Psychosocial Theory and Research on Depression

An Integrative Framework and Review

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Essential Papers on Depression

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There is increasing theoretical and empirical concern about the etiology and treatment of depression. This concern mirrors recent confirmation that depressive disorders are a major health problem. Present estimates place the point prevalence of clinically significant depression at approximately five percent, with as much as 10 to 20% of the population reporting significant depressive symptomatology (Radloff, 1977; Weissman & Myers, 1978). A diversity of conceptual models and empirical methods have been used to explore intrapsychic, cognitive-phenomenological, social, and behavioral aspects of depression. Each of these approaches also have

implications for the formulation and implementation of clinical interventions.

While psychosocial research has identified the etiologic role of stressful life events and several promising psychological treatments have been formulated, a number of important research and clinical issues have been identified. For instance, why do stressful life circumstances lead to depression among some persons but not others? How can one explain the finding that different psychosocial interventions appear to have similar affects on depression? Toward what areas should prevention efforts be targeted?

In this paper we formulate a framework to organize these questions and to explore the commonalities among diverse areas of research and treatment on depression. The framework focuses on such issues as the identification of

factors that determine the occurrence of stressful events and the likelihood that they will lead to depression, as well as the stress-moderating role of coping and social resource factors. Our goal here is to review and integrate research on the interplay of a set of conceptual domains, including environmental stressors, personal and environmental resources, and appraisal and coping responses. We use the framework to help understand the effectiveness of conceptually different treatment strategies, to explore the recovery process, to plan interventions that maximize the durability of treatment gains, and to develop implications for designing prevention programs and clarifying the determinants of their effectiveness.

AN INTEGRATIVE FRAMEWORK

The framework presented in Figure 1

hypothesizes that the depression-related outcomes of stressful life circumstances are influenced by individuals' personal and environmental resources as well as by their appraisal and coping responses. These resources affect the occurrence of stressors, shape and nature of the coping responses selected to deal with them, and influence the adaptive outcome of the stressful episode. Thus the link between *environmental stressors* and depression is seen as mediated by individuals' personal and environmental resources, their cognitive appraisal and coping responses, and the interrelationships among these domains. Stressful life circumstances develop from personal and environmental factors and include specific events (divorce, death of a spouse, job loss), chronic life strains associated with major social roles (a stressful job, marital discord), and medical conditions and illnesses

(arthritis, cancer).

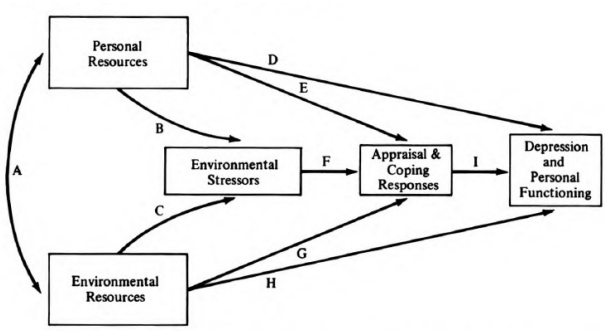

Figure 1. An integrative framework for the analysis of adaptive processes and depression.

Personal resources include dispositional characteristics such as self-concept, sense of environmental mastery and attributional styles, as well as social skills and problem-solving abilities. *Environmental resources* refer to the informational, material, and emotional support provided by intimates, other family members, and nonkin social network members. It is in the context of these environmental and personal resources that individuals *appraise* particular

stressors; that is, perceive and interpret specific events. Along with the appraisal process, individuals use *coping responses* that are intended to minimize the adverse effects of stress. The outcome of this process influences the individual's level of *functioning* and adaptation. From this perspective, adaptation includes those cognitive, affective, and behavioral aspects of functioning that may be disrupted in the depressive syndrome.

The model highlights the interrelationships among the domains affecting depression. For instance, the impact of environmental stressors on functioning is mediated by the other domains identified. A stressor elicits appraisal and coping responses (path F), whose nature and effectiveness determine whether the stressful event leads to depression and disruptions in functioning (path I). These processes are conditioned by personal and environmental

resources. Personal resources, such as high self-esteem, may mitigate depressive outcomes by reducing the occurrence of stressors (path B), by facilitating stress-reducing coping (path E), or by fostering healthy functioning even in the absence of stress (path D). Environmental resources can affect functioning in similar ways. Furthermore, personal resources can indirectly affect depression by facilitating the development of environmental resources, such as supportive interpersonal ties (path A), that also affect functioning (path H). Finally, depressed mood and related aspects of functioning can affect each of the "preceding" sets of factors. We describe existing research in terms of these paths or processes and use the model to highlight important relationships between sets of factors.

Framework Boundaries

Formulating such a framework involves certain simplifications. *First,* we recognize the presence of genetic and biologic "determinants" of depression (see Akiskal & McKinney, 1975; Maas, 1975), as well as the role of developmental factors. For example, early parental loss or death may increase the likelihood of subsequent depression by curtailing important socialization experiences that bolster adult coping resources (see Crook & Eliot, 1980; White, 1977). There are also macro-system factors, such as aspects of the physical environment (crowding, urban traffic congestion, airport noise) and social conditions (economic factors, racial prejudice, sexism), that may be distal determinants of depression. An adequate treatment of these factors is beyond the scope of this paper. However, we view all three of these sets of factors as potentially affecting depression via their influence on the domains within the

framework.

Second, the model highlights the unidirectional "causal" effects typically considered in the literature, even though variables in the domains can have reciprocal effects on each other, such as when changes in coping and functioning affect personal and environmental resources. We refer to these reciprocal effects by adding a prime to the letter of the relevant path. For example, depression may lead to the use of less effective coping strategies (path I') and attributions of uncontrollability (path D'). Such strategies may alienate members of the individual's social network and thereby reduce future social support (path H'). We incorporate some findings on such effects in our presentation.

Lastly, considerable attention has been given to the diagnosis and description of depressive

disorders (Endicott & Spitzer, 1978; Overall & Zisook, 1980), as well as to distinctions between depressive moods, symptoms, and syndromes. We hypothesize that the salient variables and processes that are related to depressed moods and behaviors among "healthy" individuals are isomorphic (albeit accentuated) to those involved in the development of "diagnosable" depressions, although there is as yet little research on this issue. We distinguish between clinical and nonclinical populations in reviewing the literature, but we believe that the basic nature of the framework is applicable to both groups. We also believe that the framework applies to different subtypes of depressive disorders, although the relative importance of the sets of factors may vary among subtypes (for example, life stressors may be more likely to precipitate relapse among reactive than among endogenous patients).

We turn now to a review of research on each of the domains in the framework. We attempt to indicate how variables in each domain may affect depression directly, as well as indirectly, by preventing stress and by mediating the effects of stress and of the other domains on adaptation. We later consider how much demographic factors as socioeconomic status and gender relate to depression through their influence on the components of the framework. Lastly, we consider how the framework might guide the formulation and evaluation of clinical interventions.

STRESSFUL LIFE CIRCUMSTANCES

Much of the literature on stress and depression is concerned with the effects of major life events such as divorce, job loss, and death. Recent studies indicate the need to expand the concept of stress to include continuing life strains arising from

major social roles, as well as more minor but frequent stresses encountered in daily living. We consider each of these factors in examining the role of stressful life circumstances in depression. This research has focused primarily on the overall association between stressors and depression without considering the mediating factors noted in our framework.

Stressful Events

Substantial evidence implicates environmental stressors in the development and maintenance of depression (Paykel, 1979). The conceptual and methodological issues concerning life events are summarized elsewhere (Dohrenwend & Dohrenwend, 1974; Lindenthal & Myers, 1979) and will not be reviewed here. In brief, this line of inquiry has identified depressogenic effects of undesirable (negative) life changes in the areas of

health, finances, and interpersonal relationships, particularly those representing exits or losses in the social field (such as deaths and separations). These events, which apparently have cumulative effects that may manifest themselves over several months, and three to six times more common among depressed individuals as compared to general population controls (Brown & Harris, 1978: Costello, in press).

Another significant source of stress derives from chronic strains associated with an individual's major social roles of spouse, parent, and provider. For example, Pearlin and Schooler (1978) found that such strains as frustration of marital role expectations, children's deviations from parental standards of behavior, and difficulty affording food and clothing were associated with greater depressive symptomatology among community residents. Physical and emotional

dysfunction of one's spouse or children also create strain. Recent research has focused on the work setting as an important source of such stressors (for a review see Kasl, 1978). Work pressure, a lack of autonomy in decision making, and ambiguity about job roles and criteria of adequate performance have been associated with psychological distress and depression (Billings & Moos, in press-a). The comparability of findings on life strains (examined primarily among community samples) and stressful events (typically explored among clinical samples) suggests an underlying commonality in the role of environmental stressors in minor and major depressive outcomes.

Microstressors

Lazarus and Cohen (1977) have noted the potential impact of daily "hassles," those

comparatively minor but frequent irritants and frustrations associated with both the physical and social environment (such as noise, rush hour traffic, concerns about money, family arguments). In a short-term longitudinal study of a middle-aged community sample, indices of daily hassles were better predictors of current and subsequent depression than were indices of major life events (Kanner, Coyne, Schaefer, & Lazarus, in press). Hassles may have "direct" effects on adaptation and may also be the functional subunits that comprise the stressful aspects of major life events.

Despite these conceptual and methodological advances, stressful life circumstances provide only a partial explanation for the development of serious depression or for the prevalence of depressive mood and reactions among essentially "normal" individuals. While up to three-quarters of depressed patients may have experienced a

provoking stressful event or strain recently, only one person in five in a nonpatient sample will become clinically depressed after facing a severe stressor (Brown & Harris, 1978). Among general community samples, typically less than 10% of the variance in depressive symptoms can be "accounted for" by life stressors (Billings & Moos, 1981; Warheit, 1979). Stressors may act "directly" on depression or they may have "indirect" effects by reducing social resources and leading to maladaptive appraisals and ineffective coping responses. We turn our attention now toward factors that may help to explain individual variability in response to stressful circumstances.

PERSONAL RESOURCES

Personal resources include relatively stable dispositional characteristics that affect functioning and provide a "psychological context" for coping.

We focus here on several aspects of personal resources that are particularly relevant to depression: sense of environmental mastery, attributional styles relating to environmental stressors, and interpersonal orientation and skills. These resources are thought to be consistent across situations; specific appraisal and coping responses that vary according to the nature of the stressor are discussed subsequently. These stable personal resources accrue from the outcomes of previous coping episodes and may be shaped by demographic factors which we consider later.

Personal resources can affect depression in several related ways. They may have "direct" effects on functioning (path D), as supported, for instance, by the finding that individuals who enjoy high self-esteem are less likely to become depressed. In fact, there is often some conceptual overlap in measures of personal resources and

depression, since low self-esteem may be considered to be one aspect of a depressive syndrome. Personal resources may have indirect effects on depression by reducing stressors (path B) and by fostering social resources (path A) and coping responses (path E) that can attenuate the effects of stress.

Sense of Environmental Mastery

A lack of global personal resources such as perceived competence and a sense of mastery is common in many disorders, particularly depression (for reviews see Becker, 1979; Sundberg, Snowden, & Reynolds, 1978; Wells & Marwell, 1976). A focal construct in this area is an internal locus of control, that is, a generalized belief in one's ability to affect the environment so as to maximize rewards and minimize unpleasant outcomes (for reviews see Lefcourt, 1976;

Perlmuter & Monty, 1979). An external locus of control, a perceived inability to master one's environment either by controlling important events or in managing the consequences of events that are not controllable, has been directly associated with depression. For example, an external locus of control is associated with serious depression as well as greater frequency of dysphoria among college students (Calhoun, Cheney, & Dawes, 1974).

An internal control orientation may afford some resistance to the effects of stress. For instance, Johnson and Sarason (1978) found that negative life events were less likely to be associated with depression among college students with an internal locus of control than among those with an external locus. Similarly, in comparison to externally oriented corporative executives, internally oriented executives were

more likely to remain healthy while under high stress (Kobasa, 1979). A sense of environmental mastery, along with high self-esteem and freedom from self-denigration, has also been found to attenuate the depressive effects of life strains among members of a community group (Pearlin & Schooler, 1978).

The development and maintenance of this sense of mastery has been a focus in the work of several important theorists including Bandura, Beck, and Seligman. For example, Bandura's model of adaptational behavior (1977, 1980) suggests that an internal control orientation and feelings of self-efficacy are related to the generalized expectancy of being able to cope successfully with prospective stressors. Self-efficacious persons will typically persist in active efforts to reduce stress, while those who see themselves as less efficacious tend to lack persistence and to utilize avoidance

responses (path E). Active coping responses should reduce exposure to stress (path F') as well as moderate the effects of stress when it occurs (path I). Mastery of previous stressful circumstances can increase feelings of self-efficacy and reduce the use of defensive and avoidance-oriented coping styles. The effects of a sense of mastery may also extend to the development and use of social-environmental resources (path A), which themselves affect coping and depression (paths G and H).

Attributional Styles

Cognitive styles that are thought to be relatively stable and to affect perceptions of stressful circumstances have received considerable attention. Much of this work centers on the issue of perceived controllability and personal attribution of causality of the outcomes

of stressful situations. The learned helplessness model hypothesizes that the lack of contingency between an individual's coping responses and environmental outcomes produces a generalized belief in the uncontrollability of the environment which relates to depression directly (path D) and indirectly by inhibiting active coping responses (path E) (Seligman, 1975). This belief, with its associated behavioral passivity (path E) and depressive affect (paths D and I), insulates the individual from future counteractive experiences of environmental control.

Beck's cognitive theory holds that persons with a strong predisposition to assume personal responsibility for negative outcomes are prone to depression (Beck, 1967, 1974). Such individuals are filled with self-blame that may cause depression (path D) and their pessimistic view of their future effectiveness can adversely affect their

coping responses (path E). Beck postulates that depressives' cognitive appraisals are characterized by several distortions: arbitrary inferences—conclusions unwarranted by the situation; selective abstractions—not considering all elements of a situation; magnification/minimization—distortions of the significance of an event; and overgeneralization—drawing inappropriate conclusions given minimal evidence. Such appraisals are thought to promote attributions of failure in mastery situations to personal rather than environmental factors, thereby reinforcing depressive cognitive schemas (path E').

The learned helplessness and cognitive self-blame theories have been viewed as complementary (e.g., Akiskal & McKinney, 1975). However, Abramson and Sackeim (1977) point out that these two theories have conceptually

contradictory positions on the role of perceived controllability of stressful events. Merging these models could create "the paradoxical situation of individuals blaming themselves for outcomes they believe they neither caused not controlled" (p. 843). In exploring such a paradox, Peterson (1979) found that depressives do have a tendency toward contradictory attributions, viewing stressful events as externally controlled yet blaming themselves for unsuccessful resolutions of such events. Additional theory development (see Abramson, Seligman, & Teasdale, 1978; Garber & Hollon, 1980) has suggested that depressives view themselves as personally incompetent in handling stressful situations which they perceive as being handled adequately by other persons (i.e., who are internally controlled).

While research has indicated an association between certain attributional dispositions and

depression, we know little of how such factors shape the appraisal of specific environmental stressors (path E). Thus, the consistency with which these attributions will be observed across different stressful situations is unclear. We later consider specific attributional responses that have been measured within the context of particular events in discussing the appraisal and coping domain of our framework. We also explore the mechanisms whereby treatment procedures that focus on these styles may alleviate or prevent depression.

Interpersonal Skills and Orientation

Interpersonal skills and social competence are important aspects of personal resources (Heller, 1979; Tyler, 1978). Depression-prone persons are thought to display low social competence, including social passivity, inadequate verbal

activity and communication skills, and an inability to serve as a source of positive reinforcement to others (Lewinsohn, 1974; McLean, 1981). The etiologic effects of impaired social skills, passivity, and dysfunctional interpersonal perceptions on depression have been noted frequently (e.g., Paykel, Weissman, & Prusoff, 1978; Sanchez & Lewinsohn, 1980; Hammen, Jacobs, Mayol, & Cochran; 1980). Effective interpersonal skills may prevent depression by fostering social resources and coping responses (paths A and E) that can help to avoid stressors or to mediate the impact of stressors that do occur. There is evidence that depressed persons have less effective social skills and that improving such skills can enhance their levels of social reinforcement, ease discomfort in social situations, and reduce their stress levels (Youngren & Lewinsohn, 1980). Furthermore, marital communication and conflict-resolution

skills can preserve major sources of environmental support (path A) and reduce exposure to such stressors as marital separation and divorce (paths B and C).

Certain individuals may not be oriented toward utilizing their interpersonal skills and social resources to deal with stressors. Although there is little research on this issue among depressed patients, Tolsdorf (1976) noted that psychiatric patients are not inclined to tap the resources of their social environments. In a community sample, Brown (1978) identified subsets of nonhelpseekers who were either unaware of existing sources of informal help or viewed them as ineffective. These groups displayed lower self-esteem and less effective coping responses than self-reliant nonhelpseekers and helpseekers. Coyne (1976a) found that depressive persons used help-seeking behaviors

(such as soliciting support at inappropriate times and from inappropriate persons) that sharply limited the potential support available to them. In combination with a lack of interpersonal skills, a negative orientation toward help-seeking reduces the development of supportive social ties (path A). Subsequent experiences of stress and depression thus might confirm depressive persons' negative appraisal of their social environments (path G'), and thereby compound the adversity of their life circumstances.

A diverse set of personal factors has been linked to a susceptibility to depression. While we have sought to explicate some of the connections comprising the subdomains mentioned, additional integrative research is needed. For instance, what roles do self-concept factors such as self-esteem and sense of mastery play in developing and applying social skills? In what cases may deficits in

certain personal resources be compensated for by attributional styles or other resources? To move beyond an examination of isolated sets of person-centered variables, researchers need to consider coping and social resources as mediators through which personal factors may affect depression. For example, we have noted that persons with an internal locus of control are less likely to become depressed given the occurrence of stressful events. In exploring how this effect is mediated, the framework suggests considering both the direct effects of this resource on functioning (path D), as well as its indirect effects via appraisal and coping (paths E and I). We also need to examine how depression can adversely affect future personal resources, as well as how successful coping with potentially depressogenic stressors can facilitate the development and maintenance of such resources (paths D' and E').

ENVIRONMENTAL RESOURCES

Supportive interpersonal relationships are a major component of a person's social-environmental resources. These social resources provide companionship, emotional support, cognitive guidance and advice, material aid and services, and reaffirmation of normative social role expectations. Access to new sources of support may also be provided via the interpersonal relationships that characterize social networks (Mitchell & Trickett, 1980). The development of these resources is influenced by an individual's personal resources (path A). These resources are also shaped by the physical and architectural features of community settings and by the organizational and suprapersonal characteristics (that is, average characteristics of individuals inhabiting a setting) of these interpersonal contexts (Moos & Mitchell, in press).

We focus here on the functional effects of environmental resources rather than on their determinants.

Social-environmental resources may have both positive and negative effects on personal functioning. Theorists have suggested that deficits in such resources may lead to depression (path H) due to the unavailability or lack of social reinforcers, or both (Costello, 1972; Lewinsohn, 1974). A direct relationship between a lack of support and depression has been noted in surveys of community samples (Andrews, Tennant, Hewson, & Vaillant, 1978; Costello, in press; Lin, Simeone, Ensel, & Kuo, 1979). Social-environmental factors may also have indirect effects. For instance, impaired communication processes and friction in interpersonal relationships can indirectly promote depressive symptomatology (Bothwell & Weissman, 1977) by

fostering stress or leading to ineffective coping responses (paths C and G).

Among positive effects, the stress-buffering value of social support has been most frequently noted (Cassel, 1976; Cobb, 1976; Dean & Lin, 1977). There is evidence that social support attenuates the relationship between depressive symptomatology and stressful life events among community (Billings & Moos, 1981; Wilcox, 1981) and depressed patient respondents (Brown, 1979; Weissman & Paykel, 1974), as well as among individuals experiencing such stressors as pregnancy and childbearing (Wandersman, Wandersman, & Kahn, 1980), job strain and job loss (Gore, 1978; LaRocco, House, & French, 1980), and bereavement (Hirsch, 1980). The presence of social support may positively influence stressor-related appraisals and provide the resources necessary for effective coping that

underlie the “buffering” effect (path G). Although there are many different sources of support, we focus here on family and work settings as two primary sources of environmental resources.

Family Support

Family members are a central source of emotional and material resources. Depression is associated with marital dissatisfaction (Coleman & Miller, 1975) as well as with disruption of the marital relationship (Bloom, Asher, & White, 1978). In a study of depressed patients, Vaughn and Leff (1976) found that the amount of criticism expressed toward the patient by family members at the time of hospitalization was a significant predictor of relapse during the posthospitalization period. In studies of a general community group, persons living in families that were less cohesive and expressive, and had more interpersonal

conflict reported, more symptoms of depression than those living in more supportive families (Billings & Moos, in press-b). In another community survey, Pearlin and Johnson (1977) found that married persons reported less depression than did the unmarried, even after controlling for such sociodemographic factors as gender, age, and ethnicity. In probing the determinants of this difference, persons who were married were found to be less exposed to various life strains (path C) such as occupational stress and economic hardship. Married persons were still less depressed than the unmarried after equating for levels of strain, indicating that married persons are less vulnerable to the effects of such strains, possibly because they have more sources of available support.

Work Support

The work setting is a potential source of support and stress. Work support is highest for persons who are highly involved in their jobs, have cohesive relationships with co-workers, and have supportive supervisors who encourage job involvement through work innovation and participation in decision making (Cooper & Marshall, 1978). In a community sample, Billings and Moos (in press-a) found that employees who perceived their work settings as high on these dimensions reported fewer symptoms of depression. These support factors also attenuated the depressive effects of work stress among men, but less so among women (see also House, 1981). A supportive work setting may diversify one's social resources by serving as an alternate source of interpersonal support. Conversely, work stress can erode family support (path C'). For instance, Billings and Moos (in press-a) noted that men

whose wives were employed in stressful job settings tended to report less family support and more depression that men whose wives had nonstressful jobs.

Indirect and Reciprocal Effects

Environmental resources may affect depression by facilitating effective coping with minor stressors, thereby circumventing the occurrence of major stressors (path G; see Billings, Mitchell, & Moos, 1981). The availability of social relationships can also provide the necessary context for certain coping responses (such as help-seeking and comparing one's situation to that of others) that may be particularly effective in preventing or alleviating stress (path C). In addition, the appraised severity of a stressor may be attenuated by the awareness that supportive resources are available to resolve a problematic

situation (path G). For instance, Gore (1978) found that persons with high support perceived less financial stress due to a job loss than did those with less support, even though there were no differences between high and low support groups in their objective financial hardship.

Conversely, depression may affect environmental resources by leading to an erosion of social support (path H'). Depressed persons often elicit negative reactions from friends and family members (Lewinsohn & Schaffer, 1971; McLean, 1981; Weissman & Paykel, 1974). When friends and relatives are unsuccessful in controlling and reducing the individual's distress they may become hostile, withdraw their support, and eventually avoid interaction (Coates & Wortman, 1980). Concurrent elevations in the depressive symptomatology of spouses and family members of depressed patients (Coleman & Miller,

1975; Rubenstein & Timmins, 1978) may reflect a cyclic process that reduces family support and exacerbates stress for all members. Depression can also reduce support by impairing future social initiative and social skills which are necessary to maintain social resources (via paths D' and A).

Clinicians who plan intervention efforts need to employ an expanded perspective to understand the varied aspects of social support and the different mechanisms of its effects. For instance, low social resources may be sufficient to induce depression in the absence of stress. Conversely, high stress and/or a lack of adaptive personal factors may be sufficient to cause depression even in the presence of supportive environmental resources. The framework suggests that environmental supports shape and are shaped by personal resources and levels of functioning, as well as by stressors and coping responses.

Practitioners thus need to consider support in the context of these other domains. In addition, to understand the evolution of a depressive episode and plan effective treatment, clinicians must plan interventions to overcome the negative effects that depression can have on the individual's social resources.

APPRAISAL AND COPING RESPONSES

Our framework indicates that cognitive appraisal and coping responses can help an individual avoid depression by mediating the potential effects that stressors have on functioning (paths F and I), as well as by avoiding stressors (path F'). An appraisal involves the perception and interpretation of environmental stimuli. Appraisals are an iterative component of the coping process in which initial appraisals are followed by specific coping responses, and by

reappraisal and possible modification of coping strategies (Lazarus, 1981). Our inclusion of appraisal and coping in a common domain reflects the interconnected and inseparable nature of these processes. We use appraisal and coping to refer to the particular cognitions and behaviors emitted in response to specific events. These specific behaviors are influenced by the "traitlike" attribution factors described earlier as personal resources and by the individual's environmental resources, which provide the context for coping. Current research has not always observed this distinction between personal resources and general attribution patterns and appraisal and coping responses to specific stressors.

While several attempts have been made to formulate a classification system for categorizing various appraisal and coping responses, no accepted method has yet emerged. We organize

these dimensions into three sub-domains: (1) appraisal-focused coping—efforts to define and redefine the personal meaning of a situation; (2) problem-focused coping—behavioral responses to modify or eliminate the source of stress by dealing with the reality of the situation; and (3) emotion-focused coping—functions oriented toward managing stress-elicited emotions and maintaining affective equilibrium (Moos & Billings, 1982).

Appraisal of Stressors

Much of the research on the appraisal of stressful events has evolved from the self-blame and learned helplessness theories of depression. For example, among college students and depressed patients, Krantz and Hammen (1979) found a consistent relationship between depressive symptoms and scores on the *Cognitive*

Bias Questionnaire, a measure of the distortions outlined by Beck. Hollon and Kendall (1980) have also shown that depressives score higher on an inventory of cognitive distortions and negative self-statements potentially triggered by stressful events. Although it is possible that depression may exacerbate "depressive" appraisals (path I), Golin, Sweeney, and Schaeffer (1981) found that such appraisals were more likely to precede than to follow an increase in depressive symptomatology (i.e., path I is stronger than path I').

The attribution of causality is an important aspect of the reformulated learned helplessness model. Abramson et al. (1978) hypothesize that individual attributions of the *causes* of a stressful event and perceived coping ability vary along three dimensions: (a) internal vs. external to self, (b) stable vs. unstable, and (c) global vs. situation- or role-specific. For example, given the stressor of

unemployment and unsuccessful job search, attributions might be to either internal causes such as personal characteristics like lack of employment-related skills, or to external causes such as job discrimination. Stable causal attributions imply that future job-seeking efforts are likely to result in a similar lack of success. Global causal attributions, such as a general lack of perceived self-efficacy, would involve role performances in addition to employment and job hunting. Presumably, persons are more likely to remain free of depression if they attribute causality of negative outcomes to characteristics of stressors that are external to the self, that vary across situations, and that relate to a restricted area of performance. Operationalizing these factors with their *Scale of Attributional Style,* Seligman and his colleagues (Seligman, Abramson, Semmel, & von Baeyer, 1979) found that the

appraisals of depressed and nondepressed college students differed in expected directions along these dimensions.

However, several recent studies have failed to find inconsistent relationships between these three attributional dimensions (internality, stability, and globality) and depression among college student samples (e.g., Golin et al., 1981; Harvey, 1981; Pasahow, 1980). Extending research on these attributional processes to patient populations, Gong-Guy and Hammen (1980) utilized an attribution questionnaire to assess respondents' appraisals of recent stressful events as internal, stable, global, expected, and intended. Depressed and nondepressed outpatients showed expected differences along these dimensions in the appraisal of their most upsetting event, but not in their appraisals of all recent stressors (see also Hammen & Cochran,

1981). The reconciliation of these findings is complicated by divergence in the content of current measures. For example, the *Cognitive Bias Questionnaire* and the *Scale of Attributional Style* are both correlated with depressive symptoms, even though they are only moderately related to each other (Blaney, Behar, & Head, 1980).

Stressor-Appraisal Specificity

Our framework indicates that the appraisal process is at least partially determined by the type of stressor (path F). In fact, studies employing heterogeneous samples of stressors (e.g., Dohrenwend & Martin, 1979; Fontana, Hughes, Marcus, & Dowds, 1979) have indicated that appraisal may be more closely related to event characteristics (path F) than personal characteristics (path E). Clinical theories have emphasized the interaction between personal

factors and predispositions to appraise stressors in characteristic ways. Much of the laboratory research, however, has focused on the appraisals and effects of success versus failure outcomes in experimental tasks, such as solving anagram problems. Thus, there is little information on the extent to which stable attributional styles are linked to specific appraisal responses (paths E and E').

While conceptual and measurement issues have received increasing attention, we as yet know little of the actual appraisals made by depressed persons in their natural environments. Observed differences between depressed and non-depressed respondents in their appraisals of questionnaire-based scenarios of stressful events may not reflect their appraisals of actual personal stressors (Hammen & Cochran, 1981) Studies are needed to examine the extent to which the

attributional styles of depressed individuals are related to their appraisals of real-life stressors. Current conceptualizations also need to be reviewed and elaborated. For instance, depressed persons may be "accurate" in perceiving stressors as personally uncontrollable and their personal and environmental resources as being inadequate. In this regard, there is evidence that normals have positively biased and self-serving attributions of causality (for a review, see Miller & Ross, 1975), while depressives may have "accurate" perceptions rather than negative biases. During recovery, depressed persons' perceptions of their competence and control may become somewhat less realistic by moving toward the self-enhancing bias of nondepressed persons (Lewinsohn, Mischel, Chaplin, & Barton, 1980).

Coping Responses

We now consider the problem-focused and emotion-focused cognitions and behaviors that occur in response to appraised stressors. Relevant studies have examined the coping responses of depressed patients as well as the responses associated with depression among community groups. As with other domains, coping responses may attenuate the depressive effects of stress (paths F and I) or directly reduce or prevent the stressor (path F'). Coping patterns may also be influenced by the fact that depression can develop into a syndrome that requires coping efforts (path I'). For example, insomnia, weight loss and memory problems can influence current coping responses and may require additional coping efforts to alleviate the stress they themselves engender.

The interplay between appraisal and coping responses among a community group has been

explored by Coyne, Aldwin, and Lazarus (1981). They compared the coping responses of 15 persons falling within the depressed range of the Hopkins Symptom Checklist (on two occasions) with 72 persons who did not meet this criterion at either assessment. Although the depressed and nondepressed group did not differ in the type or perceived significance of stressful events encountered, there were differences in appraisal and coping responses. Depressed persons tended to appraise situations as requiring more information before they could act, and to view fewer events as necessitating acceptance and accommodation. They were also more likely to use such responses as seeking advice and emotional support and engaging in wishful thinking. However, there were no differences in the amount of problem-focused coping or use of self-blame, as might be predicted from the learned helplessness

model. These findings are consistent with the idea that depressed persons find it difficult to make decisions and wish to be completely certain prior to either taking action or electing to view the objective characteristics of the stressor as outside of their control (Beck, Rush, Shaw, & Emery, 1979).

Billings and Moos (1981) evaluated the efficacy of various classes of coping responses among a representative community sample. Coping responses to a recent stressful event were assessed according to the method (active-behavioral coping, active-cognitive coping and avoidance coping) and focus of coping (problem-focused, emotion-focused). The use of avoidance responses, which serve to avoid actively confronting a problem or to reduce emotional tension by such behavior as increased eating or smoking, was associated with greater depressive

symptomatology. In contrast, the use of active-cognitive and active-behavioral coping attenuated the depressogenic effects of stressful life events.

Some investigators have examined how individuals cope with the stress of being depressed. Funabiki and his colleagues (Funabiki, Bologna, Pepping, & Fitzgerald, 1980) developed a method of assessing the thoughts and behaviors college students use in coping with a depressive episode (see also McLean, 1981). Depressed students were more likely to be preoccupied with their stress-related emotions and to seek help from other depressed persons. However, these students also reported the use of efforts to counteract depression (tell myself things to cheer me up and try something new). Self-preoccupation may not be entirely maladaptive as it may provide an opportunity to identify environmental and intrapsychic contingencies relevant to depression.

In this connection, structured self-monitoring of mood and activity can be effective in treating depressed patients (Harmon, Nelson, & Hayes, 1980).

Help-Seeking

Since social resources can be an important source of protection against the depressive effects of stressful events, help-seeking behaviors that tap or generate these resources are a key class of coping responses. Indeed, over half of the individuals who experience a troubling event will seek some help (Gourash, 1978). While preliminary, there is some evidence that the nature and success of help-seeking may differentiate depressed and nondepressed groups. The nature of these differences is complex, as shown by the unexpected finding of Pearlin and Schooler (1978) that those who sought help in

handling a stressful event reported more depression than those who relied on their own personal resources.

To understand the link between help-seeking responses and depression, we need to consider the impact that coping responses and depressive symptomatology may have on an individual's social resources (paths G' and H'). Help-seeking together with the expression of distress may have mixed effects on these resources. Howes and Hokanson (1979) found that undergraduates expressed more overt reassurance and sympathetic support to a "depressive" than to a normal role confederate. However, Coyne (1976a) found that subjects conversing with a depressed patient were themselves more depressed and anxious, and tended to covertly reject the patient. Hammen and Peters (1977, 1978) also report results indicating the covert rejection of depressed

partners, although depressive behavior was more acceptable from women than from male partners. Thus, certain patterns of help-seeking may be more intense than is appropriate for the strength, intimacy, and context of the relationship.

While help-seeking in the context of depression may elicit superficial support in brief encounters with strangers, its long-term consequences on more intimate relationships may be negative. Intimates may initially offer mollifying support to aid the depressed person and to control that person's expression of dysphoria, which intimates find aversive. Intimates may suppress the direct expression of their own negative reactions to the depressives' behavior (Coyne, 1976b). However, these initial responses often fail to provide the validation that depressives seek for the appropriateness of their stress reactions. This ambiguity in the

"supportive" communications of others exacerbates stress (path C), and fails to provide the feedback necessary to guide the depressive's coping responses (path G) that might effectively reduce dysphoria.

Increased help-seeking and expression of depressive behaviors, so as to draw more convincing and effective support, may lead to an increase in intimates' efforts to control and minimize depressive symptomatology (Coates & Wortman, 1980). The failure of social network members to control the expression of distress produces frustration and more negative attitudes toward the depressed person. It may be at this point that the negative and rejecting responses of intimates and family members (e.g., Salzman, 1975; McLean, 1981) are frankly expressed. Network members' expression of negative reactions and withdrawal from their relationship

with the stressed individual may have adverse effects on that individual's coping and functioning (paths G and H), and may heighten susceptibility to depression by decreasing the individual's self-esteem (path A).

The effects of various help-seeking responses should be explored in the context of particular stressors. The chronicity of the stressor may be a particularly relevant dimension. For instance, obtaining help from informal sources may be most advantageous in coping with discrete, time-limited stressors. When the stressor is of a more chronic nature (e.g., long-term unemployment or physical disability), individuals may "burn-out" their social resources by overreliance on an informal social network. Professional or institutionalized sources of support may be especially important in handling chronic or major stressors that surpass the individual's social resources. Similarly,

normative life stage stressors, such as marriage and childbirth, elicit institutionalized support responses while unexpected events, such as divorce, have no guides for help-seeking.

SOCIAL BACKGROUND FACTORS

Epidemiological research has shown that depression is related to such demographic factors as socioeconomic standing and gender (Radloff, 1977; Weissman & Klerman, 1977; Weissman & Myers, 1978). We view these factors as distal determinants of depression, via their influence on the other domains included in the framework.

Social Status

Individuals of lower social status (that is, those with lower education, income, and occupational levels) are more likely to become depressed. As suggested by the "social causation" and "social selection" hypotheses, social status has links to

each of the domains in our framework that may help to explain its association with depression (Liem & Liem, 1978). The social causation hypothesis holds that those of lower status experience a greater number of environmental stressors. For example, such persons are exposed to unemployment, financial setbacks, poor health and a variety of other stressors (Kessler, 1979).

The social selection hypothesis holds that those of lower social status are more vulnerable to the effects of stress. Such vulnerability may be due to the lack of supportive social resources (Myers, Lindenthal, & Pepper, 1975), to fewer personal resources, or to less effective coping responses. In this connection, Pearlin and Schooler (1978) found that less efficacious coping responses were overrepresented among those of lower social standing. In comparison to upper class women, lower class women tend to use fewer active and

preparatory coping responses and more avoidance and fatalistic responses in dealing with childbearing (Westbrook, 1979). These responses were associated with greater anxiety and sense of helplessness. Our framework suggests that factors related to both social causation and social selection underlie the link between social status and depression.

Gender Differences

Depression is more common among women than among men, but the determinants of this gender difference remain controversial. While space does not permit a complete review of the extensive literature, we indicate how our framework can be used to explore this issue. In general, there is evidence that women are more exposed to environmental stressors (Dohrenwend, 1973). In addition, differences in the types of

events experienced may mediate differences in the amount of stress. For example, men report more work and economic stressors, while women report more health and family-related events (Billings & Moos, 1981b; Folkman & Lazarus, 1980).

Women may also be more vulnerable to the effects of stressors (Radloff & Rae, 1979). This vulnerability may derive from gender differences in personal and environmental resources. For instance, women are more likely to be pessimistic and lack self-esteem (Altman & Wittenborn, 1980; Cofer & Wittenborn, 1980); and to favor a field dependent cognitive style that may sensitize them to social and interpersonal stressors (see Witkin & Goodenough, 1977). Furthermore, marriage per se is not as protective for women as it is for men (for a review, see Weissman & Klerman, 1977), and, conversely, marital conflict and dissatisfaction is less strongly related to depression among women

than among men (Coleman & Miller, 1975; Weiss & Aved, 1978). However, women's vulnerability to depression can be reduced by the presence of an intimate and confiding relationship with a husband or male partner (Brown & Harris, 1978).

Gender differences in appraisal and coping are largely unexplored. There is some evidence that women use coping responses that are less effective in attenuating the depressive effects of stress. In a previously described study, Billing and Moos (1981) found that women made greater use of avoidance coping, which was itself associated with depression. This difference remained even after controlling for gender differences in the source and severity of stressors. This finding is consistent with analyses of other community samples, which have identified a tendency for women to use less effective coping methods (Folkman & Lazarus, 1980; Pearlin & Schooler,

1978). Funabiki et al. (1980) also noted several gender differences among a group of depressed students. Compared to depressed men, depressed women ate more, more frequently engaged in self-deprecation, and avoided large social gatherings but sought personal contact from meetings with friends. Lastly, differences between men and women in each of the domains may interact in a synergistic process which contributes to gender differences in the incidence, duration and prevalence of depression.

IMPLICATIONS FOR RESEARCH AND PREVENTION

Having reviewed research on each of the domains in the framework, we now consider the clinical implications of our perspective. Much of the research on the treatment of depression has been concerned with evaluating and comparing the outcomes of different treatment regimens. We

use our framework to interpret the results of such clinical trials. The domains we have identified also provide a means of describing the recovery and relapse process, and of evaluating the determinants of posttreatment functioning. Lastly, we consider the potential roles of these factors in the design and effectiveness of prevention programs.

Comparing the Effectiveness of Psychosocial Treatments

Current intervention programs differ in the specific sets of factors in the model that are targeted for change. Some interventions are aimed primarily at personal resources by attempting to enhance self-concept and change maladaptive cognitive styles, or to modify depressogenic attributional styles. Cognitive therapies also seek to change appraisal and coping responses by teaching the patient to identify distorted

appraisals and to replace them with more realistic perceptions (Beck et al., 1979; Rush, Beck, Kovacs, & Hollon, 1977). Since depressed persons tend to exaggerate the negative aspects of their environment and behavior, such treatment often leads to a decrease in negative and self-derogatory thoughts and an increase in positive self-statements and cognitive self-reinforcement. Other interventions have focused on other personal factors and aspects of coping, such as improving problem-solving and social skills and monitoring positive and negative environmental reinforcers (e.g., Lewinsohn, Biglan, & Zeiss, 1976). Some interventions aim to enhance environmental resources by improving the supportiveness of family and other interpersonal relationships, and by modifying how patients cope with the social consequences of their disorder (e.g., McLean, 1981; Shaw, 1977; Weissman,

1979).

A series of controlled clinical trials have demonstrated that these interventions reduce depression for a significant number of patients (Hollon & Beck, 1978). While comparisons between psychosocial interventions sometimes show differential effectiveness, the most compelling conclusion is that all treatments are more effective in alleviating depression (alone and in combination with pharmacotherapy) than placebo or non-intervention control conditions (Kovacs, 1980; Weissman, 1979). For example, Zeiss, Lewinsohn, and Munoz (1979) found that several different treatment programs, interpersonal skills training (a personal resource), cognitive modification (appraisal and coping), and pleasant events scheduling (environmental resources and coping) were equally effective in reducing depression. All three groups of treated

patients increased their social skills and pleasant activities and decreased their dysfunctional cognitions. Differential improvement in the three areas was not specifically related to receiving the treatment that targeted one of these modalities.

Why are conceptually different interventions comparable in their effectiveness in alleviating depression? Zeiss and her colleagues view their results as reflecting nonspecific effects that combine to increase personal self-efficacy. Frank (1974) states that the central determinant of treatment effectiveness lies in the amelioration of clients' frustration with their unsuccessful problem-solving efforts and in the restoration of their morale. Alternatively, our framework suggests multiple sources of treatment effectiveness that can be identified in different treatment procedures.

Since there are complex linkages between the domains shown in the framework, changes in a domain targeted by a specific treatment procedures may affect, or be affected by, changes in other domains. This situation complicates inferences about the reasons for changes "resulting from" an intervention intended to affect a cluster of variables within a single domain. For example, although cognitive treatment specifically seeks to modify maladaptive cognitive schemas, this intervention may also affect appraisal and preferred coping responses (path E), and the orientation toward social resources (path A), all of which may influence depression. Similarly, interventions designed to improve social skills and increase positive events may also reduce stress (path B), increase supportive social resources (path A), and provide new coping alternatives (path E), all of which may affect depression.

Different treatment procedures may thus obtain similar effects because of the interrelationships among the sets of factors involved in depression.

These considerations indicate that treatment effectiveness might be maximized by targeting multiple domains within a broad spectrum program. For example, recent efforts have combined cognitive and behavioral techniques with social resources interventions by including the functioning and attitudes of the depressed person's spouse and family members within the scope of treatment (see McLean & Hakistan, 1979; Rush, Shaw, & Khatami, 1980). Programs of training in the development of more effective cooping responses to ongoing or expected stressors can decrease the risk of stress-related relapse. Such programs may achieve their effectiveness by increasing the supportiveness of important relationships, reducing the negative

attitudes that social network members have developed toward the depressed patient, and facilitating the generalization of treatment gains to a range of natural settings.

Exploring the Determinants of Posttreatment Functioning

Treatment increases the probability of recovery and even untreated depression usually shows remission. However, the longer-term outcomes of clinical depression are less positive. More than 50% of depressed patients seem to relapse within one year regardless of whether they have received either psychosocial therapy, pharmacotherapy, or a combination of the two (Keller & Shapiro, 1981; Kovacs, Rush, Beck, & Hollon, 1981; Weissman & Kasl, 1976). What factors determine whether individuals will relapse or maintain recovery? While socioeconomic status, pretreatment functioning, and treatment

experiences are related to outcome, these factors typically account for less than 25% of the variance in posttreatment functioning, depending on the outcome criterion involved (e.g., McLean & Hakistan, 1979).

Given that the domains identified in our framework contribute to the onset of depression, they also warrant consideration as determinants of posttreatment functioning. For example, patients who experience stressful life events are more likely to relapse. However, those with adequate personal and environmental resources and effective coping responses may be most able to "resist" relapse-inducing influences that occur subsequent to the termination of treatment. In assessing these domains as determinants of the posttreatment functioning of alcoholic patients, Cronkite and Moos (1980) found that stressors, coping, and family resources had a strong impact

on outcome. The long-term effects of pretreatment and treatment-related variables (e.g., amount and type of treatment) may be mediated by these posttreatment factors. Cross, Sheehan, and Kahn (1980) found that treated patients subsequently made more use of informal social resources for guidance and problem-solving than did untreated controls. Two treatment approaches which differed in their outcome effectiveness were also associated with differential increases in patients' use of these social resources. Thus, persons who are initially more severely depressed and receive less treatment, are likely to experience more posttreatment stressors, to use less effective coping resources, and to show poorer posttreatment functioning.

Increased understanding of the posttreatment determinants of recovery provides a basis for improving clinical assessment and intervention

techniques so as to maximize treatment effects and their maintenance. Therapists need to consider the depressed persons' stress levels, social-environmental resources and coping responses to maximize positive treatment outcome. Current and future advances in assessment techniques (see Moos & Billings, 1982; Moos & Mitchell, in press) can facilitate screening for relevant deficits and disturbances in these areas. The development of an integrated battery of measures of the type and amount of environmental stress, along with assessments of the individual's relevant social environments (e.g., work, family) and methods of coping, would be particularly valuable in planning treatment and aftercare. Better understanding of extratreatment factors may also increase patient compliance and reduce the number of early dropouts. It would also be informative to study concurrent changes in

stress levels and social resources that may reduce depression and lead to early termination of treatment. Assessment of such changes may clarify the differential role of formal and informal sources of assistance in recovering from depression.

Developing Prevention Programs

The effectiveness of prevention programs is often viewed as stemming from one of two sources: a reduction in exposure to stressors or an increase in individuals' resistance to such stressors (Kessler & Albee, 1977). Given the interconnectedness of the domains included in our framework, preventive interventions may simultaneously focus on both these sources. Interventions aimed at bolstering personal and social resources may decrease stressors as well as increase resistance. For example, community interventions such as block clubs and

neighborhood social organizations (see Wandersman & Giamartino, 1980) facilitate neighborhood improvements in housing and safety and thereby enhance members' physical and social-environmental resources. These interventions may simultaneously reduce such stressors as the amount of actual and feared crime. Changes in work settings, such as reorganizing assembly line workers into work groups responsible for a more substantial proportion of the final product, may promote cooperation and social support from coworkers and potentially reduce such work stressors as boredom, lack of involvement in decision making, and uncontrolled work pressure.

Community groups and agents such as neighborhood and parent groups, lawyers, youth recreation leaders, hairdressers, and bartenders may provide important sources of informal social

support (Gottlieb, 1981). Programs designed to foster the support-giving skills of such individuals may increase the social and coping resources in depressed persons' extended social networks, and thereby serve to enhance their adaptation. Similarly, preventive interventions may be aimed at smaller social units, such as families, and at particular stressors, such as bereavement and divorce, that are especially likely to elicit depressive outcomes. For example, a self-help program for widows might have multiple intervention foci: providing increased social support, cognitive guidance and modeling of effective coping responses to grief, and assistance in resolving economic, social, and personal stressors that can accompany the death of a spouse (Rogers, Vachon, Lyall, Sheldon, & Freeman, 1980). The framework presented here can be a guide for planning prevention programs

and for developing program evaluations which yield information on the process as well as the outcomes of interventions.

SUMMARY

We have presented an integrative conceptual framework that considers both stressful life circumstances and factors that foster well-being and protect against depressive outcomes. This framework suggests that there are multiple pathways to depression. A lack of personal and environmental resources may be "sufficient" to lead to depression. While stressful circumstances may predispose to depression, the presence of supportive resources and adaptive appraisal and coping responses may moderate the adverse effects of stress, and thus prevent a serious depressive outcome. Future research and clinical interventions should benefit from considering a

broad spectrum of factors that are capable of utilizing the interconnectedness of the domains we have identified. Since personal and environmental factors are often slow to change, and since the elimination of stress is neither feasible nor desirable, appraisal and coping may be a pivotal factor to be addressed by treatment and prevention programs. Most importantly, a conceptual framework such as the one we have presented here, can help clinicians and researchers to organize the rapidly expanding information on the development and treatment of depression and to formulate more integrated plans for future research and intervention.

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REFERENCES

Abramson, L. Y. & Sackeim, H. A paradox in depression:

Uncontrollability and selfblame. *Psychological Bulletin,* 1977, 84, 838-851.

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology,* 1978, 87, 49-74.

Akiskal, H. S., & McKinney, W. T. Overview of recent research in depression. *Archives of General Psychiatry,* 1975, 32, 285-305.

Altman, J. H., & Wittenborn, J. R. Depression prone personality in women. *Journal of Abnormal Psychology,* 1980, 89, 303-308.

Andrews, G., Tennant, C., Hewson, D., & Vaillant, G. Life event stress, social support, coping style, and risk of psychological impairment. *Journal of Nervous and Mental Disease,* 1978,166, 307-316.

Bandura, A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review,* 1977,84, 191-215.

Bandura, A. Self-referent thought: The development of self-efficacy. In J. H. Flavell & L. D. Ross (Eds.), *Cognitive social development: Frontiers and possible futures.* New York: Cambridge University Press, 1980.

Beck, A. T. *Depression: Clinical, experimental and theoretical aspects.* New York: Harper & Row, 1967.

Beck, A. T. The development of depression: A cognitive model. In R. Friedman & M. Katz (Eds.), *The psychology of depression: Contemporary theory and research.*

Washington D. C.: Winston, 1974.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. *Cognitive therapy of depression.* New York: Guilford, 1979.

Becker, J. Vulnerable self-esteem as a predisposing factor in depressive disorders. In R. A. Depue (Ed.), *The psychobiology of the depressive disorders: Implications for the effects of stress.* New York: Academic Press, 1979.

Billings, A. G., Mitchell, R. E., & Moos, R. H. *Social support and well-being: Research implications for prevention programs.* Paper presented at the Annual Meeting of the American Psychological Association, Los Angeles, 1981.

Billings, A. G., & Moos, R. H. Work stress and the stress-buffering roles of work and family resources. *Journal of Occupational Behaviour,* in press, (a)

Billings, A. G., & Moos, R. H. The role of coping responses and social resources in attenuating the impact of stressful life events. *Journal of Behavioral Medicine,* 1981, 4, 139-157.

Billings, A. G., & Moos, R. H. Social support and functioning among community and clinical groups: A panel model. *Journal of Behavioral Medicine,* in press, (b)

Blaney, P. H., Behar V., & Head, R. Two measures of depressive cognitions: Their association with depression and with each other. *Journal of Abnormal Psychology,* 1980, 89, 678-682.

Bloom, B., Asher, S. J., & White, S. W. Marital disruption as a stressor: A review and analysis. *Psychological Bulletin,* 1978, 85, 867-894.

Bothwell, S., & Weissman, M. M. Social impairments four years after an acute depressive episode. *American Journal of Orthopsychiatry,* 1977, 47, 231-237.

Brown, B. B. Social and psychological correlates of help-seeking behavior among urban adults. *American Journal of Community Psychology,* 1978, 6, 425-439.

Brown, G. W. The social etiology of depression. In R. A. Depue (Ed.), *The psychobiology of the depressive disorders: Implications for the effects of stress.* New York: Academic Press, 1979.

Brown, G. W., & Harris, T. O. *Social origins of depression: A study of psychiatric disorder in women.* New York: Free Press, 1978.

Calhoun, L. G., Cheney, T., & Dawes, A. S. Locus of control, self-reported depression, and perceived causes of depression. *Journal of Consulting and Clinical Psychology,* 1974, 42, 736.

Cassel, J. The contribution of the social environment to host resistance. *American Journal of Epidemiology,* 1976,104, 107-123.

Coates, D., & Wortman, C. B. Depression maintenance and interpersonal control. In A. Baum & J. E. Singer (Eds.), *Advances in environmental psychology* (Vol. 2). Hillsdale, N.J.: Lawrence Erlbaum, 1980.

Cobb, S. Social support as a moderator of life stress. *Psychosomatic Medicine,* 1976, 38, 300-314.

Cofer, D. H., & Wittenborn, J. R. Personality characteristics of

formerly depressed women. *Journal of Abnormal Psychology,* 1980, 89, 309-314.

Coleman, R. E., & Miller, A. G. The relationship between depression and marital maladjustment in a clinic population: A multitrait-multimethod study. *Journal of Consulting and Clinical Psychology,* 1975, 43, 647-651.

Cooper, G. L., & Marshall, J. Sources of managerial and white collar stress. In C. L. Cooper & Payne (Eds.), *Stress at work.* New York: Wiley & Sons, 1978.

Costello, C. G. Depression: Loss of reinforcers or loss of reinforcer effectiveness? *Behavior Therapy,* 1972, 3, 240-247.

Costello, C. G. Social factors associated with depression: A retrospective community study. *Psychological Medicine,* in press.

Coyne, J. C. Depression and the response of others. *Journal of Abnormal Psychology,* 1976, 85, 186-193.(a)

Coyne, J. C. Toward an interactional description of depression. *Psychiatry,* 1976, 39, 28-40.(b)

Coyne, J. C., Aldwin, C., & Lazarus, R. S. Depression and coping in stressful episodes. *Journal of Abnormal Psychology,* 1981, 90, 439-447.

Cronkite, R. C., & Moos, R. H. The determinants of posttreatment functioning of alcoholic patients: A conceptual framework. *Journal of Consulting and Clinical Psychology,* 1980, 48, 305-316.

Crook, T., & Eliot, J. Parental death during childhood and adult depression: A critical review of the literature. *Psychological Bulletin,* 1980, 87, 252-259.

Cross, D. G., Sheehan, P. W., & Kahn, J. A. Alternative advice and counsel in psychotherapy. *Journal of Consulting and Clinical Psychology.* 1980, 48, 615-625.

Dean, A., & Lin. N. The stress buffering role of social support. *Journal of Nervous and Mental Disease,* 1977,165, 403-417.

Dohrenwend, B. S. Social status and stressful life events. *Journal of Personality and Social Psychology,* 1973,28,225-235.

Dohrenwend, B. S., & Dohrenwend, B. P. (Eds.). *Stressful life events: Their nature and effects.* New York: Wiley, 1974.

Dohrenwend, B. S., & Martin, J. L. Personal versus situational determination of anticipation and control of the occurrence of stressful life events. *American Journal of Community Psychology,* 1979, 7, 453-468.

Endicott, J., & Spitzer, R. L. A diagnostic interview: The Schedule for Affective Disorders and Schizophrenia. *Archives of General Psychiatry,* 1978, 35, 837-844.

Folkman, S., & Lazarus, R. S. An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior,* 1980, 21, 219-239.

Fontana, A. F., Hughes, L. A., Marcus, J. L., & Dowds, B. N. Subjective evaluation of life events. *Journal of Consulting and Clinical Psychology,* 1979,47, 906-911.

Frank, J. D. Psychotherapy: The restoration of morale. *American Journal of Psychiatry,* 1974,131, 271-274.

Funabiki, D., Bologna, N. C., Pepping, M., & Fitzgerald, K. C. Revisiting sex differences in the expression of depression. *Journal of Abnormal Psychology,* 1980, 89, 194-202.

Garber, J., & Hollon, S. D. Universal versus personal helplessness in depression: Belief in uncontrollability or incompetence? *Journal of Abnormal Behavior,* 1980, 89, 56-66.

Golin, S., Sweeney, P. D., & Schaeffer, D. E. The causality of casual attributions in depression: A cross-lagged panel correlational analysis. *Journal of Abnormal Psychology,* 1981,90, 14-22.

Gong-Guy, E., & Hammen, C. L. Causal perceptions of stressful events in depressed and nondepressed outpatients. *Journal of Abnormal Psychology,* 1980, 89, 662-669.

Gottlieb, B. H. (Ed.). *Social networks and social support.* Beverly Hills: Sage Publications, 1981.

Gore, S. The effect of social support in moderating the health consequences of unemployment. *Journal of Health and Social Behavior,* 1978,19, 157-165.

Gourash, N. Help seeking: A review of the literature. *American Journal of Community Psychology,* 1978, 6, 413-423.

Hammen, C. L., & Cochran, S. D. Cognitive correlates of life stress and depression in college students. *Journal of Abnormal Psychology,* 1981, 90, 23-27.

Hammen, C. L., Jacobs, M., Mayol, A., & Cochran, S. D. Dysfunctional cognitions and the effectives of skills and cognitive-behavioral training. *Journal of Consulting and Clinical Psychology,* 1980, 48, 685-695.

Hammen, C. L., & Peters, S. D. Differential responses to male and female depressive relations. *Journal of Consulting and Clinical Psychology,* 1977, 45, 994-1001.

Hammen, C. L., & Peters, S. D. Interpersonal consequences of depression: Responses to men and women enacting a depressed role. *Journal of Abnormal Psychology,* 1978, 87, 322-332.

Harmon, T. M., Nelson, R.O., & Hayes, S. C. Self-monitoring of mood versus activity by depressed clients. *Journal of Consulting and Clinical Psychology,* 1980, 48, 30-38.

Harvey, D. M. Depression and attributional style: Interpretations of important personal events. *Journal of Abnormal Psychology,* 1981,90, 134-142.

Heller, K. the effects of social support: Prevention and treatment implications. In A. P. Goldstein & F. H. Kanfer (Eds.), *Maximizing treatment gains: Transfer enhancement in psychotherapy.* New York: Academic Press, 1979.

Hirsch, B. Natural support systems and coping with major life changes. *American Journal of Community Psychology,* 1980,8, 159-172.

Hollon, S. D., & Beck, A. T. Psychotherapy and drug therapy: Comparison and combinations. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior*

change: An empirical analysis. (2nd ed.). New York: Wiley & Sons, 1978.

Hollon, S. D., & Kendall, P. C. Cognitive self-statements in depression: Development of an automatic thoughts questionnaire. *Cognitive Therapy and Research,* 1980, 4, 383-395.

House, J. S. *Work stress and social support.* Reading, Mass: Addison-Wesley, 1981.

Howes, M. J., & Hokanson, J. E. Conversational and social responses to depressive interpersonal behavior. *Journal of Abnormal Psychology,* 1979, 88, 625-634.

Johnson, J. H., & Sarason, I. G. Life stress, depression and anxiety; Internal-external control as a moderator variable. *Journal of Psychosomatic Research,* 1978, 22, 205-208.

Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine,* in press.

Kasl, S. V. Epidemiological contributions to the study of work stress. In C. L. Cooper & R. Payne (Eds.), *Stress at work.* New York: Wiley, 1978.

Keller, M. B., & Shapiro, R. W. Major depressive disorder: Initial results from a one year prospective naturalistic follow-up study. *Journal of Nervous and Mental Disorders,* 1981,169, 761-768.

Kessler, R. A strategy for studying differential vulnerability to

the psychological consequences of stress. *Journal of Health and Social Behavior,* 1979, 20, 100-108.

Kessler, M., & Albee, G. W. An overview of the literature of primary prevention. In G. W. Albee & J. M. Joffe (Eds.), *Primary prevention of psychopathology: The issues* (Vol. 1). Hanover, New Hampshire: University Press of New England, 1977.

Kobasa, S. C. Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology,* 1979, 37, 1-11.

Kovacs, M. The efficacy of cognitive and behavior therapies for depression. *The American Journal of Psychiatry,* 1980,137, 1495-1501.

Kovacs, M., Rush, A. J., Beck, A. T., & Hollon, S. D. Depressed outpatients treated with cognitive therapy or pharmacotherapy. *Archives of General Psychiatry,* 1981,38, 33-39.

Krantz, S., & Hammen, C. L. Assessment of cognitive bias in depression. *Journal of Abnormal Psychology,* 1979, 88, 611-619.

LaRocco, J. M., House, J. S., & French, J. R. P. Social support, occupational stress, and health. *Journal of Health and Social Behavior,* 1980, 21, 202-218.

Lazarus, R. S. The stress and coping paradigm. In C. Eisdorfer, D. Cohen, A. Kleinman, & P. Maxim (Eds.), *Theoretical bases for psychopathology.* New York: Spectrum, 1981.

Lazarus, R. S., & Cohen, J. B. Environmental stress. In I. Altman

& J. F. Wohlwill (Eds.), *Human behavior and the environment: Current theory and research* (Vol. 1). New York: Plenum, 1977.

Lefcourt, H. M. *Locus of control: Current trends in theory and research.* Hillsdale, N.J.: Lawrence Erlbaum, 1976.

Lewinsohn, P. M. A behavioral approach to depression. In R. Friedman & M. Katz (Eds.), *The psychology of depression: Contemporary theory and research.* New York: Wiley, 1974.

Lewinsohn, P. M., Biglan, T., & Zeiss, A. Behavioral treatment of depression. In P. O. Davidson (Ed.), *Behavioral management of anxiety, pain, and depression.* New York: Brunner-Mazel, 1976.

Lewinsohn, P. M., Mischel, W., Chaplin, W., & Barton, R. Social competence and depression: The role of illusory self-perceptions. *Journal of Abnormal Psychology,* 1980, 89, 203-212.

Lewinsohn, P. M., & Schaffer, M. Use of home observations as an integral part of the treatment of depression: Preliminary report and case studies. *Journal of Consulting and Clinical Psychology,* 1971, 37, 87-94.

Liem, R., & Liem, J. Social class and mental illness reconsidered: The role of economic stress and social support. *Journal of Health and Social Behavior,* 1978,19, 139-156.

Lin, N., Simeone, R., Ensel, W. M., & Kuo, W. Social support, stressful life events, and illness: A model and an empirical test. *Journal of Health and Social Behavior,*

1979,20, 108-119.

Lindenthal, J. J., & Myers, J. K. The New Haven longitudinal study. In I. G. Sarason & C. D. Spielberger (Eds.), *Stress and anxiety* (Vol. 6). Washington, DC: Hemisphere, 1979.

Maas, J. W. Biogenic amines and depression. *Archives of General Psychiatry,* 1975,32, 1357-1361.

McLean, P. D. Behavioral treatment of depression. In W. E. Craighead, A. E. Kazdin, & M. J. Mahoney (Eds.), *Behavior modification: Principles, issues, and applications.* Boston: Houghton Mifflin, 1981.

McLean, P. D. & Hakistan, A. R. Clinical depression: Comparative efficacy of outpatient treatments. *Journal of Consulting and Clinical Psychology,* 1979, 47, 818-836.

Miller, D. T., & Ross, M. Self-serving biases in the attribution of causality: Fact or fiction? *Psychological Bulletin,* 1975,82, 213-225.

Mitchell, R. E., & Trickett, E. J. Social networks as mediators of social support: An analysis of the effects and determinants of social networks. *Community Mental Health Journal,* 1980,16, 27-44.

Moos, R. H., & Billings, A. G. Conceptualizing and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds.), *Handbook of Stress: Theoretical and clinical aspects.* New York: Macmillan, 1982.

Moos, R. H., & Mitcheir, R. E. Conceptualizing and measuring social network resources. In T. A. Wills (Ed.), *Basic processes in helping relationships.* New York: Academic

Press, in press.

Myers, J. K., Lindenthal, J. J., & Pepper, M. P. Life events, social integration and psychiatric symptomatology. *Journal of Health and Social Behavior,* 1975,16,421 -427.

Overall, J. E., & Zisook, S. Diagnosis and the phenomenology of depressive disorders. *Journal of Consulting and Clinical Psychology,* 1980, 48, 626-634.

Pasahow, R. J. The relation between an attributional dimension and learned helplessness. *Journal of Abnormal Psychology,* 1980, 89, 358-367.

Paykel, E. S. Recent life events in the development of the depressive disorders. In R. A. Depue (Ed.), *The psychobiology of the depressive disorders: Implications for the effects of stress.* New York: Academic Press, 1979.

Paykel, E. S., Weissman, M. M., & Prusoff, B. A. Social maladjustment and severity of depression. *Comprehensive Psychiatry,* 1978,19, 121-128.

Pearlin, L.I., & Johnson, J. Marital status, life strains, and depression. *American Sociological Review,* 1977,42, 704-715.

Pearlin, L. I., & Schooler, C. The structure of coping. *Journal of Health and Social Behavior,* 1978,19, 2-21.

Perlmuter, L. C., & Monty, R. A. *Choice and perceived control.* Hillsdale, N.J.: Lawrence Erlbaum, 1979.

Peterson, C. Uncontrollability and self-blame in depression: Investigation of the paradox in a college population.

Journal of Abnormal Psychology, 1979, 88, 620-624.

Radloff, L. S. The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement,* 1977,1, 385-410.

Radloff, L. S., & Rae, D. S. Susceptibility and precipitating factors in depression: Sex differences and similarities. *Journal of Abnormal Psychology,* 1979,88, 174-181.

Rogers, J., Vachon, M. L., Lyall, W. A., Sheldon, A., & Freeman, S. J. A self-help program for widows as an independent community service. *Hospital and Community Psychiatry,* 1980, 31, 844-847.

Rubenstein, D., & Timmins, J. F. Depressive dyadic and triadic relationships. *Journal of Marriage and Family Counseling,* 1978,4, 13-23.

Rush, A. J., Beck, A. T., Kovacs, M., & Hollon, S. D. Comparative efficacy of cognitive therapy and pharmacotherapy in the treatment of depressed outpatients. *Cognitive Therapy and Research,* 1977,1, 17-36.

Rush, A. J., Shaw, B. F., & Khatami, M. Cognitive therapy of depression: Utilizing the couples system. *Cognitive Therapy and Research,* 1980, 4, 103-113.

Salzman, L. Interpersonal factors in depression. In F. F. Flach & S. C. Draghi (Eds.), *The nature and treatment of depression.* New York: Wiley, 1975.

Sanchez, V., & Lewinsohn, P. M. Assertive behavior and depression. *Journal of Consulting and Clinical Psychology,* 1980,48, 119-120.

Seligman, M. E. P. (Ed.). *Helplessness: On depression, development, and death.* San Francisco: Freeman, 1975.

Seligman, M. E. P., Abramson, L. Y., Semmel, A., & von Baeyer, C. Depressive attributional style. *Journal of Abnormal Psychology,* 1979, 88, 242-247.

Shaw, B. A comparison of cognitive therapy and behavior therapy in the treatment of depression. *Journal of Consulting and Clinical Psychology,* 1977, 45,543-551.

Sundberg, N. D., Snowden, L. R., & Reynolds, W. M. Toward assessment of personal competence and incompetence in life situations. *Annual Review of Psychology,* 1978, 29, 179-221.

Tolsdorf, C. C. Social networks, support, and coping: An exploratory study. *Family Process,* 1976,15, 407-417.

Tyler, F. B. Individual psychological competence: A personality configuration. *Educational and Psychological Measurement,* 1978, 38, 309-323.

Vaughn, C. E., & Leff, J. P. The influence of family and social factors on the course of psychiatric illness: A comparison of schizophrenic and depressed neurotic patients. *British Journal of Psychiatry.* 1976,129, 125-137.

Wandersman, A., & Giamartino, G. A. Community and individual difference characteristics as influences on initial participation. *American Journal of Community Psychology,* 1980,8,217-228.

Wandersman, L., Wandersman, A., & Kahn, S. Social support in the transition to parenthood. *Journal of Community*

Psychology, 1980, 8, 332-342.

Warheit, G. J. Life events, coping, stress, and depressive symptomatology. *American Journal of Psychiatry.* 1979,136, 502-507.

Weiss, R. L., & Aved, B. M. Marital satisfaction and depression as predictors of physical health status. *Journal of Consulting and Clinical Psychology,* 1978, 46, 1379-1384.

Weissman, M. M. the psychological treatment of depression: Evidence for the efficacy of psychotherapy alone, in comparison with, and in combination with pharmacotherapy. *Archives of General Psychiatry.* 1979, 36, 1261-1269.

Weissman, M. M., & Kasl, S. V. Help-seeking in depressed outpatients following maintenance therapy. *British Journal of Psychiatry,* 1976,129, 252-262.

Weissman, M. M. & Klerman, G. L. Sex differences and the epidemiology of depression. *Archives of General Psychiatry.* 1977, 34, 98-111.

Weissman, M. M., & Myers, J. Affective disorders in a U.S. urban community: The use of Research Diagnostic Criteria in an epidemiological survey. *Archives of General Psychiatry,* 1978,35, 1304-1311.

Weissman, M. M., & Paykel, E. S. *The Depressed woman: A study of social relationships.* Chicago: University of Chicago Press, 1974.

Wells, L. E., & Marwell, G. *Self-esteem: Its conceptualization and measurement.* Beverly Hills, CA: Sage Publications, 1976.

Westbrook, M. T. Socioeconomic differences in coping with childbearing. *American Journal of Community Psychology,* 1979, 7, 397-412.

White, R. B. Current psychoanalytic concepts of depression. In W. E. Fann, I. Karacan, A. D. Pokorny, & R. L. Williams (Eds.), *Phenomenology and treatment of depression.* New York: Spectrum, 1977.

Wilcox, B. L. Social support, life stress, and psychological adjustment: A test of the buffering hypothesis. *American Journal of Community Psychology,* 1981, 9, 371-386.

Witkin, H. A., & Goodenough, D. R. Field dependence and interpersonal behavior. *Psychological Bulletin,* 1977, 84, 661-689.

Youngren, M. A., & Lewinsohn, P.M. The functional relationship between depression and problematic interpersonal behavior. *Journal of Abnormal Psychology,* 1980, 89, 333-341.

Zeiss, A. M., Lewinsohn, P. M., & Munoz, R. F. Nonspecific improvement effects in depression using interpersonal skills training, pleasant activity schedules, or cognitive training. *Journal of Consulting and Clinical Psychology,* 1979, 47, 427-439.