it is plausible that trait-like weakness in appetitive motivation leads to weakness or deterioration in social support networks that, in turn, renders a person more vulnerable to effects of stress. Therefore, studies that examine multiple factors in predicting future episodes of depression, as well as investigations that tease apart the relative predictive power of the appetitive/defense motivational systems, will be useful in moving this field forward.

Finally, it is critical that research designed to understand and improve interventions for depression (and other forms of psychopathology) consider the treatment implications of the idea of socioemotional linkage. Because social and emotional functioning form a dense network of interconnections, it is almost certainly the case that modifying emotion in a client affects his or her social functioning, and vice versa. Indeed, interventions might be more effective if therapists were cognizant of these socioemotional linkages, and of their connections to depressive symptomatology. To this end, research examining the efficacy of psychological treatments for depression would profit from a systematic investigation of different nodes in this socioemotional network, with the goal of determining which of these nodes offers the most efficient and most effective point of intervention, both to facilitate recovery from depression and to prevent relapse of this disorder.

REFERENCES


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