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PATTERNS OF NEGATIVE EMOTIONS:  
EFFECTS ON COPING STRATEGIES,  
PERCEIVED CHANGE, AND PSYCHOLOGICAL FUNCTIONING

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PATTERNS OF NEGATIVE EMOTIONS:  
EFFECTS ON COPING STRATEGIES,  
PERCEIVED CHANGE, AND PSYCHOLOGICAL FUNCTIONING

By

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## ABSTRACT

### PATTERNS OF NEGATIVE EMOTIONS: EFFECTS ON COPING STRATEGIES, PERCEIVED CHANGE, AND PSYCHOLOGICAL FUNCTIONING

By

M. Janice Gutfreund

One hundred four undergraduates (mean age 21.7 years) were administered instruments to assess their immediate emotional reactions to a nominated recent stressful event, coping behavior and change produced by the event. They then rated their psychological functioning in the previous month. Results, obtained mainly through hierarchical multiple regression analysis, indicated that while negative reactions, especially those directed against the self, were positively associated with distressful functioning, the interaction of both level of negative affect experienced and effective coping strategies used significantly reduced reported distress and increased positive mental health. Results were discussed in terms of the stress and coping literature, affect theory, and psychodynamic models of growth and change.

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## Introduction

Recent empirical studies in the stress and coping literature (e.g., Coyne, Aldwin, & Lazarus, 1981; Billings & Moos, 1983, 1984) have linked depression to negative affective reactions to stress, increased life stressors, and the use of less effective coping strategies. However, the correlations obtained in these studies, while statistically significant, account for only a small proportion of the variance. Yet researchers in this area have not penetrated beyond these relationships. Both the low correlations obtained by these studies and the contributions of psychoanalytic theories of growth and development suggest a there may be a complex relationship among affect, coping, and psychological functioning. In particular, how negative affective reactions to stressful events has generally not been addressed by researchers in the stress and coping area; rather, the role of other factors such as coping strategies, cognitive factors, and social support have been examined.

While a certain amount of denial is said to be adaptive, longitudinal studies of adaptation suggest the ability to perceive events and their accompanying affect with a minimum of distortion promotes effective coping (Haan, 1977; Vaillant, 1977). Coping strategies that "integrate conscience, reality, interpersonal relations, and instinct" (Vaillant, 1977, p. 85) were significantly related to successful adaptation in social, marital, and work arenas

in his sample of adult men. Another longitudinal study of adults (Chiriboga, 1982) showed that negative events did not always predict negative events, but at times, predicted positive ones, while positive events only predicted positive ones.

Psychoanalytic theorists have described the affective experience of depression and have distinguished it from states of sadness and grief, noting depression to be sadness plus unresolved aggression toward a lost object - the latter being affective disorder's distinguishing characteristic (e.g., Freud, 1917; Jacobson, 1971). Empirical research has supported this role of inner-directed aggression in depression (e.g., Kendall, 1970). More recent developments in psychoanalytic theory, particularly object relations theory, however, have defined depression more as a unitary phenomenon and hypothesize that the capacity to bear depression and work through it without excessive denial or externalization is the hallmark of the capacity to cope with human experience. This quality has been related to "ego strength" and the establishment of stable and relatively unambivalent relationships with others.

This study seeks to shed further light on the relationship between aspects of inner- and outer-directed negative affective reactions to stress, and coping strategies, perceived change through interaction with the stressor, and psychological functioning.

## Models for Stress and Coping

Reactions to stressful events have been of traditional central interest to researchers in psychology. From Freud's early work on the role of traumatic childhood experiences in adult neurosis (Breuer & Freud, 1895), the effects of war (Kardiner, 1941), and natural disasters (Lindemann, 1944), these phenomena have been studied using a classical psychoanalytic framework emphasizing instinct and defense. More recently, however, researchers investigating reactions to stress and coping attempts are also using ego/cognitive processing concepts, the study of affect, and life-span developmental psychology to both replace and augment traditional psychoanalytic models.

First, the cognitive mediational model of Lazarus and his associates (e.g., Folkman, 1984) and the ego processing model of Haan (Haan, 1977) will be addressed. Although Haan's model is more in the psychodynamic tradition, both models view cognitive appraisal as the primary determinant of the affective reaction to stress. In other words, humans have a capacity to act based on rational decision and judgment, not solely determined or pressed by drives.

### Ego-Cognitive Models: Lazarus and Haan

Research by the Lazarus group began with a group of studies done in the early 1960's. Most representative of these is a study by Speisman, Lazarus, Mordkoff and Davison (1964) which illustrated that in response to viewing a threatening film (showing a tribal subincision ritual), college males exhibited different levels of anxiety depending upon the nature of the ego defenses induced by varying the narration of the film. One-third of the subjects heard

commentary focusing on surgical aspects, thereby increasing threat. One-third heard commentary focusing on its sociological and scientific aspects, thus inducing threat reduction through the use of intellectualization. The final third heard commentary minimizing the threatening aspects of the film, thus promoting the use of denial and reaction formation. The latter two conditions significantly reduced physiological indices of stress in subjects, thus illustrating the role of cognitive appraisal in the modification of emotional reactions to the film.

As the group continued to study coping and defense, their focus switched from physiological indices of anxiety to specific coping behaviors, and from defensive style to descriptions of reactions to specific stressful events. Their model, based on these studies (see p. 26 for a description of one of them) is summarized in an article by Folkman (1984), a principal colleague of Lazarus.

Stress is defined as a dynamic and bidirectional relationship between person and environment. Stress, and stress-related adaptational outcomes are mediated by a process of cognitive appraisal and coping. Controllability may lead to an increase or decrease in stress, depending upon the consequences of control.

Coping strategies are either: (1) emotion-focused, by which the individual attempts to regulate emotion or distress and (2) problem-focused, where s/he attempts to manage the problem causing the distress. Emotion-focused coping is used more often when the situation is not amenable to change (altering the meaning of a situation in order to control distress), and problem-focused coping is used more when a situation is changeable. For example, illness may be

seen as an opportunity to expand personality through growth, to discover something positive in a negative situation. The individual may abandon old goals and create new ones. Effective coping involves the use of both strategies: emotion-focused coping must be successful in order to clear the way for problem-focused coping.

Control is related to adaptational outcome when there is a match between the person's belief in controllability and the extent to which the stressor is actually controllable. Some distortion may be useful to help this get started (Folkman, 1984). When a situation is uncontrollable, negative outcomes (helplessness and depression) are associated with the failure of reappraisal and cognitive coping to alter the meaning of the event or ameliorate distress.

The tripartite model of ego functioning developed by Norma Haan (1969, 1977) arises out of her contention that traditional psychoanalytic conceptualizations of ego as a static entity arising from compromises between drives and environment and neutralized id energy are insufficient to account for the autonomy and flexibility inherent in healthy ego functioning. She rejects the notion that affect and drive are primary motivators in favor of a model that focuses on ego capacity that does not "negate truth and reality." (Haan, 1977, p. 26) Haan believes stress occurs whenever intrasubjective (internal) and intersubjective (external) perceptions of reality are unfavorably incongruous, generating unpleasant affect experienced as stressful. Ego functions attempt to resolve this incongruity through gradual cognitive assimilation of or accommodation to the consequences of the stressful event.

In contrast to Lazarus and his colleagues and Billings and Moos (reviewed in the following section), Haan does not study coping behavior patterns but rather goes directly to ego functioning processes, noting that one must "formulate a generic method of dealing with stress that is based on an accurate assessment and management of the stress situation" (Haan, 1977, p. 163).

These processes are divided into three categories: coping, defending, and fragmentation. Unlike traditional psychoanalytic theories which view all ego functioning as compromise between impulse and reality demands, for Haan coping mechanisms are autonomous functions which the individual chooses to use in stressful situations. For this reason they are a more effective means of "coping" with life stress. In contrast, defending and fragmenting mechanisms distort or obliterate the mismatch between self-perception and perception of the environment. They are more driven by the past, primary process thinking, and indirect or deceptive impulse gratification.

Ego processes are expressed at these three levels and divided into four subcategories: cognitive, reflexive-intrceptive, attention-focusing, and affective-impulse (see Table 1). For example, for the ego process of restraint (under the subcategory affective-impulse) the coping mode is suppression. Here one decides not to think about a stressful event or to act on the affective reaction which it generates at the moment but keeps awareness of it in consciousness. In repression, the defensive mode, the unpleasant idea is banished from consciousness, but its affect remains. In the fragmenting mode, depersonalization, affective reactions are curtailed to the point of loss of identity. Although both Lazarus and Haan

believe emotion to be governed by cognitive reactions, Haan asserts, in contrast to Lazarus, there are no conditions under which denial of stress or the affect that accompanies it is adaptive. Rather, she maintains there is a coping alternative to denial, concentration (See Table 1).

Measurement of ego processes are not tied to reactions to specific stressors but are measured through both interviewer ratings and scales developed from the MMPI and CPI (Joffe & Naditch, 1977). Empirical research using these scales has shown high coping functions to be associated with a number of variables, such as higher IQ and longitudinal increases in IQ (Haan, 1963), upward social mobility in men (Haan, 1964), and psychological growth and change and periods of conflict and disequilibrium in late adolescence (Haan, 1974).

#### An Integrative Model: Billings and Moos

The Billings and Moos model of coping is a mixed model strategy in which they attempt to integrate emotional, cognitive, and behavioral components of response to stressful events (Moos & Billings, 1982). Psychoanalytic theory, life-cycle theory, evolutionary theory and behavior modification, and cultural and social-ecological approaches all contribute to identifying the major factors of coping processes. These four perspectives point to the relationship between life stress and functioning as mediated by personal resources, environmental resources, cognitive appraisal, and coping processes. For example, in the study of discrete aversive life events the authors note personal resources such as impulse control helps one avoid stressors, while an impulsive lifestyle often generates stressful events. This model, then, illustrates that all of



Table 1

## TAXONOMY OF EGO PROCESSES

Generic Processes	Modes		
	<u>Coping</u>	<u>Defense</u>	<u>Fragmentation</u>
		<u>Cognitive Functions</u>	
Discrimination Detachment Means-end Symbolization	Objectivity	Isolation	Concretism
	Intellectuality	Intellectualizing	Word salads, neologisms
	Logical analysis	Rationalization	Confabulation
	<u>Reflexive-Intrceptive Functions</u>		
Delayed response Sensitivity Time reversion	Tolerance of ambiguity	Doubt	Immobilization
	Empathy	Projection	Delusional
	Regression-ego	Regression	Decompensation
	<u>Attention-Focusing Functions</u>		
Selective awareness	Concentration	Denial	Distraction, fixation
	<u>Affective-Impulse Regulations</u>		
Diversion Transformation Restraint	Sublimation	Displacement	Affective preoccupation
	Substitution	Reaction formation	Unstable alternation
	Suppression	Repression	Depersonalization, amnesic

From Coping and defending: Processes of self-environment organization, (p. 35) by N. Haan, 1977. New York: Academic Press.

these factors affect the appraisal of the stressful situation, selection of coping responses, and their effectiveness.

The model of coping proposed by Billings and Moos separates coping responses into three domains:

(1) Appraisal-focused Coping

- (a) Logical Analysis -- includes attempts to understand the problem, using past experiences, and assess possible consequences of coping responses;

(2) Problem-focused Coping

- (a) Information Seeking -- includes attempts to gain more information, seeking help from persons in authority or from one's social network, and prayer;
- (b) Problem Solving -- taking action, and compromise and negotiation;

(3) Emotion-focused Coping

- (a) Affective Regulation -- direct efforts to control reactions to stress-related affect by suppression, looking at the positive side of the situation, and tolerance of ambiguity through not acting impulsively;
- (b) Emotional Discharge -- Indirect methods of tension reduction, behavioral expressions of unpleasant emotion, i.e., "acting out." (Moos & Billings, 1984).

In Table 2, abridged from Moos and Billings (1982) the three domains of coping processes are illustrated by examples from studies focusing on family and work strains, family separations, alcoholism, and cancer. Ego processes from Haan's tripartite model are also included, illustrating the ability, in the author's view, of measuring these processes in behavioral terms, as well as the actual coping behavior they generate.

Both the Lazarus and Folkman and the Billings and Moos rating scales, which measure specific coping behaviors (as opposed to measuring coping styles) have been developed somewhat differently. The Lazarus group (Folkman & Lazarus, 1980; Folkman, 1984) after developing a carefully-worked out cognitive theory of stress and coping, relies primarily on empirical methods ( e.g., exploratory factor analysis) to validate their measurement instrument. In contrast, Billings and Moos (Billings & Moos, 1984; Moos & Billings, 1982) have attempted to construct their coping scale using their comprehensive but less-carefully worked out model and have chosen to rely more on rational than statistical methods to group these into coping categories. In spite of these differences, both models share some common theoretical assumptions and their conceptualization of coping has a degree of overlap. Both identify the role of external factors, such as type of life event or personality, in the choice of coping strategies. In addition, both recognize categories of emotion-oriented and problem-oriented strategies as major components of the coping process.

Table 2

## SELECTED EXAMPLES OF DIMENSIONS OF COPING PROCESSES

Focus of Coping	Family & Work Strains	Alcoholism	Haan's Tripartite Model
<u>Appraisal-focused</u>			
Logical analysis			Objectivity Intellectuality Logical analysis Concentration Ego regression
<u>Problem-focused</u>			
Information-seeking	Seek help/advice	Seek help	
Problem-solving	Negotiate in marriage Parental discipline Direct action	Active confrontation Safeguard family interests Establish independence	
<u>Emotion-focused</u>			
Affective regulation	Controlled  reflectiveness		Sublimation  Suppression Tolerance of ambiguity
Emotional discharge		Acting out	Displacement

From Handbook of stress: Theoretical and clinical aspects (p. 220) by S. Breznitz (ed.), 1982, New York: Free Press.

### Negative Affective Experience and Coping

Negative emotional reactions to stressful events have been associated with depression. Hammen and Cochran (1981) and Gong-Guy and Hammen (1980) studied reactions to stressful events in college students under stress and those seeking psychotherapy. Along with attribution, they also measured what they called "nonattribution cognitions", which appear to reflect affective reactions to stressful events. For all stressful events, depressed students rated stressful events as more upsetting and more uncertain. This finding was corroborated by Nelson (1985) found that college students who reported greater upset also reported higher general levels of depression.

Although levels of upset are related to levels of depression in college students under stress, the relationship of negative affect to coping strategies may be more complex. In a review of literature examining reactions to victimization, Wortman (1983) raises two issues related to distress. First, distress may result from an accurate appraisal of a problem. This recognition can pave the way for the shift of the focus of coping from short-term protection of self-esteem to long-term goal attainment. She illustrates this with the following example. A woman who:

most people would agree was disagreeable, judgmental, and somewhat cold toward others found that men rarely asked her out more than once ... she explained it by noting that "Interpersonal relationships are very complicated..." This attribution protected her from feeling distressed whenever a date never called her again. But a more accurate attribution may have forced some behavioral re-evaluation

and change, and resulted in greater satisfaction and well-being in the long run. (Wortman, 1983, p. 205).

She also notes that the experiencing of distress may also be related to the affective maturity of the individual. "...some victims may experience intense distress when a crisis occurs because they are especially sensitive, compassionate, and caring. A man may fail to show distress when his wife dies not because he is coping well, but because he is a superficial person who is incapable of forming close attachments to others" (1983, p. 215). Low self-concept as well as stress may be a great motivator for change.

Related to Wortman's views are psychoanalytic theories of growth and change and Silvan Tomkins' affect theory. An example of the psychoanalytic point of view is illustrated by the work of Zetzel (1970), who has written extensively about the role of sadness and depression in psychological growth. Since loss, disappointment and separation are inevitable, the ability to accept these experiences are vital to optimal coping and emotional growth. Therefore, depression, like anxiety, is a fundamental part of psychic life. In Zetzel's model, all loss and disappointment experiences are painful and distressing, and the acceptance of the entirety of the experience promotes emotional growth and optimal problem solving ability.

Emotional disorganization is not always a sign of ultimate lack of coping ability, but may represent a regression occurring prior to reintegration at a higher level. What distinguishes the development of normal from pathological depression is the level of individual development. If development has proceeded to the point the person has

some ability to relinquish an omnipotent self-image and accept the limitations of reality, (i.e., achievement of internalization of predominately positive object representations) then even a temporary disorganized external adaptation may signify long-term growth and optimal conflict resolution. As a result of experiencing and working through the event and the affects associated with it an individual develops an increased ability to tolerate depression and distress and find new solutions to conflicts. The reversability of emotional disorganization mediated by intact basic ego functions permits the experience of affect as well as eventual strengthening of ego functions and coping skills.

As opposed to appraisal theories, which propose the presence of emotion only after cognitive appraisal, Tomkins (1963) states that affects are primary and are induced by changes in internal or external states of arousal. Distress is one of these primary affects, occurring in the presence of a noxious change in the level of an internal or external stimulus. It is a negative affect, less toxic or pressing than anxiety or fear/terror, but psychologically unpleasant. This enables distress to be an affect negative enough to motivate humans to solve problems associated with it, but at not too great a psychological cost -- thus enabling humans to take the time to generate thoughtful solutions to problems. First manifest by the distress cry in the infant, this affect is essential to the infant's ability to communicate both the onset and termination of suffering.

Because suffering is universal, all human beings experience distress -- from ills of the body, frustration of interpersonal relationships, and the "recalcitrance of nature to human striving

and achievement" (Tomkins, 1963, p. 223). It can function as control for sexual excitement or curiosity, or as a reaction to anger.

The nonpunitive socialization of distress, enabled by the parents' ability to tolerate their children's distress, enables the child to tolerate his/her own. This enables the felt sources of distress to increase with age and grow wider with development. These sources are partly dependent on what a person is excited about and what he/she enjoys and is therefore related to the intimacy with others and the world. The objects of distress widen to include spouse and children, other people, and commitment to ideals. This capacity for distress is the promoter of remedial strategies which can attack the source of distress. For these reasons, these individuals are prone to experience both heightened enjoyment and distress, affected by challenges, separations, and deprivations of their expanded and rich emotional connections. The capacity to feel distress over a wide variety of persons and situations can be a hallmark of emotional maturity.

The punitive socialization of distress in the child often binds distress to other, more toxic affects. The child whose distress is responded to with punishment may find himself in a multiple affect bind, where the experience of distress is met with more distress; the angry or aggressive reaction to this is met with distress, and so on; the end result being the minimization of all emotional reactions. Distress may be bound to fear, producing a generalized pessimism about relationships and achievement as well as increased vulnerability to the threat of separation. Punitive socialization of distress also paradoxically increases the drive to seek out sad situations, such as



movies, and so forth, where it is permissible to cry. Therefore, it is not negative affect per se that produces maladaptive behavior, but negative affect about negative affect -- combinations of types of negative emotions which produce neurotic behavior.

Although some studies have shown small degrees of denial to be conducive to successful coping (Folkman, 1984) and absence of depression (Alloy & Abramson, 1979), other studies have demonstrated the ability to experience emotion and associate it to conflict can be related to successful coping.

The Grant Study (Vaillant, 1977), begun in 1937, had as its aim to study normal development in those selected for "psychological soundness." The subjects, male college sophomores from a large competitive liberal arts college, were followed for over thirty-five years, and were assessed in a variety of domains, using interview, physical examination, psychological testing, home observation, and questionnaires returned every two years. Although these men were selected for their psychological health, all experienced crises demanding re-evaluation of life goals and flexibility in the face of adversity. A large variety of verbal material was rated for use of ego defense mechanisms over a long period. Two significant findings were revealed -- first, more mature defense mechanisms became more used with age, and even in the least well-adapted, less-effective immature and neurotic defenses became less prominent, thus indicating the effect of time (and possibly coping with life experience) on adaptive effectiveness. In addition, mature defense mechanisms -- altruism, humor, suppression, anticipation, and sublimation -- were significantly associated with successful adaptation in social,

marital, and work arenas. These defenses, also noted by Norma Haan (1977) as being associated with coping rather than defending, function, in Vaillant's words, to "integrate conscience, reality, interpersonal relations, and instinct," (Vaillant, 1977, p. 85), that is, they permit both the impulse and affect associated with it to be connected and consciously experienced with the least degree of distortion while allowing attenuated gratification of the impulse. This is in contrast to neurotic defenses, which seek to alter private feelings or expression, or immature defenses, which seek to remove distress caused by interpersonal conflict.

Vaillant's theoretical model is in the traditional psychoanalytic mode, which maintains there is a constant compromise between drives and reality, in contrast to Haan, who proposes that independent ego energy removed from drive is also present. However, the strength of Vaillant's work, in which he views the development of his subjects not only in terms of ego defenses but with the perspective of life-span developmental psychology as proposed by Erikson (1963), is that defensive styles can change and develop in adulthood.

This process of the formation of personality structure undergoes crucial changes in late adolescence; in terms of the development of the ego structure needed to face the tasks of adult life. Late adolescence is marked by the stage of Identity vs. Role Confusion. In this stage, the adolescent is faced by the task of consolidation of the lessons and skills of childhood with the emotional and social tasks of an adult. He states:

The integration now taking place in the form of ego identity is, as pointed out, more than the sum of the childhood identifications. It is the accrued experience of the ego's ability to integrate all identifications with the vicissitudes of the libido, with the aptitudes developed out of endowment, and with the opportunities afforded in social roles. (Erikson, 1963, p. 261)

Pitfalls of this stage include the development of role confusion, which may result in disorganization and even psychosis (although Erikson maintains because adolescence is a turbulent stage in life, disorganization is more common and intervention more successful). In addition, relationships with peers and adults are marked by lability of affects and mobility of identifications, as identity is reorganized and established. The adolescent is preoccupied with the morality of himself and of others, making this stage of life the first in which self-reflection is utilized.

Offer and Offer (1969), after reviewing the results of their longitudinal study of middle-class adolescent boys from junior high school through college, dispute Erikson's contention that adolescence is necessarily a turbulent or extremely disorganized time, although they recognize some adolescents achieve stable adulthood identity through intense conflict. However, their intensive study of Rorschach protocols completed at age sixteen and twenty-one and clinical assessment of the style of the testing session reveal the subject's increasing ability to express idea and affect in an integrated manner. For example, in the interview situation, testers noted that the

subjects' humor was more subtle and used less defensively; in their responses, they were freer, more creative and confident.

Examination of the Rorschach protocols themselves revealed that subjects developed a greater internal orientation and internal complexity. In terms of specific functions, they were more able to bond affective and cognitive spheres of behavior, with less ability of intellectual aspects to reign or inhibit emotional aspects; however, unprocessed emotional responses lessened. In addition, depressive responses increased, reflecting, according to the authors, the expected confrontation with the real world upon graduation. Thus, as predicted by Erikson and to a certain extent by Tomkins, maturation in late adolescence according to Offer and Offer's work is marked by an increasing internal orientation, maturation of ego functions, and an increasing ability to see the world around them more clearly and tolerate the affect that is generated by these perceptions.

There is other empirical evidence that exposure to stressful events themselves can also promote adaptation rather than dysfunction, and that this experience is accompanied by a difference in the experience of affect associated with it. Chiriboga (1982) followed longitudinally a cohort of subjects facing life transitions -- high-school graduation, marriage, children leaving home, and retirement for a period of eleven years. He found an asymmetrical relationship between negative and positive events and development. For all groups, negative events often predicted positive events, while positive events predicted further positive events only. Subjects who experienced negative events who also reported preoccupation with these negative events, also showed improvements in adjustment in all spheres

of life examined (work, home, family, non-family, financial, habits) except in the marital relationships (Chiriboga & Dean, 1978). The authors interpreted these findings as evidence that exposure to negative events may serve, in many cases, as an impetus to further growth.

Nelson (1985) examined, in college students, the relationship of reactions and reporting of negative life events to measures of anxiety and mental health, discovering the occurrence of negative life events to be related to levels of anxiety and positive mental health, once the affective reactions to specific events has been partialled out. He cited two possible origins of this finding, noting that the presence of anxiety rather than defense against it may result in a reporting bias -- but a bias in the direction of more accurate reporting. In any case, the experience of negative events seems to have the effect of affective sharpening and possibly, in some cases, a positive effect on mental health. Nelson also found subjects who scored low on indices of psychological well-being, as well as psychological distress, associated with distortion in reporting negative life stress. This distortion seemed to indicate a denial pattern. The low levels of psychological well-being illustrate these subjects may cope with the distress of stress by denial of feelings associated with the stressor, with deleterious effects on psychological well-being.

Another aspect of Nelson's work relevant for this study is his finding that specific reactions to very stressful events are the most robust predictor of functioning. He states:

...it is not sadness, fear, or anger that was primarily related to mental health. Instead, it is inner-directed hostility, shyness or embarrassment, and shame that were most related to loss of well-being and emotional-behavioral control...emotional reactions directed toward the external event (e.g., sadness) are not as important as the emotional responses concerned with one's own participation in the event (Nelson, 1985, p. 63-4).

He then goes on to note that this effect may be especially relevant for his sample of college students, given the prominence of identity issues, with their emphasis on self-esteem and self-reflection.

The generalizability and theoretical support for these formulations as they relate to depression are addressed in the following section.

## Mood States and Depression

Classical psychoanalytic theory and modifications to that theory have postulated a theoretical relationship between states of sadness and clinical depression as well as distinctions between them. While theorists differ on the exact method of internalization of aggression and its eventual resolution, Freud's description of melancholic depression remains a prototype for the psychoanalytic model of depressive reactions. In depression, as differentiated from grief, a great decrease in self-esteem occurs, due to the presence of unresolved aggression toward who/what is lost. The depressed person perceives their aggression as too dangerous or guilt-producing to experience and draws it into the ego. However, s/he continues to hate this object, which now exists within the person's ego. The aggression is, therefore, directed against the self.

Attempts to measure depression have always included measures of aggression, but these have differed in valence, and studies have found the presence of both inner- and outer-directed aggression in patients with depressive disorder. Levitt, Lubin, and Brooks (1983), in a review of instruments designed to measure depression, found all of them measure some form of aggression. For example, all studies measure self-devaluation, a form of aggression against the self and six measure irritability and anger.

Empirical research specifically addressing aggression in depression has revealed both the intensity and direction of aggression varies among diagnostic groups. However, while levels of externally-directed aggression (extrapunitive) differed among

diagnostic groups and categories, lessening levels of internally-directed aggression have been associated with clinical improvement of depression. Mayo (1967) found both intropunitiveness and extrapunitiveness decreased in depressed patients with successful treatment; Philip (1971), studying a sample of depressed women, found no changes in extrapunitiveness but only a lessening of intropunitiveness with clinical improvement. Blackburn (1974) reports level of extrapunitiveness varied with diagnosis, with unipolar depressed patients reporting more than bipolar depressed; however, intropunitiveness was not significantly different, and abated with clinical improvement.

A psychodynamic study of aggression in depression was conducted by Kendall (1970). He demonstrated in a cross-cultural study of depression that cultures with few opportunities for expression of aggression show higher levels of depression. Cochrane (1975) used a detailed analysis of projective test material to delineate subjects' handling of aggression, and attempted to assess the ability of three psychodynamic theories of depression to explain obtained patterns of aggression. Among the three theories tested, classical psychoanalytic, Kleinian, and Kendall's, the latter provided the best fit for his data.

Patterns of aggression in depressive feelings have also been studied in normal subjects. Izard (1972), using his Differential Emotions Scale, studied college and high-school students' emotional reactions to depressive experiences. In both samples, after distress (a negative emotion manifested mostly as sadness) depression was most commonly associated with hostility directed inward, fear, fatigue,



guilt, and outwardly-directed hostility. In a sample of ten- and eleven-year-old children with depression as measured by the Children's Depression Inventory, depression was most significantly correlated with inner-directed hostility (Blumberg & Izard, 1985).

Edith Jacobson (1971) presented, within Freud's drive theory and ego psychology, a psychology of mood states in normals, in grief, and depression. She, like Freud, believed depression to be the result of unconscious conflicts concerning aggressive and ambivalent wishes toward the lost object. Her psychology of affects also differentiate between normal and pathological moods.

Mood states occur when there is an excess of tension that cannot be dissipated by other drive discharge methods and involve the attachment of libido to objects. They serve a primitive economic function -- the ego can discharge affects on a great number and variety of objects. In a mood state, certain memories are held onto more strongly, and others are de-emphasized or denied. The mood permits discharge of drive energies; reality-testing also permits the gradual lessening of this mood in favor of more sublimated drive discharges (commonly known as secondary process). In effect, what mood states seem to do is allow the gradual integration of experience and expansion of sublimations.

Impaired ego functioning affects the person's ability to gradually dissipate a mood state through decreased reality testing and inability to develop new sublimations. Severe mood states block the availability of environmental feedback, which is one of the primary factors in the termination of a mood state.

In summary, both Freud and Jacobson distinguish normal sadness from depression. Freud emphasizes the role of unresolved aggression toward what is lost, while Jacobson builds on this assumption, and expands it to include the role of normal mood states and ego functioning in psychic life.

## Research in Stress and Coping in Depression

Both the Lazarus and Billings groups have examined the relationship between coping strategies and depression in community samples, comprising the only studies that attempt to relate these phenomena. Their findings are briefly reviewed below.

Coyne, Aldwin and Lazarus (1981) examined a community sample of 100 subjects over a period of one year in order to assess the relationship between depression and coping strategies. The Hopkins Symptom Checklist was used as a measure of depression, and was administered at the second and tenth months of the study. Those with elevated scores on the HSCL at both administrations were classified as depressed. Coping strategies were assessed monthly by the Ways of Coping Checklist, which lists 68 various coping behaviors (Folkman & Lazarus, 1980). Factor analysis of this scale revealed seven coherent scales: problem-focused, wishful thinking, help-seeking avoidance (mixed coping) growth, minimization of threat, emotional support, and self-blame.

Depressed and nondepressed subjects appraised situations differently: the depressed subjects appraised situations as needing more information, and surprisingly, as requiring less acceptance. Depressed persons used, as coping behaviors, more wishful thinking, seeking of emotional support, and help-seeking/avoidance.

The two groups differed with regard to coping in situations appraised as possible to change — depressed persons did more wishful thinking, help-seeking/avoidance, and more seeking of emotional support. In situations requiring a person to hold back, depressed

persons did more wishful thinking, and help-seeking/avoidance. Differences in situations requiring acceptance or more information were not significant.

In their analysis, Coyne et al. point out that the perceived ineptness of depressed persons in taking action is more of a matter of feeling uncertain rather than helplessness. They also postulate that depressed persons' less frequent use of "must accept" reflects their refusal to accept circumstances that must be withdrawn from -- instead, they seek more information. This concept is consistent with classical psychoanalytic notions of a depressed person as someone who is ambivalent about loss. Depressed persons also perceive people in their environment as less helpful -- depression may interfere with the ability to use social resources.

Billings and his colleagues (Billings, Cronkite, & Moos, 1983; Billings & Moos, 1984) studied 424 depressed persons seeking treatment at various inpatient and outpatient facilities. Subjects had a diagnosis of either major (65.3%) or minor (34.7%) depressive disorder, according to Research Diagnostic (RDC) criteria. A sample of matched nondepressed controls was also obtained. Depression severity at time of interview was assessed using the sum of ratings from items the RDC interview which included depressed mood, endogenous depressive symptoms, and other features.

Correlations revealed a significant negative relationship between use of problem solving and depression level, and a positive relationship between the use of emotional discharge and depression. Some correlations reflect sex differences; information-seeking is only significantly correlated with depression in men, although both

depressed men and women use more information seeking. The authors note that the highest multiple correlation was between depression severity and overall coping responses, possibly indicating a unique association between coping and depression.

## Hypotheses

In the most general sense, these hypotheses constitute a test of Tomkins' (1963) theory and Wortman's (1983) supposition that the ability to feel and bear distressful feelings and cope with them in an effective fashion is a mark of mature functioning. In response to the experience of distress and associated negative emotions generated by stressful events, an individual generates a series of coping responses. This study will attempt to show that the experience of these emotions constitute a necessary precursor to the initiation of coping strategies. The nature of the coping responses selected will be associated with the quality of reported psychological functioning and change promoted by experience with the stressful event.

As stated in the literature review, coping responses can be seen as ego functions. Vaillant (1977) has placed these in a hierarchy and Haan (1977) has categorized them as coping or defending functions. Both these theorists, especially Haan and to a lesser extent, Vaillant, make the assertion that some defenses are more efficient than others; for Haan coping responses more so than defending responses (See Table 1) and for Vaillant, mature defenses more than neurotic or immature ones. Although both differ to some extent on the theoretical justification for their assertions (Haan hypothesizing ego function separate from drive, and Vaillant taking a more traditional psychoanalytic view), they both rate more highly ego defenses which

employ less distortion of self or others and promote adaptive behavior. This study also shares these assumptions.

Three scales from the Indices of Daily Coping (Moos, Cronkite, Billings, & Finney, 1985), Affective Regulation, Problem Solving, and Emotional Discharge, will be used to measure coping responses to affective components of stressful events. In Table 2, Moos and Billings (1982) compare their indices of coping functions to Haan's (1977) coping and defending categories. A similar comparison may also be made between these coping responses and Vaillant's (1977) hierarchy of ego defenses. Affective Regulation and Problem Solving as patterns of coping strategies resemble Vaillant's mature defenses of sublimation, suppression and anticipation and Haan's suppression, sublimation, and tolerance of ambiguity. Emotional Discharge responses can be seen, in Vaillant's system, as representing displacement and acting out, and in Haan's system as representing displacement.

An additional assumption that has been made and tested throughout this study is that inner-directed negative affect exerts more toxic effects than outer-directed negative affect on the ability of the individual to effect efficient coping responses. This can be explained in two ways. As reviewed elsewhere in this proposal, classical psychoanalytic theorists associate inner-directed negative affect specifically with depression, postulating the existence of sadness without depression. These inner-directed negative affects, in response to stressful events, were shown to be most strongly associated with psychological distress by Nelson (1985). However, some psychoanalytic theorists, mainly of the object relations school

(c.f. Zetzel, 1970) hypothesize that all sadness experiences contain guilt, shame, and inner-directed hostility; it is only the degree to which these affects dominate the experience which affects the quality of the depression.

Negative affect subscales from the Differential Emotions Scale-IV (DES-IV) (Blumberg & Izard, 1985) will be used to measure both dimensions of negative affect. Inner-directed negative affect is represented on the DES-IV by the subscales Inner-Directed Hostility, Guilt, and Shame; negative affect not directed toward the self but toward the environment or situation, constitutes the other portion of total negative affect and is measured by the subscales Fear, Anger, and Distress.

1a. Low levels of both inner- and outer-directed negative affect in reaction to stressful events will be associated with low levels of psychological well-being, as well as low levels of psychological distress.

1b. Low levels of total negative affect will be associated with lower levels of positive change as a result of coping with the stressful event.

These hypotheses attempt to expand Nelson's (1985) finding that individuals who distort in reporting negative life events also report low levels of both psychological well-being and distress by linking the low distress/well-being pattern to low emotional reactivity to the stressful event. Nelson felt this pattern to be indicative of a denial response, which also caused deleterious effects on feelings of well-being. Additionally, if the experience of emotional reactions indicates the ability to experience a wider range of affect, then



levels of well-being in individuals who experience negative affect should be higher, given adequate coping responses are made. Consequently, so also the capacity to experience personal change should be associated with the ability to experience these emotions.

These hypotheses will be tested using Pearson product-moment correlation coefficients. Hypothesis 1a will be tested by examination of correlations of levels of inner- and outer-directed negative affect with levels of both psychological distress and well-being. Hypothesis 1b will be tested by examination of the correlation coefficient between total negative affect and positive change. Psychological distress and well-being will be measured by the Psychological Distress and Psychological Well-Being subscales of the Mental Health Inventory (MHI). Total negative affect will be measured by summing the subscale scores Guilt, Shame, Inner-Directed Hostility, Distress, Anger, and Fear from the Differential Emotions Scale-IV (DES-IV).

2a. High proportions of effective coping responses, in interaction with high levels of inner-directed negative affect, will be associated with greater reported psychological well-being, particularly higher quality of interpersonal relationships. This pattern of affect and coping responses will be associated with lower levels of psychological distress but higher levels of anxiety.

2b. Low proportions of effective coping responses, in interaction with high levels of inner-directed negative affect will be associated with lesser reported psychological well-being, particularly poorer quality of interpersonal relationships. This pattern will also be positively associated with level of psychological distress and loss of behavioral and emotional control.

These hypotheses will seek to show that the quality of coping responses directly interacts with the experience of inner-directed negative affect to produce varying effects on psychological well-being. When levels of inner-directed negative emotions are high, and accompanied by efficient coping responses, the interaction of the experience of affect and the ability to cope effectively produces increased levels of psychological well-being; when these high levels of inner-directed affect are accompanied by less-efficient coping responses, psychological distress is higher. In particular, loss of behavioral and emotional control is hypothesized to be specific to inner-directed negative affect. These hypotheses, then, attempt to refine the finding of major stress and coping researchers (Coyne, Aldwin, & Lazarus, 1981; Billings & Moos, 1984) that depression is associated with indirect, less effective forms of coping responses. By showing that this finding only pertains under certain conditions, it will demonstrate that the presence of inner-directed negative affect is necessary but not sufficient to produce high levels of psychological distress.

Elevated anxiety levels in persons undergoing stress have been seen in persons who distort less in the reporting of negative events. Anxiety is also associated with higher levels of well-being (Nelson, 1985). As with hypothesis 1, this hypothesis seeks to test the assertion that this effect extends to reported emotions.

These hypotheses will be tested using hierarchical multiple regression. At the first step inner-directed negative affect, measured using the total score of the subscales Inner-Directed Hostility, Shame and Guilt of the Differential Emotions Scale-IV (DES-IV) will be

entered. At the second step, coping responses measured by using a Coping Efficiency Score comprised of a ratio of half the total responses from the subscales Problem-Solving and Affective Regulation from the Indices of Daily Coping (IDC) over the score from the Emotional Discharge subscale of the same instrument will be added. The final term to be added will be an interaction term comprised of both these variables. Four separate equations will be used, with each variable regressed on the following: psychological distress, measured by the Psychological Distress subscale of the MHI; psychological well-being, as measured by the Psychological Well-Being subscale of the MHI; quality of interpersonal relationships, measured by the Personal Ties subscale of the MHI; and anxiety, measured by the Anxiety subscale of the MHI. The crucial variable in each equation is the interaction term. Confirmation of the hypothesis will be assumed if the interaction term (coping efficiency and negative affect) significantly increases psychological well-being and decreases psychological distress.

2c. Higher levels of coping efficiency will be associated with higher levels of perceived personal change and higher levels of perceived competence.

This hypothesis will be tested using the Pearson product-moment correlation coefficient, with coping efficiency measured as noted above in 2a-b, and change reported will be measured using two questions assessing subjective change and competence constructed for this study (see Methodology section).

3a. High proportions of effective coping responses, in

interaction with high levels of outer-directed negative affect, will be associated with greater reported psychological well-being.

3b. Low proportions of effective coping responses, in interaction with high levels of outer-directed negative affect, will be associated with lesser reported psychological well-being, particularly poorer quality of interpersonal relationships. This coping pattern will also be positively associated with the level of psychological distress.

These two hypotheses are parallel to 2a and 2b, and share some of the same assumptions, with the exception that outer-directed affect is hypothesized to be less deleterious on psychological functioning, especially in terms of behavioral adaptation as measured by loss of behavioral and emotional control. In addition, examination of specific classes of coping strategies may further illuminate differences between the relationships between inner- and outer-directed negative affect and selection of coping responses.

These hypotheses will be tested using the same hierarchical multiple-regression strategy outlined for hypotheses 2a-b. Instead of inner-directed negative affect, outer-directed negative affect will be measured (total score of the subscales Distress, Anger, and Fear of the DES-IV). Two separate equations will be used, with outer-directed negative affect, Coping Efficiency, and an interaction term comprised of both variables regressed upon Psychological Distress and Well-Being subscales, respectively. As with Hypotheses 2a-b, the hypotheses will be assumed to be confirmed if the interaction term to the regression equation adds significantly positively to the prediction of psychological well-being and negatively the prediction of psychological distress.

The following four hypotheses test the assumption that it is inner-directed negative affect has more deleterious effects, in general, on the quality of coping responses:

4a. High levels of Problem-Solving coping will more strongly be associated with lower levels of inner-directed negative affect than outer-directed negative affect.

4b. High levels of Affective Regulation will more strongly be associated with lower levels of outer-directed negative affect than inner-directed negative affect.

These hypotheses will be measured using the Pearson product-moment correlation: first, total score of the subscale Problem-Solving from the IDC with total inner-directed negative affect from the DES-IV and with total outer-directed negative affect from the DES-IV; second, total score of the subscale Affective Regulation from the IDC with total inner-directed negative affect and outer-directed negative affect. Each pair of correlations will be compared using the Fisher z statistic.

5a. Level of quality of emotional ties will be more strongly associated with outer-directed negative affect and coping efficiency than with inner-directed negative affect and coping efficiency.

5b. Level of loss of behavioral and emotional control will be more strongly associated with inner-directed negative affect and coping efficiency than with outer-directed negative affect and coping efficiency.

These hypotheses will be measured using the same multiple regression strategy as in hypothesis 2, with the variables and interaction term regressed onto the Emotional Ties and Loss of

Emotional and Behavioral Control subscales of the MHI. Each pair of multiple correlations will be compared using the Fisher z statistic.

## Methodology

### Sample

The sample consisted of 104 university undergraduates. The 73 females had a mean age of 21.7 years. Sixteen percent were freshmen, 37.5% sophomores, 31.25% juniors, and 16% seniors. The 31 males had a mean age of 21.8 years. Twenty percent were freshmen, 36.6% sophomores, 13.3% juniors, and 30% seniors. They were recruited both through a large undergraduate psychology class and through the psychology subject pool associated with an introductory psychology course.

### Administration of Measures

Each subject was given a packet identified by number. Each packet contained four scales: the Differential Emotions Scale-IV, The Indices of Coping Behavior, Personal Change, and the Mental Health Inventory. They were completed in that order.

Before completing the research scales, subjects first completed a cover sheet which included general instructions and an informed consent form. The second page included identifying information such as sex, age, and class. Each subject was asked to name a stressful event which has occurred in the past two months prior to the month preceding the current date and to write a sentence or two about the circumstances of the event. They then completed the DES-IV, which assesses emotional reactions experienced in the first day after the

event; then, they completed the Indices of Coping Scale, indicating behaviors used in coping with the named stressor; and then, rated degree of personal change and confidence concerning the stressor. Then subjects completed the Mental Health Inventory, which assesses functioning over the past month. These completed forms (minus the informed consent sheet which was handed in separately) were then replaced in the envelope by the subject, sealed, and handed to the experimenter or an assistant. At that point each received a short written statement which explained the purpose of the study, and informed subjects of how they can ask further questions or share concerns about the study. (Appendix A contains copies of the materials given to subjects.)

### Measures

Emotions. To measure emotional reactions, the Differential Emotions Scale-IV (DES-IV) (Blumberg and Izard, 1985, in press) was used. The DES-IV is a 49-item, self-report measure of the following emotions: interest, enjoyment, surprise, sadness, anger, disgust, contempt, fear, shame, shyness, guilt, and inner-directed hostility. Respondents rate how often over a one-day period (immediately following the stressor) they have experienced feelings expressed in items over a scale from 0 (rarely or never) to 5 (very often). It can also be administered as a state measure.

The first version of this scale, the DES, was originally developed to test differential emotions theory (Izard, 1971), which stated that there are fundamental emotions, each with distinct physiological, expressive, and subjective patterns, which humans possess as part of their evolutionary heritage. These emotion



expressions have been cross-culturally studied and validated (Izard, 1971).

The DES-IV is identical to an earlier version of the DES (DES-III) with the exception of the addition of two subscales hypothesized to target patterns of emotions specific to depression (Izard, 1972). The DES-III has been shown to possess reliability and validity in adolescents and college students, and equivalency with the parent DES and DES-II (Izard, Dougherty, Bloxom, & Kotsch, 1974; Kotsch, Gerbing, & Schwartz, 1982).

Complex emotions such as anxiety and depression are hypothesized to be patterns of emotions. The DES has been used to delineate patterns specific to complex emotions (Izard, 1972). In a sample of college students, the following pattern of fundamental emotions were used by subjects to describe depression experiences (listed by order of frequency): distress (later re-named sadness), hostility directed inward (or inner-directed hostility) (combination of anger/disgust/contempt), fear, fatigue, guilt, hostility directed outward (combination of anger/disgust/contempt), surprise, shyness, and joy (Izard, 1972). Further factor analyses have refined these emotion concepts, resulting in the present emotion list (see p. 42). This pattern was significantly different than other patterns elicited by other emotion situations. The DES-IV, which will be used in this study, has been shown to correlate significantly with the Children's Depression Inventory in a sample of older children (Blumberg and Izard, 1985, in press) and with the Depression subscale of the Mental Health Inventory (Nelson, 1985).

Coping behavior. Coping behaviors were assessed by the Indices of Coping Responses, a portion of the Health and Daily Living Form (Moos, Cronkite, Billings, & Finney, 1985). This scale is a revision of an earlier measure (Billings & Moos, 1981). Subjects name a recent stressful event and then rate frequency on a scale from 1 (no) to 4 (yes, fairly often) of the use of 32 coping behaviors. There are five categories of coping responses grouped under three main areas: appraisal-focused (logical analysis), problem-focused (information seeking and problem-solving), and emotion-focused (affective regulation and emotional discharge). These areas were developed both theoretically and by the use of empirical and confirmatory factor analyses (Moos & Billings, 1982). The five subscales will be used for this study.

This scale has been used in assessing coping responses among alcoholic families and depressed outpatients and controls in a large community sample (Billings & Moos, 1981, 1984). These studies have shown differences in coping behavior among these groups, and reflects other researchers' findings (Billings & Moos, 1984).

Personal change. Two questions designed to assess subjective feelings of personal growth and increased competence in dealing with related stressors were asked.

Personality functioning. The Mental Health Inventory (MHI), a 38-item measure of symptoms of psychological distress and well-being, was used to assess personality functioning (Veit & Ware, 1983). This scale, developed using a diverse stratified sample of non-patient community residents from four major population centers reflecting a cross-section of the general population (N=5,089) was designed to not

only measure psychological distress (symptomatology) but indices of well-being also, postulating psychological health as more than the absence of symptoms. The Psychological Well-Being scale contains items targeting the quality of personal relationships, work and optimism about their personal situation. The Psychological Distress variable contains items targeting dysphoric and anxious feelings, social isolation, and pessimism. Respondents are asked to rate on a scale of 1 to 6 items describing various feeling states over the past month. Each item has its own scale anchors which refer to dimensions of frequency, quality, or intensity.

A methodological concern of the use of this scale in this study is the validity of the psychological well-being construct as a measure of psychological health as defined by a psychodynamic model of personality. Although there is widespread agreement as to what constitutes generalized psychological dysfunction, the components of healthy functioning have been less well-defined. Freud considered psychological health as the ability "to love and work;" other psychoanalytic theorists (as cited in an extensive review of the goals of psychoanalytic psychotherapy) define a psychologically mature person as one with the following qualities, among others: the ability to make and enjoy stable relationships with others; to love affectionately and/or romantically and accept love from others; the ability to relax; attenuation of wishes for omnipotence; the capacity for enjoyment and pleasure in work and play; and ability to be curious and enthusiastic about aspects of one's life (McGlashan & Miller, 1982).

The Psychological Well-Being scale of the MHI surveys functioning in three spheres relevant to these qualities: quality of close relationships, affect, and interest/excitement in work and daily life. Items on relationships reflect satisfaction with relationships, feeling loved and wanted, and their fullness and completeness. Affective items track the freedom from anxiety and depression, such as feeling happy, satisfied, and pleased, feeling calm and peaceful, and relaxed and free of tension. Items focusing on work and daily life indicate optimism and interest/investment, for example, generally enjoyed things; daily life interesting; and future hopeful, promising.

Although the MHI was constructed from a psychiatric epidemiology descriptive model, items addressing psychological well-being describe some aspects of healthy functioning noted by psychodynamic theorists as descriptive of mature personality. Although the range of functioning is not as broad as that cited by these theorists, it is considered a sufficient estimate for this study.

This scale was validated using empirical and confirmatory factor-analytic structure (total N=5,089). One, two, and five-factor solutions have been generated for these data, all explaining significant portions of the variance. For this study, the two-factor solution will be used: Psychological Distress, which encompasses the subscales of Depression, Anxiety, and Loss of Behavioral/Emotional Control; and Psychological Well-Being, which is comprised of subscales of General Positive Affect and Emotional Ties. These factors are unipolar and correlated (oblique analyses made the best fit for data). This scale shows high internal consistency and reliability over a one-year period; cross-validation studies showed similarity of factor

structure in the four diverse community populations studied (Veit & Ware, 1983).

## Results

In addition to addressing the formal study hypotheses, this section contains further analyses which will aid in interpretation of the study data. Table 3 presents means and standard deviations for scale scores and provides additional data from other studies using the Mental Health Inventory and the Indices of Daily Coping scales for comparison. Table 4 contains intercorrelations of the study variables, and Table 5 contains individual correlations between specific affects and coping mechanisms. Although no hypotheses addressed gender differences, these have been noted in other studies; therefore, the mean score for each study variable for each gender was compared by t-test. These results are contained in Table 6. No comparison reached significance.

Table 3

MEANS AND STANDARD DEVIATIONS FOR MAJOR VARIABLES  
(N=104)

Variable	Study				Billings & Moos (1983)	
	Sample		Veit & Ware (1983)		Nelson (1985)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
<u>Mental Health Inventory</u>						
Anxiety	17.67	8.18	19.15	6.85	26.54	7.68
Depression	8.23	3.58	8.05	2.97	11.37	4.74
Loss of Behavioral/Emotional Control	13.79	7.87	15.90	5.57	20.97	6.84
Emotional Ties	6.69	2.97	9.08	2.56	7.41	2.52
Well-Being	33.31	12.31	59.16	12.16	33.54	7.74
Distress	39.74	18.42	47.54	15.39	63.97	--
<u>Indices of Daily Coping</u>						
Problem-Solving	7.73	3.32				8.93
Affective Regulation	7.09	3.04				6.90
Emotional Discharge	5.15	2.97				3.24
Coping Efficiency	39.91	31.79				2.40
<u>DES-IV Inner-Directed</u>						
Negative Affect	34.11	17.28				
Outer-Directed						
Negative Affect	22.35	8.32				
Total Affect	56.46	24.19				
Total Perceived Change	9.41	1.74				

Table 4  
INTERCORRELATIONS AMONG VARIABLES USED  
IN MULTIPLE REGRESSION ANALYSES  
(N=104)

Variable	Psychological Well-Being	Emotional Ties	Psychological Distress	Anxiety	Loss Behavioral/ Emotional Control
Inner-Directed Negative Affect	-.34c	-.25c	.44c	.40c	.46c
Outer-Directed Negative Affect	-.34c	-.31c	.41c	.35c	.38c
Coping Efficiency	.03	-.03	.13	.23c	.07
Interaction 1a	-.03	-.03	.22c	.31c	.17d
Interaction 2b	-.04	-.08	.21d	.29c	.14

a Interaction of Inner-Directed Negative Affect and Coping Efficiency

b Interaction of Outer-Directed Negative Affect and Coping Efficiency

c  $p < .01$

d  $p < .05$



Table 5  
INDIVIDUAL CORRELATIONS BETWEEN  
OUTER-DIRECTED NEGATIVE AFFECTS, COPING MECHANISMS,  
COPING EFFICIENCY, AND REPORTED CHANGE  
(N=104)

Variable	Emotional Discharge	Problem Solving	Affective Regulation	Coping Efficiency
Anger	.39a	-.05	-.09	.40c
Fear	.20b	-.02	.04	.12
Sadness	.17b	.07	-.18b	.05
Total Reported Change	-.02	.46a	.22a	.21b

a  $p < .01$

b  $p < .05$

Table 6  
GENDER DIFFERENCES AMONG VARIABLES  
FROM THE PRESENT STUDY  
(N.B.: Scale scores from 0)

Variable	Males Mean	(N=31) S.D.	Females Mean	(N=73) S.D.	p
<u>Mental Health</u>					
<u>Inventory</u>					
Anxiety	16.13	7.50	16.90	8.50	.46
Depression	7.10	3.63	7.30	3.68	.97
Loss of Behavioral/ Emotional Control	10.77	6.66	13.66	8.23	.20
Emotional Ties	5.65	3.31	5.18	2.82	.27
Well-Being	36.74	11.98	33.30	12.63	.77
Distress	37.90	14.88	42.44	18.93	.14
<u>Indices of</u>					
<u>Daily Coping</u>					
Problem-Solving	7.00	3.22	8.04	3.34	.84
Affective Regulation	6.81	2.83	7.21	3.14	.55
Emotional Discharge	4.94	3.14	5.24	2.91	.60
Coping Efficiency	35.68	28.12	41.71	33.25	.31
<u>DES-IV</u>					
Inner-Directed Negative Affect	33.84	15.60	34.23	18.05	.38
Outer-Directed Negative Affect	21.35	7.46	22.77	8.68	.36
Total Perceived Change	9.26	1.65	9.48	1.78	.66

Hypothesis 1a. Low levels of both inner- and outer-directed negative affect in reaction to stressful events will be associated with low levels of psychological well-being, as well as low levels of psychological distress.

As illustrated by Table 7, this hypothesis was partially confirmed. While low levels of negative affect are significantly associated with low levels of psychological distress, the hypothesized relationship between negative affect and psychological well-being was not demonstrated. Instead, a negative relationship between these variables was found.

Hypothesis 1b. Low levels of total negative affect will be associated with lower levels of positive change as a result of coping with the stressful event.

This hypothesis was not confirmed. Total negative affect and positive change are not significantly related, as illustrated by Table 8.

Table 7  
RELATIONSHIP BETWEEN AFFECT AND DISTRESS AND WELL-BEING  
(N=104)

Correlated Variables	r	t <sup>a</sup>	p
1. Inner-Directed Negative Affect and Well-Being	-.34	-3.68	<.01
2. Outer-Directed Negative Affect and Well-Being	-.35	-3.75	<.01
3. Inner-Directed Negative Affect and Distress	.44	4.96	<.01
4. Outer-Directed Negative Affect and Well-Being	.41	4.49	<.01

<sup>a</sup>Student's t statistic, df=102.

Table 8  
RELATIONSHIP BETWEEN TOTAL  
NEGATIVE AFFECT AND POSITIVE CHANGE  
(N=104)

Correlated Variable	r	t <sup>a</sup>	p
Total Negative Affect and Positive Change	-.02	-.24	.41, n.s.

<sup>a</sup>Student's t statistic, df=102

Hypothesis 2a. High proportions of effective coping responses in interaction with high levels of inner-directed negative affect will be associated with greater reported psychological well-being, particularly higher quality of interpersonal relationships. This pattern of affect and coping responses will be associated with lower levels of psychological distress but higher levels of anxiety.

Hypothesis 2b. Low proportions of effective coping responses in interaction with high levels of inner-directed negative affect will be associated with lesser reported psychological well-being, particularly poorer quality of interpersonal relationships. This coping pattern will also be associated with level of psychological distress and loss of behavioral and emotional control.

Tables 9 to 11 display the results of analysis of hypotheses 2a and b. These were partially confirmed. The interaction of coping efficiency and level of inner-directed negative affect as measured by hierarchical multiple regression analysis, is significantly associated with increased levels of psychological well-being ( $B=1.04$ ,  $p<.01$ ) and quality of emotional ties ( $B=1.00$ ,  $p<.01$ ); as well as decreased levels of psychological distress ( $B=-.80$ ,  $p<.01$ ) and loss of behavioral and emotional control ( $B=-.95$ ,  $p<.01$ ). This interaction was not associated with anxiety at a statistically significant level ( $B=-.50$ ,  $p=.08$ ), although the latter approached significance.

These interaction terms function as net suppressors in the regression equations. Zero-order correlations of the interaction term with the dependent variables ranged from .03(Emotional Ties) to .23 (Distress).

Even though the interactions were significant, unless the interactions themselves are in the predicted form, the hypotheses are not confirmed. Table 11 contains slope values of the regression equations at three levels of coping efficiency. Low coping efficiency is associated with a higher correlation between negative affect and psychological well-being and distress. Moderate to high levels of coping efficiency are associated with little change in functioning with increasing levels of inner-directed negative affect. This relationship is reflected by a decreasing slope at higher levels of coping efficiency.

Comparison of the regression of inner-directed negative affect, coping efficiency, and their interaction upon anxiety and distress reveals no statistically significant difference between them ( $z=-1.69$ , n.s.). This does not support the hypothesis that this coping pattern (high levels of negative affect and high coping efficiency) is more associated with anxiety as opposed to distress.

Table 9

MULTIPLE REGRESSION OF PSYCHOLOGICAL WELL-BEING,  
EMOTIONAL TIES, AND PSYCHOLOGICAL DISTRESS  
ON INNER-DIRECTED NEGATIVE AFFECT,  
COPING EFFICIENCY AND THEIR INTERACTION  
(N=104)

Variable	Standardized Beta	t	p
<u>Psychological Well-Being</u>			
Inner-Directed			
Negative Affect	-.79	-5.12	<.01
Coping Efficiency	-.79	-3.06	<.01
Interaction	1.04	3.51	<.01
Multiple R=.47		F=9.23, p<.01	
<u>Emotional Ties</u>			
Inner-Directed			
Negative Affect	-.66	-4.18	<.01
Coping Efficiency	-.88	-3.05	<.01
Interaction	1.00	3.22	<.01
Multiple R=.38		F=6.00, p<.01	
<u>Psychological Distress</u>			
Inner-Directed			
Negative Affect	.77	5.14	<.01
Coping Efficiency	.74	2.95	<.01
Interaction	-.80	-2.76	<.01
Multiple R=.51		F=11.67, p<.01	

Table 10

MULTIPLE REGRESSION OF LOSS OF BEHAVIORAL/EMOTIONAL  
CONTROL ON INNER-DIRECTED NEGATIVE AFFECT,  
COPING EFFICIENCY AND THEIR INTERACTION  
(N=104)

Variable	Standardized Beta	t	p
<u>Loss of Behavioral and Emotional Control</u>			
Inner-Directed			
Negative Affect	.86	5.86	<.01
Coping Efficiency	.80	3.28	<.01
Interaction	-.95	-3.38	<.01
Multiple R=.54		F=13.65, p<.01	
<u>Anxiety</u>			
Inner-Directed			
Negative Affect	.59	3.82	<.01
Coping Efficiency	.60	2.32	<.05
Interaction	-.49	-1.67	.08, n.s.
Multiple R=.47		F=9.26, p<.01	



Table 11

SLOPE OF REGRESSION EQUATIONS FROM TABLE 10  
BY LEVELS OF COPING EFFICIENCY  
(N=104)

Variable	Level of Coping Efficiency	Slope
Well-Being	-1SD	-.52
	Mean	-.19
	+1SD	-.12
Emotional Ties	-1SD	-.09
	Mean	-.03
	+1SD	.03
Distress	-1SD	.75
	Mean	.42
	+1SD	.10
Loss Behavioral/ Emotional Control	-1SD	.31
	Mean	-.01
	+1SD	-.33

Table 12

COMPARISON OF MULTIPLE R FOR ANXIETY AND DISTRESS  
ON INNER-DIRECTED NEGATIVE AFFECT, COPING EFFICIENCY,  
AND THEIR INTERACTION  
(N=104)

Variable	r	z	p
Anxiety	.47		
Distress	.51	-1.69	n.s.

Hypothesis 2c. Higher levels of coping efficiency will be associated with higher levels of perceived personal change and perceived competence.

This hypothesis is confirmed, as illustrated by Table 13. There is a statistically significant positive association between coping efficiency and levels of perceived change.

Table 13

RELATIONSHIP BETWEEN COPING  
EFFICIENCY AND PERCEIVED CHANGE  
(N=104)

Variable	r	t	p
Coping Efficiency and Perceived Change <sup>a</sup>	.21	2.14	.01 <sup>b</sup>

a The original hypothesis called for separate analyses for each measure, but means were non-significantly different by t-test ( $t=.4834$ ,  $df=102$ , n.s.) and therefore combined.

b One-tailed test

Hypothesis 3a. High proportions of effective coping responses in interaction with high levels of outer-directed negative affect, will be associated with greater reported psychological well-being.

Hypothesis 3b. Low proportions of effective coping responses in interaction with high levels of outer-directed negative affect will be associated with lesser reported psychological well-being. This coping pattern will also be positively associated with the level of psychological distress.

As illustrated in Table 14, both sections of this hypothesis are confirmed. The multiple regression analyses for these variables follow the same pattern in Hypotheses 2a and b. The interaction of coping efficiency and outer-directed negative affect is positively associated with psychological well-being ( $B=.99, p<.01$ ) and negatively associated with psychological distress ( $B=-.82, p<.01$ ). As before, these interactions function as suppressor variables. Additionally, these interactions are in the predicted direction. Table 15 illustrates the pattern of slopes for these regression equations.

Table 14

MULTIPLE REGRESSION OF PSYCHOLOGICAL WELL-BEING  
AND PSYCHOLOGICAL DISTRESS  
ON OUTER-DIRECTED NEGATIVE AFFECT,  
COPING EFFICIENCY AND THEIR INTERACTION  
(N=104)

Variable	Standardized Beta	t	p
<hr/>			
<u>Psychological Well-Being</u>			
Outer-Directed			
Negative Affect	-.77	-4.58	<.01
Coping Efficiency	-.74	-2.40	.01
Interaction	.99	2.80	<.01
Multiple R=.44		F=7.93, p<.01	
 <u>Psychological Distress</u>			
Outer-Directed			
Negative Affect	.70	4.48	<.01
Coping Efficiency	.76	2.49	<.05
Interaction	-.83	-2.38	<.05
Multiple R=.46		F=9.07, p<.01	

Table 15

SLOPE OF REGRESSION EQUATIONS FROM TABLE 14  
BY LEVELS OF COPING EFFICIENCY  
(N=104)

Variable	Level of Coping Efficiency	Slope
Well-Being	+1SD	-1.02
	Mean	.70
	+1SD	.38
Distress	-1SD	1.39
	Mean	.75
	+1SD	.12

Hypothesis 4a. High levels of Problem-Solving coping will more strongly be associated with lower levels of inner-directed negative affect than outer-directed negative affect.

Hypothesis 4b. High levels of Affective Regulation will more strongly be associated with lower levels of outer-directed negative affect than inner-directed negative affect.

These hypotheses were not confirmed. Neither Problem-Solving coping nor Affective Regulation were more strongly associated with inner-directed than outer-directed negative affect. The figures are given in Table 16.

Table 16

RELATIONSHIP AMONG AFFECTIVE REGULATION AND  
PROBLEM-SOLVING COPING AND INNER- AND  
OUTER-DIRECTED NEGATIVE AFFECT  
(N=104)

Variables	$r^a$	$z$
Affective Regulation and Inner-Directed Negative Affect	-.10	.71, n.s.
Affective Regulation and Outer-Directed Negative Affect	-.00	
Problem-Solving and Inner-Directed Negative Affect	-.07	-.07, n.s.
Problem-Solving and Outer-Directed Negative Affect	-.06	

<sup>a</sup>All correlations not significant

Hypothesis 5a. Level of quality of emotional ties will be more strongly associated with outer-directed negative affect and coping efficiency than with inner-directed negative affect and coping efficiency.

Hypothesis 5b. Level of loss of control over behavior and emotions will be more strongly associated with inner-directed negative affect and coping efficiency than with outer-directed negative affect and coping efficiency.

Hypothesis 5a was rejected and 5b was confirmed. The regression of level of quality of emotional ties was not more strongly related to outer-directed negative affect. These figures are given in Table 17. However, as Table 18 illustrates, the level of loss of behavioral and emotional control is significantly positively associated with inner-directed negative affect, coping efficiency, and their interaction than with outer-directed negative affect, coping efficiency, and their interaction.



Table 17

COMPARISON OF REGRESSION OF EMOTIONAL TIES ON  
INNER- AND OUTER-DIRECTED NEGATIVE AFFECT,  
COPING EFFICIENCY, AND THEIR INTERACTION  
(N=104)

Variable	R	z	p
Inner-Directed Negative Affect	.38	.00	n.s.
Outer-Directed Negative Affect	.38		

Table 18

COMPARISON OF REGRESSION OF LOSS OF BEHAVIORAL/EMOTIONAL  
CONTROL ON INNER- VS. OUTER-DIRECTED NEGATIVE AFFECT,  
COPING EFFICIENCY, AND THEIR INTERACTION  
(N=104)

Variable	R	z	p
Inner-Directed Negative Affect	.54	3.14	<.01
Outer-Directed Negative Affect	.46		

## Discussion

Before discussing the findings of this study, there are several aspects of the data that merit attention. As noted in Table 1, Nelson's (1985) sample of college students scored markedly higher on the subscales Anxiety, Depression, Loss of Behavioral/Emotional Control and Distress of the MHI than this current sample of college students. Additionally, both Nelson's sample and the present study sample scored comparably on the Well-Being subscale and markedly lower than the Veit and Ware (1983) normative sample. Sample selection may account for these differences.

Nelson's sample consisted of students who experienced at least three moderately stressful events in the six months previous to the study, and reported either a high (21 or over) or low (six or under) stressful events for the prior 18 months. As both the study sample and the Veit and Ware sample were not selected for level of stress, it may be reasonable to assume that Nelson's subjects are more likely to score higher on measures of emotional distress. The second set of discrepancies, between the student samples and the general population sample, may also represent sampling differences. The MHI was designed to measure positive mental health and symptomatology as two overlapping measures of functioning. It may be that Nelson's subjects were more affected by stress in a negative fashion but maintained some level of positive mental health shared by college students in the same

age group. It may be reasonable to speculate (in the absence of age-stratified norms for the MHI) that the general population sample may simply report higher mean levels of this variable.

Of note is also the higher incidence of use of Emotional Discharge coping in the present study sample as opposed to the community residents in the Billings and Moos (1983) study. Again, the age of the sample may account for the difference. Billings and Moos' sample were community residents with an average age of 39.5 while the average age of the subjects in the current study was 21.7. As noted by several authors cited in the literature review (e.g., Offer & Offer, 1969), younger subjects have a tendency to use less mature forms of coping, and this may account for this reported difference.

As illustrated by Table 6, no significant differences related to gender were found, although there were trends toward women reporting significantly more Distress and Loss of Behavioral and Emotional Control. Billings and Moos (1983, 1984) found small but significant gender differences in amount and style of coping among both depressed persons and community controls.

#### General Summary of Findings

The major hypotheses of this study were confirmed: the interaction of high levels of negative affect and mature coping dysfunction and higher levels of positive mental health. Inner-directed negative affective reactions were associated with stronger effects on psychological dysfunction, but not well-being; both inner- and outer-directed negative affect, however, produced the same pattern of effects. This relationship was not a direct one; the hypothesis that

levels of negative affect would be significantly associated with levels of positive mental health was not confirmed. This study, as many others, found negative affective reactions to stressful events significantly associated with lower levels of well-being.

These findings suggest that negative emotional reactions, in conjunction with a preponderance of more mature coping strategies, exert a bidirectional effect on psychological functioning. This is consistent with Chiriboga's (1982) finding in his longitudinal study of adult adaptation that negative events predict both negative and positive events. It is also consistent with Offer and Offer's (1969) finding that maturation in early adulthood is marked by an increased ability to integrate cognitive and affective spheres of behavior, increased ability for emotional expression, and tolerance of depressive affect. Thus there is an implication that psychologically more mature people report the experience of negative affect more often because they have an increased tolerance for it. Although the experience of negative affect adversely affects psychological functioning, efficient coping mechanisms may place an upper (and lower) bound on the effect of negative affect on psychological functioning.

The only exception to this pattern was the prediction of anxiety. The effect of the interaction only approached significance, suggesting that anxiety functions somewhat differently in the stress and coping process. Anxiety may accompany the selection of proportionately more efficient coping mechanisms, as it was the only variable to be significantly correlated with coping efficiency. Nelson (1985) found anxiety to be associated with affective sharpening and increased remembering of stressful events, consistent with the often-reported

effect that moderate amounts of anxiety are associated with increased levels of arousal.

Although the interaction of coping efficiency and reported negative affective reactions to stressful events were significantly related to reported levels of emotional ties, the contribution of this interaction to its prediction was somewhat smaller than for the others. The implications of this are unclear, but a possible explanation concerns the nature of what this scale measures. This scale measures an entity which is related to emotional functioning, but because it is not an emotion in itself, the relationship may be less strong.

No direct evidence was found that denial of affective reactions to stress decreases psychological well-being. This appears to contrast with the findings of Nelson (1985) who found low levels of both psychological well-being and psychological distress associated with more distortion (mostly underreporting) in the recall of stressful events over a period of time. For this study, it was hypothesized that this effect would extend to remembering of emotional reactions as well. Even though the original hypothesis was not confirmed, the finding that the interaction increases psychological well-being implies that low levels of negative affect produce a increase in psychological well-being.

#### Affect and Coping

The results of this study imply that the influence of affect on selection of mature coping mechanisms may be an indirect one. Contrary to prediction, reported total negative affect was not significantly related to coping efficiency or individual mature coping mechanisms. Additionally, the hypothesized positive association between reported negative affect and total perceived change through experience with the

stressor was not confirmed. Examination of individual correlations, however, revealed significant relationships between emotional discharge and outer-directed emotions, and between coping efficiency and anger and total perceived change. It would appear that selection of mature coping mechanisms in normal populations is more related to specifics of the event and desired outcomes as opposed to a direct reaction to the affect generated by the stressful event. The finding that type of coping is related to type of event has been reported elsewhere (c.f. Coyne, Aldwin, & Lazarus, 1981). In this study, both problem-solving and affective regulation were more strongly related to perceived change than coping efficiency. Less adaptive coping mechanisms, however, may be more directly related to negative affect. The nature of the positive relationship between coping efficiency and outer-directed negative affect is less obvious, but a possible explanation may be that level of coping efficiency may also reflect the amount of stress generated by an event. Other investigators (Billings & Moos, 1984) suggest that total numbers of coping responses, both mature and less mature, are positively correlated with level of stress. In Vaillant's study of adult men, even the healthiest still used about equal numbers of "neurotic" and "mature" defense mechanisms.

The finding that only outer-directed emotion was predictive of emotional discharge responses raises questions about the usefulness of the theoretical division of negative affect into outer- and inner-directed when examining the relationship between affect and coping. The original division of affects into categories was prompted by both traditional psychoanalytic theory, which identifies

self-focused negative affect, reflecting a loss of self-esteem, as the major affect of depression, as well as Nelson's (1985) finding that high levels of inner-directed negative affect were most related to psychological distress. The latter was also confirmed by this study. However, emotional discharge, which was found to be significantly associated with depression in a clinical sample (Billings & Moos, 1983, 1984) was associated in the present study with an outer-directed negative affect. This suggests that outer-directed negative affect may be a part of affective disorder as well. Both sets of results, however, imply that inner-directed negative affective reactions predict psychological dysfunction and coping responses associated with it; they predict positive reactions far less well.

#### Negative Affective Reactions and Affect Theory

A possible explanation for the mechanism by which the level of negative affective reactions aids adjustment is provided by affect theory (Tomkins, 1963). This theory holds that affect is the primary motivator for behavior. An individual in distress, is uncomfortable and motivated to generate solutions to the distressful situation, but not so disabled as to make affect reduction the immediate task. If the individual has a history in which displays of distress were punished, distress may also become bound to more intense negative emotions, such as fear or anger, and may require more immediate attention. To the extent to which the distress is tolerable (and not excessively contaminated by more toxic negative affects) problems can be solved in accordance with reality demands. Thus, efficient coping mechanisms

may be motivated by the presence of negative affect, but the needs of the situation dictate the specific mechanisms.

#### Comparison with the Billings and Moos Studies

Both the Billings and Moos studies (1983, 1984) and the present study found depression to be associated with emotional discharge coping. In contrast to this study, however, the Billings and Moos studies found that nondepressed community controls used more logical analysis, problem solving, and affective regulation. In their depressed sample, use of problem-solving was negatively correlated with level of depression. For men, information-seeking was positively correlated with depression. Affective regulation was negatively related to depression, but only for women.

There are several factors that may account for these discrepant findings. First, the sample used was a clinically depressed sample. These individuals constitute a more homogeneous group in which characteristic coping strategies may be more similar than in either the study sample or community residents.

Second, gender differences may account for the lack of significant findings. The Billings and Moos studies found gender differences in their depressed sample among levels of information-seeking coping and emotional discharge. (Gender differences were not analyzed in the community control sample.) The present sample may have been too small to detect any existing gender differences.

The third factor may have been the disparity in age between the Billings and Moos community control sample and the study sample. The former used more problem-solving and less emotional discharge than the latter. As noted previously, emotional and defensive functioning in



adolescents and young adults have been found to be less mature. Coping repertoires may differ between age groups not only in magnitude but in how they are used. An older sample of people may be more systematic in their use of adaptive coping strategies.

#### Implications for Ego Function Models of Stress and Coping

In the general sense, the study findings are additional evidence for both Haan's and Vaillant's findings that mature coping functions (mature ego defenses) are associated with better adjustment. In this study, predominant use of these defenses, in combination with experience of negative affect generated by the stressor, were associated with increased well-being, decreased distress, and greater levels of perceived change as a result of interacting with the stressor. The finding that mature coping functions were not associated with level of negative affect is more in line with Haan's theory that mature ego functions are not compromise functions between drives and reality, assuming that affective reactions have some parallel with drive demands. However, another finding of this study was that coping efficiency was significantly correlated with level of anxiety, which would indicate the presence of intrapsychic conflict. If mature coping functions were largely removed from intrapsychic conflict, as Haan postulates, anxiety would be unrelated to coping efficiency. Although such a supposition would be clearly speculative, the results of this study appear to more support Vaillant's notion of ego defenses in coping rather than Haan's.

## Psychoanalytic Theories of Mood State and Change

Paper and pencil inventories are not appropriate for the formal study of psychoanalytic concepts. They do not capture the subtlety and complexity of human personality available through projective tests or in the consulting room; hence the following comments are purely speculative. However, certain psychoanalytic concepts guided the development of some of the ideas for this study, and the study results seem consonant with them. The first is Jacobson's (1971) theory of affect and mood states. Affects arise out of conflict between and within psychic structures; mood states occur whenever ego defenses have been temporarily outstripped. In normal persons, ego functioning should be flexible enough to permit a change in mood to take place (permitting some awareness of conflict) but strong enough to permit the gradual resolution of the mood by re-establishing psychic equilibrium. In that sense ego defenses provide both a basement and a ceiling for the experience of affect. They allow for the gradual integration of new experience.

The second theory that guided some of the basic premises of this study is object relations theory. In this model, the experiencing of depression is basically a result of psychological development. Psychic trauma produces two kinds of depressive reactions. In individuals for whom self-esteem is not dependent upon the absence of anxiety, depression is a temporary, reversible and eventually integrated phenomenon. In those for whom self-esteem is dependent upon an anxiety-free state and a omnipotent self-image, depression is unbearable. Trauma produces a search for external solutions, which blocks self-examination and acceptance of the limits imposed by

reality. Thus, the capacity to bear depression is linked with empathy and capacity for self-reflection on one's own behavior and motives, and maintenance of self in the face of these realizations (Zetzel, 1970).

The bidirectional effect of negative affect seems to be a reflection of these phenomena. Negative affective reactions may produce temporary regressions in functioning, but with even minimally adequate coping skills, stressful events become opportunities for growth. It appears, then, that negative affective reactions are not always cause for concern but appear to be a necessary part of the process of coping with stress.

#### Further Research

Several areas for further research are suggested by this study. A sample of sufficient size to study men and women separately would be desirable. Although gender differences found in related cited studies were rather small, they were consistent, and it is reasonable to speculate these differences would show up in the experience of affect in the coping process. In this vein, given the disparity between coping styles of the college-age sample and the Billings and Moos community sample, studies which stratify these variables by both age and gender should be conducted. Their study should address individual affective reactions, including positive affective reactions to the stressor, such as interest, and their effect on subsequent functioning. Studying the effect of anxiety on coping may further define anxiety's relation to coping efficacy, as it appears to be directly associated with selection of mature coping strategies. Coping efficiency may be better addressed by including all Billings and Moos' coping strategies in a single ratio.

**APPENDIX A**  
**MENTAL HEALTH INVENTORY**

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MHI

These next questions are about how you feel, and how things have been with you mostly WITHIN THE PAST MONTH.

For each question please circle on this form and place on your answer sheet beginning with number 85 the ONE ANSWER that comes CLOSEST to the way you are feeling.

Begin with number 85 on the answer sheet.

85. How happy, satisfied, or pleased have you been with your personal life last month?

- 1 -- Extremely happy, could not have been more satisfied or pleased
- 2 -- Very happy most of the time
- 3 -- Generally satisfied, pleased
- 4 -- Sometimes fairly satisfied, sometimes fairly unhappy
- 5 -- Generally dissatisfied, unhappy
- 6 -- Very dissatisfied, unhappy most of the time

86. How much of the time have you felt lonely during the past month?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

87. How often did you become nervous or jumpy when faced with excitement or unexpected situations during the past month?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

88. During the past month, how much of the time have you felt that the future looks hopeful and promising?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

89. How often do you eat too much?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

90. How much of the time, during the past month, has your daily life been full of things that were interesting to you?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

91. How much of the time, during the past month, did you feel relaxed and free of tension?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

92. During the past month, how much of the time have you generally enjoyed the things you do?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

93. During the past month, have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel, or of your memory?

- 1 -- No, not at all
- 2 -- Maybe a little
- 3 -- Yes, but not enough to be concerned or worried about it
- 4 -- Yes, and I have been a little concerned
- 5 -- Yes, and I am quite concerned
- 6 -- Yes, and I am very much concerned about it

94. In general, would you say your morals have been above reproach?

- 1 -- Yes, definitely
- 2 -- Yes, probably
- 3 -- I don't know
- 4 -- Probably not
- 5 -- Definitely not

95. Did you feel depressed during the past month?

- 1 -- Yes, to the point that I did not care about anything for days at a time
- 2 -- Yes, very depressed almost every day
- 3 -- Yes, quite depressed several times
- 4 -- Yes, a little depressed now and then
- 5 -- No, never felt depressed at all

96. During the past month, how much of the time have you felt loved and wanted?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

97. How much of the time, during the past month, have you been a very nervous person?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

98. When you got up in the morning, this past month, about how often did you expect to have an interesting day?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never



99. How often have there been times in your life when you felt you acted like a coward?

- 1 -- Very often
- 2 -- Fairly often
- 3 -- Sometimes
- 4 -- Almost never
- 5 -- Never

100. During the past month, how much of the time have you felt tense or "high-strung"?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

101. During the past month, have you been in firm control of your behavior, thoughts, emotions, feelings?

- 1 -- Yes, very definitely
- 2 -- Yes, for the most part
- 3 -- Yes, I guess so
- 4 -- No, not too well
- 5 -- No, and I am somewhat disturbed
- 6 -- No, and I am very disturbed

102. During the past month, how often did your hands shake when you tried to do something?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

103. During the past month, how often did you feel that you had nothing to look forward to?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

104. Would you say that you give every penny to charity?

- 1 -- Yes, definitely
- 2 -- Yes, for the most part
- 3 -- Yes, I try
- 4 -- No

105. How much of the time, during the past month, have you felt calm and peaceful?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

106. How much of the time, during the past month, have you felt emotionally stable?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

107. How much of the time, during the past month, have you felt downhearted and blue?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

108. How often have you felt like crying, during the past month?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

109. In choosing your friends, how important to you are things like their race, their religion, or their political beliefs?

- 1 -- Always very important
- 2 -- Almost always important
- 3 -- Usually important
- 4 -- Not too important
- 5 -- Hardly ever important
- 6 -- Not important at all

110. During the past month, how often did you feel that others would be better off if you were dead?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

111. How much of the time, during the past month, were you able to relax without difficulty?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

112. During the past month, how much of the time did you feel that your love relationships, loving and being loved, were full and complete?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

113. How often, during the past month, did you feel that nothing turned out for you the way you wanted it to?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

114. How much have you been bothered by nervousness, or your "nerves", this past month?

- 1 -- Extremely so, to the point where I could not take care of things
- 2 -- Very much bothered
- 3 -- Bothered quite a bit by nerves
- 4 -- Bothered some, enough to notice
- 5 -- Bothered just a little by nerves
- 6 -- Not bothered at all by this

115. During the past month, how much of the time has living been a wonderful adventure for you?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

116. If it is more convenient for you to do so, how often will you tell a lie?

- 1 -- Very often tell a lie
- 2 -- Fairly often
- 3 -- Sometimes tell a lie
- 4 -- Almost never
- 5 -- Never tell a lie

117. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

118. During the past month, did you ever think about taking your own life?

- 1 -- Yes, very often
- 2 -- Yes, fairly often
- 3 -- Yes, a couple of times
- 4 -- Yes, at one time
- 5 -- No, never

119. During the past month, how much of the time have you felt restless, fidgety, or impatient?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

120. How often have you done anything of a sexual nature that society does not approve of?

- 1 -- Very often
- 2 -- Fairly often
- 3 -- Sometimes
- 4 -- Almost never
- 5 -- Never

121. During the past month, have you been anxious or worried?

- 1 -- Yes, extremely so, to the point of being sick or almost sick
- 2 -- Yes, very much so
- 3 -- Yes, quite a bit
- 4 -- Yes, some enough to bother me
- 5 -- Yes, a little bit
- 6 -- No, not at all

122. During the past month, how much of the time were you a happy person?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

123. How often during the past month did you find yourself having difficulty trying to calm down?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

124. During the past month, how much of the time have you been in very low spirits?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

125. During the past month, how much of the time have you been moody or brooded about things?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

126. How much of the time, during the past month, have you felt cheerful, light-hearted?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

127. During the past month, how often did you get rattled, upset, or flustered?

- 1 -- Always
- 2 -- Very often
- 3 -- Fairly often
- 4 -- Sometimes
- 5 -- Almost never
- 6 -- Never

128. Are your table manners at home just as good as they are when you are invited out to dinner?

- 1 -- Yes, just as good
- 2 -- Yes, with rare exceptions
- 3 -- Yes, usually just as good
- 4 -- No, usually worse at home
- 5 -- No, quite a bit worse at home
- 6 -- No very bad at home

129. How often, during the past month, have you been waking up feeling fresh and rested?

- 1 -- All of the time
- 2 -- Most of the time
- 3 -- A good bit of the time
- 4 -- Some of the time
- 5 -- A little of the time
- 6 -- None of the time

130. During the past month, have you been under or felt you were under any strain, stress, or pressure?

- 1 -- Yes, almost more than I could stand or bear
- 2 -- Yes, quite a bit of pressure
- 3 -- Yes, some, more than usual
- 4 -- Yes, some, but about normal
- 5 -- Yes, a little bit
- 6 -- No, not at all

## REACTIONS TO SIGNIFICANT EVENTS STUDY

Thank you for agreeing to participate in this study!

Below, there is a form indicating your consent to participate in the study. Please read, sign, and date this form, and hand it in when asked to do so, separate from your packet.

After you complete the informed consent form, please complete the following forms in the order in which they are placed. Before you begin, place your respondent number (listed in the upper right-hand corner of your envelope) in the space on the answer sheets named "Student Number". Please be sure to mark the answers on both the computer answer sheet as well as on the form itself. Do not go to the next form until you have completed the one before it. When you are finished, please place the forms and the answer sheet back in the envelope and hand it to one of the experimenters, who will then hand you a sheet further explaining the purpose of the study, and where you may ask questions or seek further information about this study. If you have any questions now, please raise your hand and someone will come to your desk to answer your question. Again, thank you for your participation!

### INFORMED CONSENT

I freely consent to participate in the study entitled: Reactions to Stressful Events. I understand that I will be asked to complete several questionnaires about my reactions to a specific event which I will describe, and my feelings at present. I understand these questionnaires have been administered to others without adverse effects. I understand that I may discontinue my participation in this study without penalty at any time.

I understand that my answers are completely confidential and that I will remain anonymous, and are identified by code number only. Within these restrictions, I understand that the results of this study will be made available to me if I so wish. After I complete and return the questionnaires, I will receive a sheet explaining the nature and purpose of this study. I understand if I have any questions I may contact M. Janice Gutfreund (355-9564) or Norman Abeles, Ph.D. (355-9564).

Signature \_\_\_\_\_

Date \_\_\_\_\_



Respondent # \_\_\_\_\_

In order that your answers may be better compared with those of others, please complete the following identification information. Do not place your name anywhere on these forms (except for your signature on the informed consent form).

Sex \_\_\_\_\_

Age \_\_\_\_\_

Class \_\_\_\_\_

Grade Point Average \_\_\_\_\_

\* \* \* \* \*

As you already know, college can be difficult sometimes, and things happen which cause stress in your life. Please take a minute and recall a stressful event that happened to you in the two months prior to last month. It can be of any nature, involving school, parents, or relationships. When you have remembered an event, please write down a sentence or two about what the situation was.

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Please circle how long ago (in weeks) this event happened:

5      6      7      8      9      10      11      12

## DES-IV

Take a minute now to think about how you felt right after you became aware of the stressful situation you just mentioned. In the first day or so after the stressful event, please indicate how often you would:

	Rarely or Never	Hardly Ever	Sometimes	Often	Very Often
1. Feel regret, sorry about something you did	1	2	3	4	5
2. Feel sheepish, like you do not want to be seen	1	2	3	4	5
3. Feel glad about something	1	2	3	4	5
4. Feel like something stinks, puts a bad taste in your mouth	1	2	3	4	5
5. Feel you can't stand yourself	1	2	3	4	5
6. Feel embarrassed when anybody sees you make a mistake	1	2	3	4	5
7. Feel unhappy, blue, downhearted	1	2	3	4	5
8. Feel surprised, like when something suddenly happens you had no idea would happen	1	2	3	4	5
9. Feel like you are blushing	1	2	3	4	5
10. Feel like somebody is a low-life, not worth the time of day	1	2	3	4	5
11. Feel like you are not worth anything	1	2	3	4	5
12. Feel shy, like you want to hide	1	2	3	4	5
13. Feel like what you're doing or watching is interesting	1	2	3	4	5
14. Feel scared, uneasy, like something might harm you	1	2	3	4	5
15. Feel mad at somebody	1	2	3	4	5
16. Feel mad at yourself	1	2	3	4	5

In the first day or so after the stressful event, how often did you:

	Rarely or Never	Hardly Ever	Sometimes	Often	Very Often
17. Feel ashamed because you do not know what to do	1	2	3	4	5
18. Feel happy	1	2	3	4	5
19. Feel like somebody is a "good-for-nothing"	1	2	3	4	5
20. Feel you are a "good-for-nothing"	1	2	3	4	5
21. Feel like someone made you look like a fool	1	2	3	4	5
22. Feel so interested in what you're doing that you're caught up in it	1	2	3	4	5
23. Feel amazed, like you can't believe what's happened, it was so unusual	1	2	3	4	5
24. Feel fearful, like you're in danger, very tense	1	2	3	4	5
25. Feel like you are dumb	1	2	3	4	5
26. Feel like screaming at somebody or or banging on something	1	2	3	4	5
27. Feel sad and gloomy, almost like crying	1	2	3	4	5
28. Feel like you did something wrong	1	2	3	4	5
29. Feel bashful, embarrassed	1	2	3	4	5
30. Feel disgusted, like something is sickening	1	2	3	4	5
31. Feel joyful, like everything is going your way, everything is rosy	1	2	3	4	5
32. Feel like people laugh at you	1	2	3	4	5
33. Feel like things are so rotten they could make you sick	1	2	3	4	5

In the first day or so after the stressful event, how often did you:

	Rarely or Never	Hardly Ever	Sometimes	Often	Very Often
34. Feel sick about yourself	1	2	3	4	5
35. Feel worried about the way you look	1	2	3	4	5
36. Feel like you are better than somebody	1	2	3	4	5
37. Feel you are no good, a nobody	1	2	3	4	5
38. Feel like you ought to be blamed for something	1	2	3	4	5
39. Feel like whatever you do will will not be very good	1	2	3	4	5
40. Feel the way you do when something unexpected happens	1	2	3	4	5
41. Feel alert, curious, kind of excited about something	1	2	3	4	5
42. Feel angry, irritated, annoyed with somebody	1	2	3	4	5
43. Feel angry and annoyed with yourself	1	2	3	4	5
44. Feel like you cannot say what you want to say as well as others	1	2	3	4	5
45. Feel discouraged, like you can't make it, nothing's going right	1	2	3	4	5
46. Feel ashamed, like you want to disappear	1	2	3	4	5
47. Feel afraid	1	2	3	4	5
48. Feel like people always look at you when anything goes wrong	1	2	3	4	5
49. Feel lonely	1	2	3	4	5

## IDC

You have just described your emotional reactions in the first day or so following the stressful event. Below is a list of things people sometimes do when they are confronted with a stressful situation. Please indicate what and how often, in general, you did the following in response to this event:

Be sure to start marking your answer sheet at item number 50.

	<u>No</u>	<u>Yes, once or twice</u>	<u>Yes, some- times</u>	<u>Yes, fairly often</u>
50. Tried to find out more about the situation	1	2	3	4
51. Talked with spouse or other relative about the problem	1	2	3	4
52. Talked with friend about the problem	1	2	3	4
53. Talked with professional person (e.g., doctor, lawyer, clergy)	1	2	3	4
54. Prayed for guidance and/or strength	1	2	3	4
55. Prepared for the worst	1	2	3	4
56. Didn't worry about it. Figured everything would probably work out	1	2	3	4
57. Took it out on other people when I felt angry or depressed	1	2	3	4
58. Tried to see the positive side of the situation	1	2	3	4
59. Got busy with other things to keep my mind off the problem	1	2	3	4
60. Made a plan of action and followed it	1	2	3	4
61. Considered several alternatives for handling the problem	1	2	3	4
62. Drew on my past experiences; I was in a similar situation before	1	2	3	4
63. Kept my feelings to myself	1	2	3	4
64. Took things a day at a time, one step at a time	1	2	3	4

	<u>No</u>	<u>Yes, once or twice</u>	<u>Yes, some- times</u>	<u>Yes, fairly often</u>
65. Tried to step back from the situation and be more objective	1	2	3	4
66. Went over the situation in my mind to try to understand it	1	2	3	4
67. Tried not to act too hastily or follow my first hunch	1	2	3	4
68. Told myself things that helped me feel better	1	2	3	4
69. Got away from things for a while	1	2	3	4
70. I knew what had to be done and tried harder to make things work	1	2	3	4
71. Avoided being with people in general	1	2	3	4
72. Made a promise to myself that things would be different next time	1	2	3	4
73. Refused to believe that it happened	1	2	3	4
74. Accepted it; nothing could be done	1	2	3	4
75. Let my feelings out somehow	1	2	3	4
76. Sought help from persons or groups with similar experiences	1	2	3	4
77. Bargained or compromised to get something positive from the situation	1	2	3	4
Tried to reduce tension by:				
78. drinking more	1	2	3	4
79. eating more	1	2	3	4
80. smoking more	1	2	3	4
81. exercising more	1	2	3	4
82. taking more tranquilizing drugs	1	2	3	4

Respondent # \_\_\_\_\_

OCE

Going through a stressful event sometimes changes the way one feels about encountering the same event in the future.

Begin marking your answer sheet at question 83.

83. How has coping with this stressful event changed your sense about your ability to cope with a similar situation in the future?

1	2	3	4	5	6	7
Much less able			No change			Much more able

84. How has coping with this stressful event been a source of personal change and growth for you?

1	2	3	4	5	6	7
Change for the worse			No change			Change for the better

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