Selected Factors Contributing to Depression Among Women.

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by
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# TABLE OF CONTENTS

Acknowledgments ...................................................................................................................... ii
Abstract .................................................................................................................................. viii

Introduction .................................................................................................................. 1
  Epidemiological Research ..................................................................................... 2
  Response Bias Hypotheses ................................................................................. 4
  Societal Reaction Perspective Hypothesis .............................................................. 5
  Definitions (of depression) ..................................................................................... 8

Biologically based theories of depression ................................................................. 10
  Genetic Linkage theories ................................................................................... 10
  Menstruation and premenstrual syndrome ....................................................... 11
  Pregnancy, childbirth and postpartum depression ........................................ 13
  Oral contraceptive use ....................................................................................... 14
  Menopause ............................................................................................................ 15
  Critique of biological approach ........................................................................ 16

Psychoanalytical theories of Depression ................................................................. 16
  Critique of Psychoanalytical theories .................................................................. 18

Behavioral Theory .......................................................................................................... 18
  Social Status Hypothesis ................................................................................ 19
  The Role of the Housewife .................................................................................. 22
  Working Women ................................................................................................... 22

Cognitive Theory ............................................................................................................ 23
  Cognitive Triad ...................................................................................................... 23
  Schema ................................................................................................................ 24
  Systematic errors ................................................................................................. 24

Empirical support for the cognitive theory ................................................................. 25
  Low self-esteem component ............................................................................... 25
  Helplessness component ..................................................................................... 27
  Hopelessness component .................................................................................... 28

Present Investigation ....................................................................................................... 31

Method ............................................................................................................................... 33
  Subjects ................................................................................................................ 33
  Instruments .......................................................................................................... 34
    MMPI .................................................................................................................. 34
    Beck Depression Inventory ............................................................................. 36
    Personal Attributes Questionaire ................................................................. 36
    Texas Social Behavior Inventory .................................................................. 38
    Internal, Powerful Others and Chance Scale ........................................... 39
    Hopelessness Scale ......................................................................................... 40

Procedure .................................................................................................................... 41
Results ....................................................................................................................... 43
Discussion .................................................................................................................. 47
References .................................................................................................................... 56
Abstract

It has been a consistent epidemiological finding that women are more prone to develop symptoms of depression than men. The present investigation examines women's greater vulnerability to depression in terms of Beck's cognitive theory of depression. Sixty women were divided into a depressed group and a non-depressed group on the basis of criteria scores on Scale 2 of the MMPI and on the Beck Depression Inventory. The groups did not differ significantly in age, education or employment status. Each subject was administered the MMPI, the Beck Depression Inventory (BDI), the Hopelessness Scale, the Personal Attributes Questionaire (PAQ), and Levenson's Internal, Powerful Others and Chance Scale. Five primary hypotheses were examined.

Results strongly supported Beck's cognitive theory of depression in that the depressed women displayed significantly more helplessness, more hopelessness, and lower self-esteem that the non-depressed group. These hypotheses were tested using the one-tailed t-tests. Furthermore, as predicted, more of the feminine sex-typed women displayed lower self-esteem. The relationship of sex-role to depression was more ambiguous. This appears to be the result of the Personal Attributes Questionaire's focus upon measuring only positive attributes of either sex. Such a focus fails to examine the effects of the possible negative aspects of sex types. The present investigation found that for women, displaying a feminine sex-type as defined by possession of positive feminine traits was not associated with higher rates of depression. An important implication is that current sex-type instruments which neglect possible negative sex-type attributes, appear to offer an incomplete assessment of sex roles which realistically are a complex blend of positive and negative traits. Theoretical and treatment implications of these findings are discussed.
Introduction

Depression has been estimated to be the most frequently treated psychiatric disorder in outpatient settings (Beck, 1967). Results of epidemiological investigations have shown consistently that more women than men are classified as being clinically depressed in a ratio of approximately two women for every man. These studies have included various age groups and nationalities. They have been conducted among people in the general community as well as among both outpatients and inpatients in treatment for depression (Hirschfield and Cross, 1982; Rosenfield, 1980; Weissman and Klerman, 1979, 1977; Brown and Harris, 1978; Kaplan, 1977; Williams, 1977; Brown, Bhrolchain and Harris, 1975; Beck and Greenburg, 1975; Radloff, 1975; Gove and Tudor, 1973; Chesler, 1972; Gove, 1972; Silverman, 1968; Jaco, 1960).

In general, more women have been in treatment for all emotional disorders than men. Russo and Sobel (1981) found that 52% of the patients in America mental health centers were female, 57% of the patients in private outpatient mental health clinics and 55% of the patients in general hospital psychiatric units. When patients under the age 18 are excluded, the figures are even higher, with 60% of the white patients being female.

Craig and Van Natta (1979) examined a large scale community sample from Washington County, Maryland (N=1,672) as well as inpatients at a private psychiatric hospital for depressive symptoms. Women had higher prevalence rates for depressive symptoms including: poor concentration, restless sleep, apathy and low motivation, feeling bothered, feeling blue, feeling depressed, feeling fearful, feeling lonely, having crying spells and feeling sad.

Clinical depression has been estimated to effect between 19 to 20 million people in the United States at any given time (Dohrenwend, Dohrenwend, Gould, Links, Neugebauer and Wunsch-Hitzig, 1980; Levit and Lubin, 1975). The DSM-III (1980) reported that studies conducted among American and European adults indicated that
approximately 18 to 23 per cent of females and 8 to 11 per cent of males have experienced a major depressive episode at some time in their lives. Six per cent of the females and three per cent of the males were depressed to a degree which required hospitalization. However, estimates based upon people who seek treatment for depression have appeared to be serious underestimations of the actual incidence of affective disorders. Lehman (1971) has estimated that only one in five persons with a clinically significant degree of depression are treated professionally, whereas only one in 50 depressed persons are hospitalized.

Suicide is a frequent risk among seriously depressed people. It is estimated that one in 200 depressed people actually commit suicide with the majority of attempts being made by younger women, although older men are more likely to die from their attempts because of choosing more lethal methods that women. However, Weissman (1974) reported that completed suicides among women have been on the rise during the last decade, particularly among married women.

Epidemiological research: To illustrate the methodology and results, two representative studies are reviewed here. Brown and Harris (1978) conducted a large scale epidemiological study of women in Camberwall, England, a suburb of London. They included a random sample of women from the community, outpatients, and inpatients in their study. The results indicated that working class women were at greater risk for depressive episodes than were middle-class women. Twenty-five per cent of the working class sample were classified as depressed, whereas only five per cent of the middle class sample were classified as depressed. Most of the variance could be accounted for by the working class women having a greater probability than middle class women of having one of three factors identified as increasing their vulnerability to depression. These three factors were: (1) three or more children under the age of 14 living at home, with mothers of preschool age children being at particular risk; (2) death of the subject's mother prior to age 12; (3) lack of
significant relationships which provided the opportunity for confiding problems.

Kaplan (1977) reported similar vulnerability factors in a general community survey conducted in Houston, Texas. He found that depression for white females was associated with the following: being between the ages of 30 to 39; having been raised on a farm with a lower standard of living in the family of origin than most of their neighbors, and the family of origin being described as lacking in close relationships.

Although the epidemiological studies provide the best estimates of the incidence of depression, they do have limitations in their designs. There has been general disagreement about what criteria to use in defining a "case". Depression has been considered a syndrome, a symptom or a transient mood. Many of the questionnaires which have been used to classify subjects as depressed have not been adequately standardized for reliability and validity. Furthermore, other studies have used the procedure of classification through an unstructured psychiatric interview despite the evidence of poor interrater reliability of traditional unstructured diagnostic interviews and psychiatric nomenclature (Dohrenwend, Dohrenwend, Gould, Link, Neugebauer, and Wunsch-Hitzig, 1980).

Another difficulty has been that some studies have only examined depressed people who are in treatment. While this sample has been generally more accessible to researchers, this group is likely to represent a skewed sample since only about 25 percent of the people with affective disorders have been estimated to seek professional help of any kind (Veroff, 1981). Yet, the alternative method of sampling from the general community always has been expensive and quite time-consuming. In community samples, there have been questions about the sampling procedures and thoroughness of data collection as well. However, epidemiological studies have been the best estimate available of the incidence of depression, despite their limitations.

Although there have been consistent findings that more women than men are depressed, some investigators have denied that there is an actual sex difference in
incidence of depression. Two main lines of reasoning have been used to explain this difference as spurious. Before examining theories of why women are more vulnerable to depression, it is necessary to establish that this difference actually exists.

Response-bias Hypothesis: This theory has proposed that the greater incidence of affective disorders among women is actually a statistical artifact stemming from women's greater willingness to admit their emotional distress and express their symptoms than men display. Therefore, women have been more likely to receive the diagnosis of a depressive disorder (Garai, 1970; Phillips and Segal, 1969; Blumenthal, 1967). Clancy and Gove (1974) tested this theory by examining three sources of response-bias: (1) yea or nea saying, the tendency of a respondent to agree or disagree with questions in general regardless of their content; (2) trait desirability, the extent a respondent's answers reflect the social desirability of a particular quality; (3) social desirability, the need to respond to questions in a socially-sanctioned manner. When these sources of bias were controlled in the respondents' answers, the number of symptoms acknowledged by women actually increased. No sex differences were found in regard to desirability of psychiatric symptoms nor in the need for answering in a socially approved way. These results were contradictory to the predictions from the response bias hypothesis.

Amenson and Lewinson (1981) tested the artifact hypothesis to see if women are more likely than men to label themselves as depressed when there were equivalent levels of symptoms. Their results indicated no differences in self-labeling or treatment seeking between men and women reporting equal levels of symptoms. Actually, women who were diagnosed as depressed by interviewers less frequently labeled themselves as depressed than men who were diagnosed as depressed. This finding suggested that studies which rely upon self-report of depression as the diagnostic criteria may actually be underestimating the rate of occurrence of depression among women. Furthermore, the results indicated that men and women
with equivalent symptoms were equally likely to be diagnosed as depressed by male or female interviewers. These studies suggested that response bias has a negligible effect upon the sex difference in depression.

**Societal Reaction Perspective Hypothesis:** This hypothesis has proposed that a particular individual is labeled mentally ill, seeks psychotherapy or is hospitalized because significant others or the authorities consider that person to be mentally ill. In this viewpoint, mental illness has been considered to be a culturally defined matter of unacceptable behavior and has emphasized the stigmatizing effect of labeling certain behaviors as deviant. Relatively powerless people are more likely to be labeled as deviant, thus in a society where women are less valued, they are more likely to be labeled as "sick". In the extreme, this viewpoint has ignored the person's subjective distress and has focused solely upon her relationship with society.

Many authors have stated that theories of personality and treatment usually support stereotypical sex roles rather than question them. Chesler (1972) has viewed depression as being the result of overconformity to the traditional feminine sex role through exaggeration of such qualities as passivity, self-effacement and dependency. Rather than challenging these qualities, she argued that psychotherapy has been designed to maintain the status quo.

The most frequently cited study in support of the double standard of mental health is Broverman, Broverman, Clarkson, Rosenkrantz and Vogel (1970). In this study, experienced psychologists, psychiatrists and social workers were asked to rate a mentally healthy males and females on a series of attributes. Their results indicated that healthy females differ from healthy males by being more submissive, less independent, less adventurous, more easily influenced, less aggressive and more excitable in minor crises. Similar results were obtained by Fabricant (1974) who replicated and extended this study. These results have supported the theory that there is a double standard of mental health for males and females. Since the actual data
collection for this study would have been completed during the late 1960's, the present investigator has hypothesized that the results would be different, given the changing role of women in the last decade, if the study were replicated.

Other studies have found that mental health practitioners have different standards of mental health for men and women with women expected to be more passive, less achievement oriented and more dependent (Voss and Gannon, 1981; Stockburger and David, 1978; Hammen and Padesky, 1977; Sneiden, 1976; Mednick and Weissman, 1975; Howell, 1974; Keller, 1974; Howard and Orlinsky, 1972; Chesler, 1972). Carmen, Russo and Miller (1981) observed that women have been encouraged to develop passive and indirect psychological coping strategies rather than engage in coping strategies usually considered desirable by mental health professionals.

The American Psychological Association Task Force on Sex Bias and Sex-role Stereotyping in Psychotherapeutic Practice (1975) identified several problematic areas: (1) Therapists frequently have sexist values and behaviors that they may or may not be aware of, but are often subtly imposed upon patients; (2) Traditional psychological theories are based upon male personality development and behavior which means that most therapists have not been educated in the psychology of women. The first aspect of this investigation was supported by an investigation conducted by Aslin (1977) who found that female therapists, whether or not they identify themselves as feminists, accepted a wider range of behaviors and options as being more appropriate for women than did male therapists. Abramowitz, Abramowitz, Jackson and Gomes (1973) found that more conservative male counselors attributed significantly greater maladjustment to a leftist politically active female than to her male politically active counterpart.

Other investigators have used the method of presenting hypothetical case studies to experienced clinicians varying the sex of the client while keeping the other case material constant. Stein, DelGaudio and Ansley (1976) found that the same
hypothetical patient was rated as being in need of medication significantly more often when the patient was identified as female. However, Billingsley (1977) found that the sex of the hypothetical client had no effect on therapy goals formulated by clinicians although the client's level of pathology did determine goals.

Another commonly used research design has involved having introductory psychology students rate hypothetical case studies. However, the relationship of introductory psychology students' views to more experienced clinicians has been tenuous at best. Israel, Raskins, Libow and Praveder (1978) found that case studies of females diagnosed as being more neurotically depressed were rated by students as being more disturbed than males in the same diagnostic category. Zeldow (1976) found that when a female client stated an attitude or preference usually associated with the male sex role to a male non-professional, she was considered to be more disturbed than if she described herself neutrally, or in agreement with female sex-role stereotypes. This bias was not found among female judges. However, not all studies have supported the presence of sex bias in mental health practices.

In a thorough review of the published and unpublished studies on sex role stereotypes and mental health judgments, Smith (1980) examined 15 studies and found no overall pattern of therapist sex bias when the research was considered as a whole. However, the published studies were more likely to indicate the presence of sex bias than were unpublished doctoral dissertations. When experimental variables were well-controlled, studies were less likely to indicate the presence of sex bias than in poorly controlled studies.

Very few studies have observed actual patients and therapists in clinical situations. They most frequently used designs which "simulated" therapy situations. However, this analogue situation has not been considered as an acceptable alternative because it lacked external validity (Smith, 1980; Maffeo, 1979) and did not control for the possibility that the clinicians have made appropriate, non-sexist statements during
the analogue situation while behaving in a sexist manner during the actual therapy sessions (Stricker, 1977). Furthermore, the journal publication policies generally have required significant results to publish a study which increases the chance of Type II errors or false positives. Thus, there would be a greater chance of a published investigation reporting spurious positive results.

The societal labeling theory has failed to explain the greater incidence of depression regularly found among community surveys of women who have not come to the attention of mental health professionals and who have not been subjected to the diagnostic labeling process. Furthermore, some investigators have found that symptoms of mental illness actually have been considered more dysfunctional in men than women (Phillips, 1964). Tudor, Tudor and Gove (1977) found that male psychotics are hospitalized faster than female psychotics. These results do not support one of the basic tenets of labeling theory which is people with little power and low status are more likely to be labelled as deviant. From this review, there does seem to be convincing evidence that women actually do experience increased vulnerability to depression rather than the two-to-one ratio being explained as a statistical artifact or as a result of sex role stereotyping or bias among mental health professionals. Because women do seem to be more vulnerable to depression, possible predisposing factors for the higher incidence of female depression will now be examined, based upon the most relevant psychological and sociological theories of depression. Before the major theories can be reviewed, the issue of defining depression will be discussed.

**Definitions.** In general, clarification of the issues to the etiology, prevention and treatment of depression has been hindered by problems of adequate definition. Depression has been considered a symptom, a syndrome, or a mood state. There has been considerable controversy surrounding the identification of various subtypes of depression. A principle controversy has been between the unitary theories of depression, which hypothesized that depression represents a single clinical disorder
with varying levels of severity, and the separatist theories of depression, which hypothesized that there are discrete clinical subtypes with unique etiology and characteristics.

There are as many definitions of depression as there are theories. However, Levitt and Lubin (1975) point out that there is a general consensus that depression is an affective disorder with an alternative in mood as the primary symptom. The DSM-III (1980) stated that the essential feature in affective disorders is "...a disturbance in mood, accompanied by a full or partial manic or depressive symptoms that is not due to any other physical or mental disorder." This system has divided the depressive syndromes into the diagnoses of: major depressive episode; bipolar disorder, mixed; bipolar disorder, depressed; cyclothymic disorder; dysthymic disorder (depressive neurosis); atypical depression; and adjustment disorder with depressed mood. One of the major distinctions among these subtypes is whether there is a history of manic or hypomanic episodes. If there is such a history present, the person is diagnosed as having a bipolar disorder (manic-depressive psychosis) or, if the mood swings are not as severe, a cyclothymic disorder.

The major depressive disorder is defined as having prominent symptoms of dysphoria and apathy. Related symptoms include: appetite disturbance, psychomotor retardation, decreased energy, feelings of worthlessness and guilt, difficult in concentration, thoughts of death, suicidal ideation or suicide attempts.

The dysthymic disorder is defined as not being of sufficient severity and duration to meet the criteria for a major depressive episode. However, symptoms must have persisted for at least two years. Rather than clarifying the diagnosis of depression into subtypes, the DSM-III has made it even more difficult. The present paper has adopted Beck's (1967) more operational definition of depression: "a specific alteration in mood, such as loneliness, apathy and sadness; negative self-concept associated with self-reproach and self-blame; regressive and self-punitive wishes such
as the desire to escape, hide or die; vegetative changes such as anorexia, insomnia, loss of libido, and changes in a person's activity level resulting in psychomotor retardation or agitation."

As indicated above, there have been four main types of theories of depression: the biological, the psychoanalytical, the behavioral, and the psychosocial which have made significant impact on the research of depression. These theories will be briefly reviewed, followed by an in depth study of the cognitive theory of depression.

**Biologically Based Theories of Depression:**

Various theories have hypothesized different genetic (Mendels, 1974), biochemical (Becker, 1974), and other physiological processes, such as the menstrual cycle (Williams, 1977), as a cause of the greater incidence of depression among women. This line of research has been particularly important in examining sex differences since the most obvious distinctions between the sexes are physiological. Theories have been advanced which implicate genetic factors, premenstrual or menstrual syndromes, childbirth and post-partum changes, side effects from oral contraceptive and menopause. All of these physical changes have been examined as possible explanations for women's greater vulnerability to depression.

**Genetic Linkage Theories:** A X-linked dominant mode of transmission for bipolar depression has been theorized which would predict an incidence ration of two females for each depressed male (Winokur and Tanna, 1969; Mendlewicz, Fleiss and Fieve, 1972). Weissman and Klerman (1979) reviewed the available evidence and concluded that an increased risk of affective disorders appear to exist among first degree relatives of diagnosed patients as compared to the general population. In addition, there is a higher concordance rate for monozygotic twins than for dizygotic twins. However, evidence for genetic factors in unipolar depression has not been as clear. A more complex version of the genetic hypothesis implies that there is a
differential interaction of genotype and sex. Women display a lower threshold than men for expression of depressive symptoms at the same level of stress. More investigations of this type hypothesis is needed (Mendels, 1974).

There appears to be some support for a genetic factor in the etiology of depression, particularly for bipolar disorders. However, the evidence for a genetic factor in the etiology of unipolar depression, which is the most common subtype of depression, is not as convincing. Research in this area is faced with the particularly difficult task of differentiating the heredity influences from the environmental ones.

**Menstruation and the premenstrual syndrome:** Menstruation has been surrounded by fear, superstition and taboos in all cultures. Throughout history, the presence of the menstrual cycle has been used to identify women as being unstable and therefore unfit for certain responsible positions (Dennerstein and Burrows, 1979; Lips and Colwill, 1978). The "raging hormones" theories have suggested that cyclical changes are responsible for a number of negative affective and behavioral events. The general public is quick to identify a woman's menstrual cycle as causing her moods.

It has been well established that there are significant cyclical changes in hormonal levels. Levels of estrogen and progesterone are lowest during menstruation at the beginning of the 28-day menstrual cycle. The estrogen level begins to rise and reaches a peak at midcycle when ovulation occurs, declines slightly before rising to another peak and then declining sharply prior to the beginning of menstruation. The progesterone level is very low before ovulation, after which it increases rapidly and declines before menstruation. The negative mood attributed to premenstrual and menstrual periods is hypothesized to be caused by changes in neural activity in the brain produced by increased monoamine oxidase (Bardwick, 1974; Paige, 1971). However, there are numerous other physiological explanations for how the menstrual cycle increases levels of depression among women, including hormone-induced sodium and water retention, high levels of estrogen, allergic sensitivity to estrogens or
progesterone, deficiency of progesterone, hypoglycemia, increased antidiuretic hormone, pelvic congestion, increased capillary permeability to protein, increased aldosterone, and increased blood levels of serotonin synergist. Yet, there has not been convincing support for any of these explanations (Tonks, 1968).

The premenstrual syndrome has been defined as consisting of the following symptoms: swelling of body tissues, weight gain due to water retention, emotional irritability, headache, nausea, diarrhea, anxiety, tension and depression. Numerous etiological explanations including physiological factors, psychological factors or interactions between the two sets of factors have been proposed (Weissman and Klerman, 1979; Weideger, 1977; Williams, 1977). Estimates of the incident of the premenstrual syndrome among American women range from 15 percent to 95 percent depending upon the definition used, the sampling procedures, and the experimental method (Dennerstein and Burrows, 1979; Tarvis and Offir, 1977). Such discrepancies in definitions and subject selection limit general interpretations of this syndrome.

A particular methodological difficulty has been the widespread use of retrospective reporting of changes accompanying the menstrual cycle with affective changes, and the actual findings from behavioral functioning and moods collected each day (Dennerstein and Burrows, 1979; May, 1976; Ruble, 1977). This strongly suggests the operation of a cultural attributional pattern. In reviewing 24 such studies, no consistent pattern was found when more objective behavioral criteria were used. The majority of studies did find self-reported cyclical changes for negative moods (Ruble, 1977). These interesting results suggest that while actual impairment in functioning does not result from the menstrual cycle, the impact of societal beliefs may lead women to attribute affective changes to phases of their menstrual cycle. Many investigators have found considerable expectations for negative mood changes associated with the phase of a women's menstrual cycle by both women and men (Parlee, 1974; Koeske and Koeske, 1973; Paige, 1971).
This area of research has been plagued with considerable methodological difficulties. As mentioned previously, there has been considerable discrepancies between women's retrospective reporting of their affective changes associated with their menstrual cycles and findings from data collected daily. Apparently, many women subjectively attribute negative mood changes to the phases of their menstrual cycles despite the findings that objective criteria fail to show such a relationship. There has also been the difficulty of studies using differing and sometimes inadequate methods of identifying the various phases of the menstrual cycle. Many studies have averaged the length of the subjects' cycles to 28 days, collapsing longer cycles and extending shorter ones which obscures the actual individual hormonal events within a particular woman's cycle. Also, studies have often failed to report whether women were taking oral contraceptives. Because subjects must be highly motivated and cooperative to complete daily self-observations, the samples tend to be small and atypical of the general population. Furthermore, subjects and experimenters were frequently aware of the purpose of the study which introduces additional sources of bias. For comprehensive reviews of the affective changes associated with the menstrual cycle, the reader is referred to review articles by Dennerstein and Burrows (1979), Weideger (1977) or Parlee (1973).

**Pregnancy, childbirth and postpartum depression:** The hormonal changes of pregnancy and childbirth are the most drastic changes of a woman's life. Hormonal levels gradually increase throughout pregnancy until just before the onset of labor when they reach 10 to 1000 times the normal level. Mild, transient depression is quite frequent during the first ten days following childbirth until the hormonal levels return to normal limits. The first six months after giving birth appear to carry an increased risk of the mother developing serious psychological disorders. This has been explained on the basis of the sudden decrease from the high hormonal levels present during pregnancy (Penfold, 1981; Yalom, Lunde, Moos and Humberg, 1968). However, it is also
apparent that the birth of a child, particularly a first child, significantly alters the mother's lifestyle and increases her responsibility. Cohen (1966) noted that childbirth is the peak of maturational changes for both the husband and wife which may be the source of the difficulties rather that the hormonal changes. Silverman (1968) observed that there is a need for longitudinal studies of women experiencing physical or psychological difficulties during pregnancy to examine such difficulties.

**Oral Contraceptive Use:** It has been hypothesized that oral contraceptive use is associated with increased depression. Results of a study by Kane (1977) indicated that as many as fifty per cent of the women using oral contraceptives experienced mild to moderate depression, irritability, tiredness and emotional liability. Women with a history of depressive episodes appeared to be at greater risk. Women were reported to feel more depressed, more anxious, less feminine and less attractive subsequent to oral contraceptive use. (Bardwick 1974).

However, there is contradictory evidence suggesting that oral contraceptive use does not increase depression (Weissman and Slaby, 1975; Goldzieker, Moses and Averkin, 1971). In a large-scale study in which over 5000 women were examined, using objective criteria for determining depression (a T-score of 70 or greater on Scale 2 of the MMPI), Kutner and Brown (1972) did not find significantly more depression among oral contraceptive users. Fleming and Seager (1978) hypothesized a scapegoat effect for oral contraceptives in that both users and physicians who prescribed them tend to attribute any psychological symptoms to oral contraceptive use rather than determining over causes. This effect could be particularly important in light of Penfold (1981)'s findings that oral contraceptive users who expected to become depressed as a result of taking pills appear to be more susceptible to depression as a side effect than other women.

Much of the research which supports an increase in depression among oral contraceptive users has been marred by lack of appropriate controls, small or atypical
samples, and the lack of objective criteria for measuring affective changes. Investigators have rarely compared the incidence of depression among oral contraceptive users as compared to incidence of depression among women who are not using this method of birth control. This lack of appropriate controls is important because many oral contraceptive users fall within the age group of women particularly susceptible to depression anyway.

Menopause. The decline of estrogen which accompanies menopause is hypothesized to be related to the higher incidence of depression among older women (Williams, 1977). However, empirical findings do not support an increase in depression during or after menopause. Neugarten and Kraines (1965) studied physical and psychological symptoms present in 460 women ranging from pubertal to postmenopausal. Their results indicated that adolescents and menopausal women reported the greatest number of symptoms while postmenopausal women reported the fewest number of symptoms. Many investigators have agreed that cultural attitudes about aging women and the frequent coinciding of menopause and children leaving home can result in maternal role loss called the "empty nest syndrome" and are more likely to be the causal factor in middle age depression that are hormones (Frieze, Parsons, Johnson and Ruble, 1978; Weideger, 1977; Sneiden, 1976; Winokur, 1973; Bart, 1971; Becker, 1963). In fact, community surveys about women's attitudes towards the cessation of menstruation have shown that only about 10 per cent of women express regret about the end of their menstrual periods (McKinlay and Jerreys, 1974).

For many years, the psychiatric nomenclature included a special subtype of depression, involutional melancholia, which was defined as being characterized by worry, anxiety, agitation, and severe insomnia. Feelings of guilt and somatic preoccupations are frequently present and may be of delusional proportions (DSM-II, 1968). It was hypothesized that obsessive-compulsive perfectionist women were at particular risk for developing this disorder. However, there has never been convincing
proof that this represented a discrete entity, even after reviewing many studies of involutional melancholia (Weissman and Klerman, 1979; Rosenthal, 1968).

Critical of the biological approach: This area of research has been plagued by methodological flaws. They have included: the failure to use adequate control groups, overreliance on self-report date, not using double-blind designs to control for experimenter and subject bias, and not recognizing the impact of emotional factors upon the physiological processes. Women under emotional stress frequently experience early or late menstrual periods. However, there are some clear cut findings in this area. In particular, there is evidence supportive of an X-linked genetic transmission of bipolar affective disorders. Women are at a higher risk of developing psychiatric disorders immediately following childbirth that at other times of their lives particularly post-partum depression. There is some evidence that has linked oral contraceptive use with increased depression; however, women who expect to become depressed as a side effect of using the pill and women with a previous history of depressive episodes are at greater risk. Despite the popularly-held beliefs about women's increased moodiness with menstruation, evidence does not support this when objective data has been collected on a daily basis. Nor does evidence support that menopausal women are at particular risk for depression.

Psychoanalytical Theories of Depression:

The first psychologically based theories of depression were within the psychoanalytical framework (Freud, 1917; Abraham, 1911). Depression was hypothesized to be the result of the turning inward of the aggressive instinct rather than directing it outwards towards the appropriate object. This retrospection of anger is triggered by the loss of ambivalently loved objects. Depression has been conceptualized as a regression to the first psychosexual stage, the oral stage, in that the depressed person is dependent upon external sources of supplies. Fenichel (1945) elaborated upon this, calling depressives "love addicts" who have insisted upon a constant flow of
benevolence. Such a person is overly dependent upon external sources to obtain necessary narcissistic supplies to maintain his or her self-esteem. The fall in self-esteem and subsequent self-punishing depression has resulted because of the ego's comparison between the actual self and the unattainable, perfectionist ego ideal.

Weissman and Klerman (1979) noted the similarities between the psychoanalytical theory of depression and some psychoanalytical formulations of the feminine personality. The feminine personality has been characterized as being masochistic, dependent, narcissistic and unable to express hostility as a result of an incomplete resolution of the Oedipal complex. The feminine resolution is based upon penis envy and is theorized to motivate women to affiliate with men to vicariously possess a penis. More modern psychoanalytical theories have interpreted this in symbolic terms and state that women desire the greater privileges and advantages of the masculine role (Arieti and Bemporard, 1978).

Bibring (1953) was the first theorist to emphasize the states of hopelessness and helplessness in the etiology of depression. He viewed depression as an ego state which focused upon helplessness and was characterized by a loss of self-esteem, which stemmed from the individual's failure to live up to his or her ego-ideal.

White (1977) summarized current psychoanalytical concepts of depression as being a response to loss, or a threat of a loss of someone, something, or some psychological or physical function which is an important source of satisfaction or security. This loss may be real, fantasized or symbolic. Furthermore, early parental loss apparently sensitizes the people who experience it to respond to later losses with a greater degree of depression than a person who has never experienced a childhood loss. Arieti and Bemporard (1978) have focused upon the depressed person's failure to reach a dominant goal or to please a significant other. Depressed persons have focused upon obtaining self-esteem and pleasure from the dominant other rather than actively making an effort to improve themselves. Depressed persons, particularly
those who are severely depressed, have derived their total identity from external sources. This theory, although formulated in ego psychology terminology, is similar to the cognitive theory of depression (Beck, 1967) in its emphasis upon low self-esteem, helplessness, excessive dependence upon others and distorted perceptions about the self and others.

**Critique of the Psychoanalytic Theories of Depression:** Although the psychoanalytical and psychodynamic theories of depression have continued to influence theory and treatment of depression, these complex theories have been difficult to test because of the focus upon intrapsychic processes which are difficult to measure in objective terms. The psychoanalytical literature has emphasized case studies of depressed patients in psychoanalytic or psychoanalytically-oriented psychotherapy. This tradition has emphasized clinical practice over empirical investigation.

**Behavioral Theory:** Behavioral theories focus upon observable behavior rather than intrapsychic processes or symptom formation. In general, this viewpoint hypothesizes that maladaptive behavior is shaped and reinforced by environmental contingencies. Within this theory, some investigators have maintained a radically anticognitive theory while other investigators have considered a person's thoughts and feelings as being important antecedents for certain behaviors or as consequences of their actions. Because of the emphasis upon reinforcement determining behavior, depression has been conceptualized as being the result of a low rate of response-contingent reinforcement.

Perhaps the most influential theory within this framework is the theory of learned helplessness (Seligman, 1974; 1975). This theory orginated within his laboratory experiments with dogs which were exposed to an inescapable noxious stimulus, and were subsequently placed in a different aversive context in which they behaved passively despite an available response which would permit escape. Seligman named
this phenomenon learned helplessness. The two main results of learned helplessness were motivational deficits and an interference with learning new responses. Clinical depression, liked learned helplessness, has been theorized to occur when people perceive the outcome of important events as being uncontrollable. Seligman hypothesized that many female children have been taught that their personal worth and survival do not depend upon their ability to make an effective response to life situations, but rather it depends upon such qualities as their physical beauty and appeal to men. Therefore, women have learned that they have no direct control over their lives since they have been socialized to behave in more passive, dependent and non-assertive ways than men. Such a condition has denied women the opportunity and necessity for learning a wide repertoire of coping skills.

The learned helplessness model has been widely criticized. Rohrbaugh (1979) noted that learned helplessness is not based upon a general trait of helplessness in animals; therefore, if learned helplessness has been responsible for the high rates of depression among women, one must specify what painful experiences occur only to women. Furthermore, the learned helplessness model has been criticized on methodological grounds (Costello, 1978; Rizley, 1978). The model has been reformulated into a complex theory which has still failed to specify what conditions create this phenomenon in humans. (Abramson, Seligman and Teasdale, 1978).

Social Status Hypothesis:

Another approach has been to consider female depression as a societal problem rather than in terms of being the result of individual psychological disorders. This theory has stated that many women have found their condition depressing since actual social discrimination has made it difficult for women to achieve control over their lives.

It has been hypothesized that such inequalities have created economic and legal powerlessness, dependence upon others, particularly males, habitually low levels

The feminine sex role in America has emphasized marriage with reliance upon a male provider, home and children. The feminine sex role generally has been considered a relatively low status role, one that offers less rewards than the masculine role. Women have been characterized as being less aggressive, less independent in their coping style, less achievement oriented, more guilt-prone, more anxious, more submissive, more affiliative oriented and more empathetic (Mongul, 1979; Scarf, 1979; Frieze, Parsons, Johnson and Rubel, 1978; Hoffman, 1977; Williams, 1977; Whitehurst, 1977; Block, 1973; Block, von der Lippe and Block, 1973). As pointed out by Sherman (1971), with this traditional view of the feminine role, is that the feminine ideals of passivity and dependency are associated with inadequate functioning, even in such traditional tasks as homemaking and mothering.

These cultural stereotypes apparently have reduced women's self-esteem during the process of socialization, as women learn that masculinity is more valued than femininity. Veroff (1981) proposed that women's self-esteem is lowered by three cultural phenomena: (1) Women are limited in their choices that might maximize satisfaction; (2) Women are handicapped in finding purposeful activity once their childrearing years are passed; (3) Historically, women have been financially dependent upon men. Girls historically have been reared to believe that adult women's success can be acquired only indirectly through the status of the male alliance she makes. This makes females' self-esteem dependent upon acceptance by other, whereas males are taught to develop patterns of self-worth based upon personal achievements (Carmen, Russo and Miller, 1981). Since the childrearing and developmental aspects of this phenomenon are beyond the scope of this paper, the reader is referred to Block (1973), Block, et. al., 1973 and Rohrbaugh (1979).

In contrast to the situation for most psychiatric disorders, married females
have a greater tendency to be depressed than do married males or unmarried females (Rosenfield, 1980; Radloff and Rae, 1979; Sneiden, 1976; Radloff, 1975; Levitt and Lubin, 1975; Howard and Howard, 1974; Gove and Tudor, 1973; Gove, 1972; Knupfer, Clark and Room, 1966). Bernard (1972) found that more wives than husbands report marital dissatisfaction. Furthermore, many women who were able to take care of themselves at the time of their marriage had become quite helpless after 15 to 20 years of marriage. They had come to depend upon their husbands to take care of responsibilities and for emotional support. Gillespie (1975) observed that regardless of the woman's background, her status is mainly determined by the job achievement of her husband. Frieze et al. (1978) have hypothesized that it is mainly the wife who sacrifices her psychological autonomy and selfhood in marriage.

The particular disadvantage of the married female has been attributed to role restriction. Males have historically occupied two roles: (1) head of the household which includes being a husband and father; (2) family breadwinner and worker. This has given him two possible sources of gratification from his roles, whereas females have historically focused their identify around being a housewife. Even if a married woman earns an income, she has usually been in a less favorable position that a working man because she earns a lower salary and retains the bulk of responsibility for household chores and childcare. It has been estimated that in addition to the hours of paid employment, married women spend another 27 hours per week on housework (Carmen, et al., 1981). Furthermore, Weissman and Klerman (1979) hypothesized that the expectations facing women today are unclear, diffuse and often contradictory while the feminine sex role itself often encourages low self-esteem.

Rosenfield (1980) has divided attempts to explain depressive symptomatology among women on the basis of sex roles into three areas: (1) the overt expression of hostility is less acceptable for women than men, thus women have been more likely to internalize anger or conflict in the form of self-criticism, a process characterizing
depressive reactions. These concepts have been difficult to test and no convincing evidence has been accumulated to support this position (Bartsch, 1977); (2) Women are more dependent upon others for development of a positive self-concept which results in a precarious sense of self; (3) Because of the power differential between men and women, women mourn for the power that they have never possessed.

**The role of the housewife:** Being a housewife has been particularly implicated as being harmful to women. Frieze et al. (1978) noted that there are some indications that housewives run the highest risk of psychological disturbance. They enter therapy more frequently, they have been more likely to take prescribed tranquilizers or stimulants and have an elevated rate of suicide. Sociologist Jesse Bernard (1972) strongly voiced this risk in her statement: "In short, being a housewife makes women sick." The work of the housewife usually receives little recognition, is a solitary activity and has no clear-cut criteria for an adequate performance. This viewpoint is not new. Menninger (1938) noted the greater risk of the housewife to develop physical and psychological disorders in his classic book, *Man Against Himself.*

Many women are overqualified for household tasks, many of which are boring and frustrating (Ferree, 1976; Bardwick, 1971). Hoffman and Nye (1974) found that the fulltime housewife whose children are school age or younger is generally low in self-esteem and high in psychological symptoms. In addition, mothers have been almost completely responsible for childcare and if the children develop problems, she has been blamed for them (Frieze, et al., 1978; Sneiden, 1976; Bardwick, 1971).

**Working Women:** Several studies have reported that women employed full time are healthier than their stay at home counterparts. Additionally, marital instability was less for working women that for full-time housewives (Welch and Booth, 1977; Bernard, 1972). Although married women who work scored as being less depressed than married housewives, they still have higher average rates of depressive symptoms than unmarried women (Rosenfield, 1980). Overall, women have tended to
hold lower status, lower paying jobs that men do. This economic gap has appeared to be increasing in recent times. Tavris and Offir (1977) found that nearly two-thirds of American working women average less than $7,000 annual salary. Trieman and Terell (1975) found that women earned 58 per cent overall of men's earnings, even when the sexes were matched for age, education and experience, tenure, and skill on the job.

Although the social status hypothesis has raised some interesting questions, particularly about the position and power of women in this society, few empirical studies have been made of this viewpoint. Many of the proponents of this viewpoint have relied upon rhetoric rather than research to back their position. However, particularly considering the recent research on sex roles (Spence and Helmreich, 1978), it seems important to continue research in this area to discover why some women apparently are more susceptible to depression than others. In particular, this viewpoint has neglected psychological theories of depression when attempting to explain why certain women appear more vulnerable to depression.

**Cognitive Theory:**

Beck (1967) has examined the behavioral and psychoanalytical approaches to depression. Based upon shortcomings and concepts from these theories, he has formulated a cognitive theory of depression with three main concepts: the cognitive triad, schemas and cognitive errors to explain depression. This theory has several advantages over the previously reviewed theories of depression. The cognitive theory has used concise, operational concepts which are testable. It has avoided some of the methodological flaws of other viewpoints as well as having accumulated a body of considerable support (Beck, Rush, Shaw and Emery, 1979; Beck and Rush, 1978; Blaney, 1977; Beck, 1967).

**Cognitive Triad:** The cognitive triad consists of three major cognitive patterns which result in idiosyncratic interpretations by which the depressed person regards herself, her future and her ongoing experiences. The first component of the
cognitive triad is low self-esteem. The depressed person has a negative view of herself such that she perceives herself as being defective, inadequate or unworthy. The second part of the cognitive triad is the helplessness component. The depressed person tends to interpret her ongoing experiences in a negative manner. She perceives the environment as making impossible demands upon her which she is too powerless to handle. The third part of the cognitive triad is the hopelessness component. The depressed person encompasses a negative view of the future and can see no end to present difficulties (Beck, 1967; Rush and Beck, 1978).

**Schema.** Schemas are the stable cognitive patterns which form the basis of the uniformity of the depressed person's interpretation of situations. Her conceptualization of certain events are distorted to fit the schema. The more severe the depression, the less able the person can objectively realize that her interpretations are faulty (Rush and Beck, 1978; Beck, 1967).

**Systematic errors.** These refer to particular errors in the logic of the depressed person's thinking. Specific types of errors are listed here: (1) Arbitrary Inference refers to the tendency to reach conclusions either without supportive evidence, or even when there is evidence for a contrary conclusion. (2) Overgeneralization refers to the tendency of making an overall conclusion about one's ability, performance or worth on the basis of a single incident. (3) Selective Abstraction refers to concentrating on one aspect of a situation, taken out of context, while ignoring more important and obvious features. (4) Personalization refers to the depressed person's tendency to relate external events to herself without any justification for doing so. (5) The process of magnification (exaggerating the importance and size of problems and tasks a person faces) and minimization (underestimation of her performance or abilities) are errors large enough to be considered distortions of reality.
Empirical support for the cognitive theory:

Support for the cognitive theory has been supplied through clinical observations, naturalistic studies, and experimental evidence. Several empirical studies have examined depressed subjects for the presence of a thought disorder as described by the cognitive theory. Neuringer (1961, 1967, 1968) has shown that suicidal people display rigidity and dichotomous thinking. Depressed people displayed less impairment upon measures of abstraction than normals did (Braff and Beck, 1974; Goldstein, Atkins and Babagian, 1966). Ianzito, Carodet and Pugh (1974) found 20 percent of the patients having primary unipolar affective disorders have moderate to severe cognitive deficits. Additional support for impairment of cognitive deficits during depression is supplied by Donnelly, Waldman, Murphy, Watt and Goodwin (1980) who used the Category Test from the Halstead-Reitan battery. They found that severely depressed patients made significantly more errors than non-depressed controls. There is additional support available for each element of the cognitive triad.

Low Self-Esteem Component: Several investigators found that dreams of neurotically depressed patients undergoing intensive psychotherapy or psychoanalysis show a high prevalence of themes of being hurt, frustrated, disappointed, unattractive, punished or feeling incompetent, as compared to dreams of patients with other psychiatric diagnoses. Such themes were the result of the depressed person's particular conceptual system which creates a systematic bias against herself in evaluating certain situations (Beck and Rush, 1978; Hauri, 1976; Beck and Hurvich, 1959).

Hammen and Krantz (1976) found that depressed female undergraduates rated their personal qualities as being less desirable than nondepressed female undergraduates. Ludwig (1975) manipulated the view of self by presenting to female undergraduates fake test results which indicated they were immature and not creative. This was followed by an objective mood assessment scale which showed that
subjects were more depressed after this manipulation than they had been before. In another set of experiments, using a card-sorting task with depressed outpatient males, depressed patients indicated that they have less chance of reaching a goal, although they objectively performed as well as nondepressed controls. Furthermore, depressed subjects reacted to failure with significantly greater pessimism and lower levels of future aspirations than did nondepressed subjects (Loeb, Beck, Diggory and Tuthill, 1967). Depressed subjects rated internal factors such as ability and effort as more important casual determinants of failure, but less important determinants of success on completing series of anagrams (Rizley, 1978; Klein, Fencil-Morse and Seligman, 1976).

Recent theories and investigations have examined self-esteem among women with equivocal results. Several investigators have found significant correlations between the level of depression as measured by the Beck Depression Inventory and measures of self-esteem (Battle, 1978; Beck, 1967). The relationship between low self-esteem and depression has been generally accepted. Additionally, there is also evidence which has been accumulated by many researchers which suggested women feel more negatively or ambivalently about themselves which results in lower self-esteem than men have. However, Maccoby and Jacklin (1974) have reviewed the literature on children and college students' self-esteem and concluded that women do not have lower self-esteem than men. A possible mediating variable is sex-role type. Spence and Helmreich (1978) defined sex role types as being clusters of socially desirable attributes stereotypically considered to differentiate males and females, and thus, to define the psychological core of masculine and feminine personalities. Traditionally, masculinity and feminity were viewed as bipolar opposites. More recently, investigators have taken the approach that a particular individual may display high degrees of both masculine and feminine sex traits (androgyny) which is associated with healthier adjustment, particularly for women; or they may display low
degrees of both masculine and feminine traits, which is associated with more maladjustment in general. These are in addition to the traditional masculine or feminine sex-types. The reader is referred to Constantiople (1973) for a comprehensive review of this subject.

Several investigators have developed new inventories such as the Bem Sex Role Inventory (BSRI) by Bem (1974), and the Personal Attributes Questionnaire (PAQ) by Spence and Helmreich (1972) which both measure sex roles in a non-bipolar manner. Thus, on both the BSRI and the PAQ, as with the other newer inventories, masculine typed subjects of both sexes scored high on masculine traits and low on feminine traits. Feminine typed subjects of both sexes score high on positive feminine traits and low on masculine traits. Androgynous subjects score high on both masculine and feminine traits. Both of these inventories only measure positive traits of both sexes.

Androgynous subjects of both sexes were found to score highest on the Texas Social Behavior Inventory (TSBI) a self-esteem measure, followed by masculine sex-type subjects of both sexes, then feminine sex-typed subjects of both sexes, with undifferentiated subjects of both sexes scoring the lowest in self-esteem (Bem, 1977; Spence, Helmreich and Stapp, 1975). However, other investigators have found that it is only the presence of masculine traits which is positively correlated with self-esteem. Results have shown that masculinity on sex-type measures is correlated with higher self-esteem, regardless of sex of the subject (Erdwins, Small and Gross, 1980; Antill and Cunningham, 1979). More research is needed to clarify the relationship between sex-types and self-esteem measures, although it is clear that a strong relationship exists between low self-esteem and depression.

Helplessness component: This portion of the cognitive triad considers the consistent manner in which the depressed person has interpreted her interactions with the environment as representing defeat, deprivation or disparagement. Beck (1961)
administered a projective test, the Focused Fantasy Test, to 87 depressed and non-depressed patients. The depressed patients identified more often with the outcomes where the protagonist in the story was hurt than did nondepressed patients. Bartsch (1977) tested depressed outpatients in treatment in mental health centers and found that self-rated depression on the BDI was strongly related to beliefs in the influence of change and powerful others over one's life. This belief in chance factors or control by influential others was more strongly related to a person's depth of depression than a person's diminished belief in one's own personal influence or competence.

Beck (1967) hypothesized that depressed people habitually have perceived the environment as making impossible demands upon them. Male alcoholic inpatients who reported experiencing minimal control over stressful events were significantly more depressed as measured by the BDI and Scale 2 of the MMPI than were subjects who reported high levels of control (Donovan, O'Leary and Walker, 1979; O'Leary, Donovan, Cysewski and Chaney, 1977).

Peterson (1979) found that scores on the BDI were positively correlated with ratings of helplessness and guilt perceived in various self-roles. Depressives blame themselves for events over which they have no control and react with helplessness to events over which they could exert control. This phenomenon in which the depressive both reacts in a helpless manner and blames herself has been identified as the depressive paradox. It is only logical that when a person feels helpless to make an impact on her environment, discouragement and hopelessness emerge.

**Hopelessness component:** This component focuses upon the depressed person's tendency to view the future or to interpret outcomes in a negative way. Beck (1974) examined the relationship between negative, constrictive views of the future and depression as measured by the BDI. He also used the Hopelessness Scale and a test of future time constriction. Testing 30 psychiatric patients upon admission and discharge to a psychiatric hospital, he found that changes in pessimistic attitudes
towards the future and the sense of future time constriction were significantly related
to changes in depth of depression. Beck, Kovacs and Weissman (1975) investigated 384
suicide attempters using the Hopelessness Scale and scores on the BDI. Their results
indicated that hopelessness accounted for 96% of the association between depression
and suicidal ideation. Several investigators found a highly significant relationship
between high scores on the Hopelessness Scale and high scores on the BDI (Minokoll,

Several studies have examined the tendency to selectively recall negative
experiences as opposed to positive ones during a depressive episode. Lishman (1972)
found that depressed patients as compared with hypomanic patients or patients who
had recovered from depression, recalled less positive than negative material. Lloyd
and Lishman (1975) found that the more depressed a person was, the faster they were
able to recall negative experiences and the slower they could recall positive ones.
Later, when they were less depressed, these same subjects were retested. At that
time, they showed a slight trend towards recalling positive memories faster than
negative ones. Thus, their findings cast doubt upon the argument that such results
were obtained because of premorbid personality characteristics.

Wener and Rehm (1975) found that subjects who were more depressed
frequently underestimated the percentage of "correct" feedback they have received in
a laboratory experiment where the feedback was actually manipulated by the
experimenter. A number of empirical studies have considered the recall of
reinforcement in depression. DeMonbreum and Craighead (1977) demonstrated that
depressed outpatients underestimated the amount of positive reinforcement received
when asked to recall their previous performance. Nelson and Craighead (1977)
predetermined reinforcement received by a subject completing a task. Their results
indicated that depressed subjects recalled less positive reinforcement and more
punishment than non-depressed subjects. Furthermore, this effect was greatest in the
high reinforcement and low punishment conditions.

Hammen and Glass (1975) examined the effects of positive reinforcement upon depressed mood. Contrary to what operant models would predict, depression did not diminish when depressed subjects increased their participation in pleasurable activities for two weeks while monitoring their moods and activities. Depressed subjects rated these activities as less pleasurable than did either the non-depressed subjects or depressed subjects who maintained their usual activity level.

As can be seen from the above, the cognitive theory of depression has accumulated considerable empirical support. However, although some of the investigations have used subjects who were depressed to a clinically significant degree, many of the studies have used transiently depressed college students, or subjects who depression is so mild as to be considered clinically significant. There has not been convincing evidence gathered that mild transient depression represents the same syndrome as clinically significant levels of depression. Additionally, college students particularly tend to be younger, more intelligent and a more functional population than typical patients, such as those seen by mental health centers.

Since moderate to severe degrees of depression are the levels usually seen in clinical practice, it is important that empirical studies examine subjects with enduring, significant levels of depression in order to aid in both improving our understanding of the etiology of this disorder, as well as to develop more effective therapeutic approaches for it.
Present Investigation

The present investigation seeks to examine some of the reasons why women are more vulnerable to depression than men by comparing a group of non-depressed women to a group of depressed women on some of the cognitive patterns proposed by Beck (1967) while also comparing sex role characteristics between depressed and non-depressed women. The relationship between sex-role and self-esteem is also examined. Many previous attempts to explain the sex difference in incidence of depression have been theoretical rather than empirical. The social status hypothesis has attempted to explain women's greater vulnerability to depression as a cultural phenomenon stemming from women's lower status and feminine sex role characteristics. However, the psychological mechanisms for this have been relatively neglected. Gove and Tudor (1973) emphasized that much more on how the female sex role contributes to affective disorders needs to be investigated in order to empirically prove what factors are important. Historically, there has been a relative neglect of psychopathology of women, which is surprising, considering the over-representation of women who seek treatment for mental health problems. Russo and Sobel (1981) have noted that effective treatment programs for women's needs are frequently unavailable despite their relatively greater utilization of mental health services.

The present investigation proposes that women's greater vulnerability to depression stem from particular cognitive patterns—helplessness, hopelessness and low self-esteem as outlined in the cognitive triad (Beck, 1967). Women seem to be more vulnerable to depression as a result of their maladaptive manner of perceiving the world. This investigation also considers the effects of sex-role types, because if there are indeed sex-specific cultural differences, the feminine sex-typed women would be at greater risk than women who displayed masculine traits, whether they were masculine sex-typed or androgynous.

Much of the research on both depression and the effects of sex types has
been conducted using college students as subjects. Some of the subjects have only been mildly depressed; other investigators have failed to distinguish between transient mood states and actual clinical depression. Because college students tend to be younger and brighter than the general public, their views on sex-role issues might be more liberal than the viewpoint of the general public. The present study examines five main hypotheses and two ancillary ones. The first three hypotheses are designed to test aspects of the cognitive triad and the last two are designed to examine aspects of the sex role theory. In addition, two aspects of demographic information were examined particularly because they have been identified in previous epidemiological studies as risk factors for depression among women (Brown and Harris, 1978). The five main hypotheses were:

1. The group of depressed women will display lower self-esteem than the group of non-depressed women,
2. The depressed group will display more hopelessness than the non-depressed group.
3. The depressed group will display more helplessness, as evidenced by their belief that they have less direct control over their lives than the group of non-depressed women.
4. Depressed women are more frequently feminine sex-typed than masculine, androgynous, or undifferentiated sex-typed women.
5. Women who are feminine sex-typed more frequently have low self-esteem than high self-esteem.

In addition, two ancillary hypotheses were examined:

6. There are differences in the frequency of married, divorced and single women between the depressed and non-depressed group. It is predicated that depressed women are more frequently divorced or widowed than non-depressed women.
7. Women who have preschool age children are more frequently depressed than women with older children or no children.
METHOD

Subjects. Sixty white women between the ages of 21 and 60 were used in this investigation with a mean overall age of 30.42 years. All participants were from the central Texas area. The women were divided into two groups, depressed and non-depressed, on the basis of the criteria outlined in the Procedure section of this paper. The depressed women were recruited from women in treatment for depression at two community mental health centers, at a pastoral counseling service and with a psychiatrist in private practice. The non-depressed women were recruited from a women's softball league, a church group, two neighborhood bridge clubs, a political party (The Citizens Party) and among the nonprofessional workers at the San Marcos Treatment Center of The Brown Schools. These organizations were selected as being representative of community organizations and activities within this area. In particular, the reader is reminded that women have traditionally participated in athletic activities such as softball more frequently in smaller communities.

The reader is referred to table 1 for a summary of the subjects' demographic characteristics. The depressed women had a mean age of 30.8 years while the non-depressed women had a mean age of 30.03 years. The depressed women had completed an average of 14.26 years of education; the non-depressed women had completed an average of 15.06 years of education. Seventy-three percent (n=22) of the depressed women were employed; seventy per cent (n=21) of the non-depressed women were employed. The groups were obviously very similar in these characteristics. However, the groups differed in their marital status. Forty-seven percent (n=14) of the depressed group were married or living in a steady relationship with a man, whereas sixty per cent (n=18) of the non-depressed women were married or living in a steady
relationship. Twenty-three per cent (n=7) of the depressed group were divorced, of whom 13% (n=4) had been divorced less than two years. Only three per cent (n=1) of the non-depressed group were divorced, and had been divorced more than two years. None of the non-depressed group had been divorced less than two years. Thirty per cent (n=9) of the depressed group had never been married; thirty-seven per cent (n=11) of the non-depressed group had never been married. Sixty per cent (n=18) of the depressed women had children and they were evenly divided (30% each) between having children who were preschool age and having children who were school age or older. Forty per cent (n=12) of the non-depressed women having children school age or older and the remaining 20% having preschool age children.

**Instruments:** Six measures were used in this investigation. They are the Minnesota Multiphasic Personality Inventory (MMPI), the Beck Depression Inventory (BDI), the Personal Attributes Questionaire (PAQ), Levenson Internal, Powerful Others and Chance Scale (IPC), Hopelessness Scale (HS) and the Texas Social Behavior Inventory (TSBI).

**MMPI.** The MMPI is an objective, self-report personality inventory which consists of 566 True-False statements designed to assess major personality characteristics that affect personal and social adjustment. Anatasi (1968) reported that the MMPI is the most widely used and researched personality inventory. The MMPI consists of four validity and 10 clinical scales. The validity scales are designed to identify deviant test-taking attitudes. The clinical scales were developed by contrasting the normal groups with carefully selected clinical cases.

Graham (1977) reported that the typical test-retest reliability coefficients for fairly brief intervals (one day to two weeks) range from .70 to .85. For intervals of a year or more, the usual coefficients are much lower (r = .35 to .45). The temporal stability of individual MMPI scales over brief intervals is as satisfactory as that of other objective personality measures.
Dahlstrom, Welsh and Dahlstrom (1975) cited over 600 MMPI validity studies. The reader is referred to their work for comprehensive information about MMPI reliabilities and validities. Graham (1978) concluded that the MMPI is the most valid of the widely used personality inventories. The booklet form of the MMPI was used in the present investigation because the items have been arranged in a manner such that all items required for scoring the standard validity and clinical scales appear in the first 399 items (Graham, 1979).

MMPI profiles were interpreted in a standard manner as outlined by Lachar (1978) and Graham (1979). Validity of the profile was determined by elevation of the individual validity scales and by considering the F minus K difference with the caution that Graham (1979) notes that this difference is appropriate for clinical populations but not for more normal, higher socioeconomic levels because such people tend to produce high K scores, indicating intact defenses even if they are not "faking good." Provisions had been made to identify psychotic-slope profiles using the Goldberg formula (Goldberg, 1965), which is a linear regression equation for discriminating psychotic-slope from neurotic slope MMPI profiles. However, it was not necessary to use this formula as all obtained profiles were clearly neurotic sloped or with clinical scales within the normal range.

For the purposes of this study, only the T-score from scale 2 (Depression Scale) was considered. Lachar (1978) noted that Scale 2 is a sensitive index of a person's current mood as well as more pervasive personality traits of depression. A T-score of 60 or above is indicative of a clinically-significant level of depression. This scale was originally designed to assess symptomatic depression. The 60 items focus on various aspects of depression such as denial of happiness, denial of personal worth, psychomotor retardation, ruminations, agitation, withdrawal and apathy. It also taps vegetative symptoms such as loss of appetite, sleep disturbance and physical complaints. Scale 2 has been described by Graham (1979) as being a very satisfactory
measure of a patient's dissatisfaction and malaise within his/her life situation.

**Beck Depression Inventory:** The BDI is a widely used objective measure of depth of depression which examines 21 clinically defined symptoms of depression. Each of the 21 symptoms describes a specific behavioral manifestation of depression and consists of a graded series of four to five self-evaluative statements ranked from no discomfort to maximum severity. The statements have been assigned numerical values ranging from 0 to 3.

Becker (1974) concluded that the severity of depression estimates based on the BDI are less susceptible to variations in observer bias and diagnostic skill of the rater than estimates based upon unstructured interviews. Validity and reliability data for the BDI have been more thoroughly reported than for other depression inventories. Beck, Ward, Mendelson, Mock and Erbaugh (1961) found the split-half reliability between odd-even items to be $r = .86$. A highly significant correlation between BDI scores and clinical ratings by trained interviewers of depth of depression, as well as the power of the BDI to reflect clinical changes in the depth of depression attest to the validity of the inventory. The reader is referred to Beck et al. (1961) for exact and comprehensive figures.

A BDI score of 16 or above falls within the moderately depressed category; a score of 12 or above is indicative of mild depression. Using these norms avoids the methodological problem of the median split which has been used in many studies with the unfortunate result of having the model BDI scores fall within the normal rather than the depressed range.

Several investigators have pointed out reasons why the BDI is not adequate as the single criterion for research subject selection. It has been noted that while the BDI is a useful measure of severity of depression, other measures are also needed. Becker (1974) noted that the BDI does not distinguish between state and trait depression and the heavy loading on subjective items makes it a poor discriminator.
between normal subjects who are in a state of sadness, unhappiness and loneliness and a moderately depressed clinical population. Blumberry, Oliver, and McClure (1978) found that the BDI was only a reliable measure of a subject's depression on the day it was administered. Despite this finding, Sacco (1981) surveyed the 1976-78 volumes of The Journal of Abnormal Psychology, Journal of Consulting and Clinical Psychology, Cognitive Therapy and Research and Behavior Therapy for studies using the BDI as a measure of depression. Out of 11 studies, only three had used the BDI the day of the experiment.

**Personal Attributes Questionaire:** The PAQ is a self-report instrument designed to measure psychological dimensions of masculinity and femininity (Spence, Helmreich, and Stapp, 1975). It consists of 24 trait descriptions, each set up on a five point scale with values ranging from 0 to 4. Each item describes a characteristic which is stereotypically considered to be socially desirable for males, for females, or to differentiate between the sexes. There are three scales: (1) Masculinity scale is composed of items which are generally considered to be socially desirable for both sexes, but males are thought to possess these items to a greater extent than females; (2) Femininity scale (F) is composed of items which are generally considered to be socially desirable in both sexes, but females are believed to possess these qualities more than males; (3) The Masculine-Feminine Scale (M-F) consists of characteristics which vary in social desirability for the two sexes, such as aggressiveness which is judged to be more socially desirable for males. On the basis of these scales, subjects are classified as being one of four sex role types: Masculine (high on masculine scale, low on feminine); Feminine (high on feminine, low on masculine); Androgynous (high on feminine, high on masculine) or Undifferentiated (low on feminine, low on masculine). A median split method is used to classify subjects in a 2-by-2 table according to their scores above or below the median on the Masculinity and Femininity scales. Spence and Helmreich (1978) established a median of 20 for the M scale and 23
for the F scale and 15 for the M-F scale with individuals obtaining these scores or above being classified above the median and those obtaining lower scores being classified as below the median.

Because PAQ items are socially desirable, responses could possibly be biased in the direction of socially desirable answers which would threaten the validity of the PAQ. However, nonsignificant correlations between the Crowne-Marlowe Social Desirability Scale and the three PAQ scales were obtained using a large sample of male and female undergraduates which indicates that social desirability did not overly influence the response (Spence, Helmreich and Stapp, 1975).

The 24 item research form was used in this investigation because of its reliability and high correlations with the original 55 item form. The following Pearson-product moment correlations were obtained between the long and short forms: \( r = .93 \) for the M scale; \( r = .93 \) for the F scale and \( r = .91 \) for the M-F scale. Reliability for the short form was established by the obtained Cronbach of \( .85 \) for the M scale; \( .82 \) for the F scale and \( .87 \) for the M-F scale.

Validity was measured by means of part-whole correlations between each of the item scores and each of the three scale scores such that the correlations of the items to the scale to which they had been assigned were higher than the correlations of the items to the two other scales. There was a significant difference in the expected direction for every item as well as for the three scale scores when the mean self-ratings of the males and females composing the original sample were compared. For complete information about the development and validation of the scale, the reader is referred to Spence and Helmreich (1978).

**Texas Social Behavior Inventory (TSBI):** This self-report inventory is intended to measure social self-esteem which includes an individual's level of self confidence and competence. Respondents rate themselves on 16 items using a five point scale ranging from "not at all characteristic of me" to "very characteristic of
me". The scale points are assigned numerical values ranging from 0 to 4. Total scores can range from 0 to 64 with high scores indicating high self-esteem. These 16 items were taken from the original 32-item scale; these two scales correlate highly ($r = .96$). A Cronbach alpha of .91 on the 16 item scale was obtained using a sample of college students. Construct validity for the TSBI has been demonstrated in experimental studies of interpersonal attraction. To ensure that responses are not overly influenced by social nonsignificant correlations between the TSBI and the Marlow-Crowne Social Desirability Scale were obtained for a group of college students ($r = .12$ for women and $r = .29$ for men). For more complete information about the development of the scale, the reader is referred to Helmreich and Stapp (1974).

**Internal, Powerful Others and Chance Scale:** This is a 24-item self-report inventory consisting of three eight-item scales, the Internal Scale, the Powerful Others Scale, and the Chance Scale. The Internal Scale measures the extent to which an individual perceives him or herself as determining the outcome of significant events. The Powerful Others Scale measures the extent to which an individual perceives significant others or people in authority as determining the outcome of life events. The Chance Scale measures the extent to which an individual perceives fate or luck as determining the outcome of expectancies. The three scales are statistically independent of each other and have parallel content as much as possible.

Levenson constructed this scale to divide the concept of "external control" which was introduced by Rotter's Internal-External Locus of Control Scale (1966) into two separate components. Her rationale was that people who believe that their life is controlled by luck or fate (the Chance Scale) perceive things differently than the people who believe their lives are controlled by other people in significant or powerful positions. She also sought to clarify the concept by phrasing statements such that they only referred to the respondent's individual perceptions rather than referring to what people in general would believe. This has been the case in Rotter's scale.
Extensive reliability data were obtained. Kuder-Richardson reliabilities (Coefficient alphas) yielded $r = .64$ for the I scale, $r = .77$ for the P scale and $r = .78$ for the C scale. Split-half reliabilities were found using the Spearman-Brown formula, resulting in $r = .62$ for the I scale, $r = .66$ for the P scale and $r = .64$ for the C scale. Test-retest reliabilities over a one-week period were $r = .64$ for the I scale, $r = .74$ for the P scale and $r = .78$ for the C scale. The internal consistency estimates are only moderately high, which is expected since items cover a variety of situations. Correlations among the three scales yielded the predictable results of moderate correlations between the Powerful Others and Chance Scales. Both the Powerful Others and Chance Scales were negatively correlated to the Internal Scale.

Concurrent validity has been established in a study correlating IPC scores with a measure of activism in an environmental protection movement which yielded the expected results (Levenson, 1973).

**Hopelessness Scale:** This is a 20 item, True-False scale with a possible range of scores from 0 to 20. It measures hopelessness as defined by negative expectations. It has been investigated in many studies and found to be reliable (Beck, Weissman, Lester and Trexler, 1974). Nine of the items were adapted from an unpublished test of future attitudes which was set up in a semantic differential format. The remaining items came from a group of pessimistic statements made by psychiatric patients who were judged clinically to have hopeless attitudes.

Concurrent validity was determined by comparing Hopelessness scores to clinical ratings of hopelessness for two samples: (1) 23 outpatients at a general psychiatric clinic ($r = .74$, $p < .001$) and (2) 62 hospitalized patients who had made recent suicide attempts ($r = .62$, $p < .001$). Evidence for construct validity of the Hopelessness Scale has been obtained by several studies in which relevant hypotheses were confirmed (Minkoff, Bergman, Beck and Beck, 1974; Beck, 1974, Beck, Kovacs and
Weissman, 1975). Further validity studies were conducted using 59 depressed inpatients who were given the Hopelessness Scale, the Stuart Future Test and the BDI. A significant correlation was obtained between high pessimism scores on the Stuart Future Test and high HS scores ($r = 0.60, p < 0.001$). Within this population, the hopelessness item on the BDI correlated highly with Hopelessness Scale scores.

Reliability was established using the internal consistency method analyzed by coefficient alpha. For the Hopelessness Scale, this procedure yielded a reliability coefficient of 0.93 using a population of 294 hospitalized patients who had made recent suicide attempts. The five main hypotheses were tested by the following instruments:

1. The group of depressed women will display lower self-esteem than the group of non-depressed women, as evidenced by a lower mean score on the Texas Social Behavior Inventory.

2. The depressed group will display more hopelessness than the non-depressed group as evidenced by a higher mean score on the Hopelessness Scale.

3. The depressed group will display more helplessness, as evidenced by their belief that they have less direct control over their lives than the group of non-depressed women. This will be measured by lower mean scores on the Internal Scale of Levenson's Internal, Powerful Others and Chance Scale.

4. Depressed women are more frequently feminine sex-typed than masculine, androgynous, or undifferentiated sex-typed women as measured by the Personal Attributes Questionnaire.

5. Women who are feminine sex-typed more frequently have low self-esteem than high self-esteem.

The women were divided into two groups, the depressed and the non-depressed groups, on the basis of cut-off scores obtained from the BDI and the MMPI. Subjects classified in the depressed group obtained a T-score of 60 or above on Scale 2 of the MMPI with a valid, non-psychotic profile. They also obtained a BDI score of 12 or
higher. Subjects classified in the non-depressed group obtained a T-score of 59 or below on Scale 2 of the MMPI with a valid, non-psychotic profile. They obtained a BDI score of 11 or below. The reader is referred to Table 2 for a summary of criterion scores.

Each subject was given a packet containing a permission form, a sheet of demographic information, the Minnesota Multiphasic Personality Inventory (MMPI), the Beck Depression Inventory (BDI), the Hopelessness Scale (HS), the Texas Social Behavior Inventory (TSBI), and the Internal, Powerful Others and Chance Scale (IPC). The scales were randomly ordered before placement into the packets. All are self-administered, self-report inventories which required approximately a sixth grade reading level to complete. The measures are described in detail in the Instruments section of this paper and are reproduced in Appendix B. Each subject was instructed to select a four-digit number as identification and to write this number on all materials.

Subjects were instructed to answer the first 399 items of the MMPI and to answer all items of the other scales as well as supplying the demographic information. The subjects were instructed to seal the packets containing the completed tests, to remove the permission forms, and to return these items separately to the investigator. Subjects who were in treatment for depression were told they would receive feedback on their results, if they desired, through their therapists. They were instructed to contact the examiner if they had further questions or concerns. A brief interpretation was written up and explained to their therapists for this purpose. Subjects who were solicited from the community were given the opportunity to schedule an appointment with the investigator to receive feedback.
concerning individual test results. The reader is referred to Appendix B for copies of the materials and scales.

**Results.** Subjects were significantly different on the two criteria measures. Subjects in the depressed group obtained a mean BDI score of 18.00 and a mean T-score on Scale 2 of 72.73, whereas the non-depressed group obtained a mean BDI score of 2.90 and a mean T-score on Scale 2 of the MMPI of 47.77. The groups were compared using a two-tailed t-test. The comparison of the groups on BDI scores yielded a t-value of 7.32 (p<.0001, df = 58). A two-tailed t-test on the MMPI scores between groups yielded a t value of 10.66, (p<.0001, df = 58).

There were no significant differences between groups for age, employment status, or education. Marital status was divided into four categories: (1) Single, never been married; (2) Divorced or separated two or more years; (3) Married or living in a steady relationship; (4) Divorced or separated less than two years. To examine whether there were significant differences in frequency of the categories of marital status by group, a \( \chi^2 \) was calculated with significant results (\( \chi^2 = 6.06, \text{df}=3, \ p<.05 \)). The principal difference was reflected in the finding that 23 per cent of the depressed group was divorced whereas only three per cent of the non-depressed group was divorced.

Another demographic variable which has been proposed to place women at greater risk for depression is having children under the age of six. In the present study, the sample was evenly divided overall with 50 per cent of the women having children and the remaining 50 per cent having no children. Of the women who had children, 25 per cent had children aged five or younger, whereas the other half had older children. A \( \chi^2 \) was calculated to determine whether there was a difference in frequency of depressed women having no children, preschool children or older children. The results were not significant (\( \chi^2 = 3.6, \text{df} =2, \ p>0.05 \)).

Hypotheses one through three examined the three components of Beck's
cognitive triad. The findings of the present study are in support of the cognitive theory of depression. Hypotheses one predicted that the depressed group would display lower self-esteem that the non-depressed group, as indicated by a lower mean TSBI score than obtained by the non-depressed group. A one-tailed t-test using the separate variance estimate procedure yields a t-value of -4.26 which is highly significant (p<0.0001, df=45) and thus supports the first hypothesis.

The second hypothesis predicted that the group of depressed women display more hopelessness ad indicated by higher scores on the Hopelessness Scale than the non-depressed group, who will obtain a lower mean Hopelessness Scale score. The hypothesis was tested using a one-tailed t-test with a resulting t-value of 5.17, which is highly significant (p<0.0001, df=33). These results support this hypothesis.

Hypothesis three predicts that the group of depressed women display more helplessness as evidenced by their belief that they have less direct control over their lives than the group of non-depressed women. This hypothesis predicts that the group of depressed women would obtain a lower mean score on the Internal Scale of the Internal, Powerful Others and Chance Scale. This was tested using a one-tailed t-test with an obtained t-value of -1.73 which is significant (p<0.05, df=56). A one-tailed t-test indicated that the depressed group obtained a higher mean score on the Powerful Others Scale, indicating a greater belief in the influence of other people on the outcome of events as compared to one's own influence, than the non-depressed group displayed (t = 1.87, p<0.05, df=51). This provides further support for the third hypothesis. The depressed group also obtained a higher mean score on the Chance Scale, indicating a higher belief in the influence of chance or fate on the outcome of events than the non-depressed group showed (t = 1.97, p<0.05, df=53). This finding also supports the hypothesis that the depressed group is less internally oriented that the non-depressed group. The reader is referred to Table 3 for a summary of these results.
Furthermore, significant Pearson Product Moment correlations are obtained between BDI scores and scores on the Hopelessness Scale, the Texas Social Behavior Inventory, Levenson's Internal Scale, and the PAQ Masculinity Scale across groups. The BDI and the HS were strongly positively correlated ($r = .84$, $p<.001$). The BDI is negatively correlated with the TSBI, a measure of self-esteem, indicating the higher the degree of depression as measured by the BDI, the lower the self-esteem ($r = -.49$, $p<.001$).

A negative correlation is also obtained between the BDI and the Internal Scale, indicating the higher the degree of depression, the less belief there is in internal control ($r = -.35$, $p<.005$). Significant positive correlations were obtained between BDI score and the Levenson Powerful Others Scale score, indicating that as the degree of depression increased, the belief in the influence of powerful others also increased ($r = .41$, $p<.001$). There is also a positive correlation between BDI scores and Chance scores, indicating that as the degree of depression increased, so did the belief in the fate or luck in determining events ($r = .4102$, $p<.001$). The reader is referred to Table 4 for these results.

Hypothesis four and five consider the importance of sex-typing, specifically the influence of the feminine sex type upon depression and self-esteem. Subjects were classified as being feminine, masculine, androgynous, or undifferentiated six types according to the rules outlined in the Instruments section of this paper. A frequency table of the entire sample indicates: 25 (41.7%) of the sample were androgynous; 25
(41.7%) of the sample were feminine sex-typed; 3 (5%) of the sample were masculine sex-typed and 7 (11.7%) of the sample are undifferentiated sex typed. The reader is referred to Table 5 for a summary of these results.

Hypothesis four predicts that depressed women are more frequently feminine sex-typed than are masculine, androgynous or undifferentiated sex-typed women. This hypothesis was tested first using a $X^2$ analysis for depressed/non-depressed groups by the four sex types. A significant difference was found ($X^2=7.885$, df=3, $p<.05$). The results of this general comparison indicate that there are differences in the frequency of sex-type among the depressed and non-depressed group. However, further analysis is needed to clarify this relationship. Therefore, the feminine sex types were compared to the masculine and androgynous sex-types. The undifferentiated sex types were excluded because they score low on both masculine and feminine sex types and therefore contribute little to understanding the relationship between femininity and depression. Two $X^2$ analyses were performed. The first compared the androgynous, the masculine and the feminine sex type groups without collapsing across groups. This analysis was significant ($X^2=6.451$, df=2, $p<.05$). However, when androgynous and masculine sex types were collapsed into one group and compared to the feminine sex type, nonsignificant results were obtained ($X^2=1.51$, df=1, $p>.05$).
DISCUSSION

This investigation compares a group of clinically depressed women with a group of non-depressed women who were not significantly different in terms of age, education, or employment status. The results strongly supported the first three hypotheses which were formulated to test Beck's cognitive theory of depression. Depressed women possessed lower self-esteem, less belief in internal control (more helplessness) and a greater degree of hopelessness that the group of non-depressed women did. Thus, these results correctly differentiated depressed from non-depressed women as the cognitive triad predicts. Furthermore, significant differences were obtained for the frequency in which the four sex types were found in the depressed or non-depressed group. Although the results were not supportive of the original hypothesis that the feminine sex-typed women are more likely to be among the depressed group, the implications of these findings have important theoretical implications which will be discussed below. The fifth major hypothesis was also confirmed, in that feminine sex typed women were found to have lower self-esteem than were masculine or androgynous women. Two ancillary hypotheses were tested, showing a significant difference in marital status between the depressed and non-depressed groups. There were a higher percentage of divorced women among the depressed group, than in the non-depressed group. No significant differences were found between the groups in terms of having children.

This study is significant in that it compared a group of clinically depressed women with a group of non-depressed women who did not differ significantly in age, education or employment status. Participants were depressed women who were actually in treatment for depression. Although such a sample obviously has self-
selection features, including the fact that all of the subjects were volunteers, such a sample is likely to be more representative of women actually in treatment for depression than are the mild, transiently depressed college students who have been used in so many of the studies of depression (Hammen and Krantz, 1976; Ludwig, 1975; Wener and Rehm, 1975). This sample is older, slightly less educated, more likely to be working, and to have children. Most importantly, these women were experiencing a sufficient degree of distress to seek treatment for their depression. Such a sample meets Beck's operational definition of depression (Beck, 1967) and therefore is a more suitable group to test the cognitive triad as a basis for depression. Because the etiological theories of psychopathology are ultimately used as the basis to improve diagnosis and treatment of emotional disorders, it is critical that such theories be tested upon actual clinical samples rather than the convenient college sophomore who is not very representative of persons who are experiencing moderate to severe degrees of depression as measured by the BDI.

A difficulty in conducting actual clinical research is obtaining suitable controls. In the present investigation, the non-depressed women were from the same communities and did not differ significantly in age, education or employment status. The reader is referred to Table 1, Appendix A for these results.

Furthermore, all these women were from central Texas, an area of the country that is considered to be more conservative culturally than large metropolitan areas, or the East or West Coast, where many of the studies of women and depression have been conducted. This aspect of the study is important when considering implications for the average American woman. Thus, this study is important in that actual patients in treatment for depression were used who are more representative of the population served by outpatient mental health facilities.

The results of this investigation makes is to support the cognitive theory of depression. As discussed in detail in the literature review portion of this paper, the
cognitive theory of depression (Beck, 1967) postulates that depression is a result of the individual's negative perceptions of himself, the world and the future. There has been considerable research accumulated in support of this hypothesis from both a clinical-correlational model (Blaney, 1977; Weintraub, Segal and Beck, 1974; Lishman, 1972) and an experimental model (Blaney, 1977; Ludwig, 1975). The present study indicates that depressed and non-depressed women interpret situations quite differently as indicated by the depressed women having lower self-esteem as a group, having a higher degree of helplessness as indicated by their decreased perception of having internal control, and having a higher degree of hopelessness.

The first aspect of the cognitive triad postulates that depressed people have lower self-esteem than non-depressed people. This difference was highly significant in the present study and supported the work of previous investigators who have found significant relationships between the level of depression as measured by the BDI and measures of self-esteem (Battle, 1978; Beck, 1967). This finding will be further elaborated following the discussion of sex roles.

The second aspect of the cognitive triad is that the depressed person consistently interprets her interactions with the environment as representing defeat, deprivation or disparagement. (Rush and Beck, 1978; Beck, 1967). This helplessness has traditionally been measured by internal-external locus of control measures. The results of the present study indicate that depressed persons view themselves as less responsible for the outcome of events than non-depressed persons as measured by the Internal Scale of the Levenson Internal, Powerful Others and Chance Scale. Furthermore, as indicated by this scale, depressed women perceived luck or fate as being more responsible for the outcome of events than the non-depressed women. This indicates a lack of belief in personal influence over their own lives.

Arieti and Bemporard (1978) have theorized that because of the depressive's excessive reliance upon significant others for gratification and control, the depressive
displays a lack of mastery over self-rewarding functions. This combination of an external orientation and difficulty conducting self-rewarding functions would lead to helplessness. This, this lack of belief in self-determination results in a woman failing to take an active role in improving her situation by problem solving, arranging reinforcing activities, and my being positively assertive in relationships. Such a sense of helplessness has been culturally encouraged by the socially sanctioned stereotypical role of women being passive, self-effacing people who are sensitive to and dependent upon others. This stereotype is reflected in our society in many ways from earliest childhood books and fairy tales of the daring prince who can rescue the maiden in distress, to laws which require a woman to obtain her husband's permission before transacting a purchase of a legal contract, even to television commercials which have a male voice dubbed over to explain to the woman what sort of laundry detergent she should use to wash clothes.

As described by Beck (1967) and Arieti and Bemporard (1978), this helplessness represents a complex situation in which the depressed woman does not take appropriate actions to improve her situation because she expects that she personally cannot influence the outcome of events; yet, she tends to also feel guilty and take responsibility for events which are truly out of her control. Women frequently take a great deal of blame for the actions of their family, or for the misfortunes that happen to significant others in their lives. Although this hypothesis is yet to be tested, the conflicting results about depression and internal-external orientation, particularly for women, could reflect their perception of helplessness coupled with tremendous responsibility for the welfare and happiness of their significant others.

As helplessness increases, the depressed woman perceived herself as having less and less control over events in her life which lead to feelings of hopelessness (Beck, 1967). This is the third aspect of the cognitive triad. The depressed person
holds a pessimistic view of the future and can see no end to present difficulties. It is very difficult to motivate oneself or to be motivated by others if one does not expect a positive outcome for one's efforts. The hopelessness component leads to an increased depth of depression as the woman perceived that her situation is permanent.

The third contribution of the present investigation is to examine the effects of sex role types on women’s particular vulnerability to depression. Hypotheses four predicated that feminine sex-typed women would be more likely to be in the depressed group than masculine, androgynous, or undifferentiated sex types. Results indicated that there was a significant difference among the sex-type groups as to frequency in the depressed or non-depressed group. It was found that androgynous women, who combine positive traits of both sexes, were less likely to be depressed. This is in agreement with the literature concerning the benefits of androgyny, at least for women (Erdwins, Small and Gross, 1980; Antill and Cunningham, 1979; Bem, 1977; Spence, Helmreich and Stapp, 1975).

In addition, it was found that the presence of positive feminine traits per se does not significantly relate to women’s particular vulnerability to depression. Although there is a significant relationship between feminity and low self-esteem (which is one of Beck's component's of the cognitive triad), the presence of positive feminine traits appears not to be the critical factor to depression. Thus, it is hypothesized that there may be factors not measured by the present instruments that are contributing to depression and low self-esteem. These are neglected because only positive traits of the feminine sex role are being measured. These necessarily limit the amount of information available, since sex-types are complex blends of positive and negative attributes of the sexes. The development of new instruments which would measure the negative aspects of sex roles is imperative to further understanding of the relationship between sex-type and depression.

Despite these measurement limitations, there are further implications
concerning sex role from this investigation. It would be expected that androgynous
women were followed longitudinally to see if the masculine and androgynous women,
both of whom score high on instrumental traits, are less prone to depression over time.

The fifth hypothesis predicted that feminine sex-typed women would have
lower self-esteem than androgynous or masculine sex-typed women. Undifferentiated
women would be expected to have the lowest self-esteem of all, because they do not
perceive themselves as having positive traits of either sex. This hypothesis was
confirmed in the present study. Investigators have consistently found that masculine
or androgynous sex types are associated with higher self-esteem for women (Gilbert,
1981; Spence and Helmreich, 1978). The masculine traits as measured by the PAQ are
instrumental ones which imply a strong sense of self reflected in self-assertions, self­
protection and self-expansion. The feminine traits as measured by the PAQ are
expressive ones, which imply selflessness, a concern with others and a desire to merge
with other people (Bakan, 1966, Parson and Bales, 1955). This would logically support
the idea that women base their self-esteem upon their relationships rather than on
their personal qualities or accomplishments. Many theories of depression (Fenichel,
1945; Beck, 1967; Arieti and Bemporard, 1978) have theorized that depressed people
depend upon external sources, particularly significant others, to maintain their sense
of self-worth. Further support for this theory comes from the present investigation's
findings that significantly more of the depressed women (23%) were divorced than the
non-depressed women (3%). Such a disruption of relationships could trigger loss of self
esteem through loss of role status as a wife, through the sense of failure from being
involved in an unsuccessful relationship, and the sense of helplessness from having lost
a major source of financial and emotional support.

Thus, the present investigation adds support to the findings of Parker (1980)
in which a large sample of male and female undergraduates were given a measure of
depression, a self-esteem measure and an internal-external locus of control measure.
Results suggested that actual or threatened loss of an important relationship was the most likely situation to precipitate depression for women.

Such a dependency upon external sources, particularly relationships with men, to maintain a sense of self-worth places women in a vulnerable position, particularly in a culture where men have traditionally taken the dominant role in initiating romantic relationships. Furthermore, men are generally in a stronger position to terminate such unions, because of not being financially dependant upon the woman, or being expected to take custody of children.

Thus, the three aspects of the cognitive triad (Beck, 1967) which are low self-esteem, helplessness and hopelessness can be used in combination with the sex-type information to explain women's greater vulnerability to depression. In particular, feminine sex-typed women have lower self-esteem than women with other sex types. Research has indicated that depressives are prone to depend upon outside sources to maintain their self-esteem and that women are particularly likely to base their self-worth on their relationships rather than their accomplishments. This places them at high risk for depression when involved in an unsatisfactory relationship, no relationship, or when an important relationship is disrupted.

The present investigation has many treatment implications for working with depressed women. The relationship between low self-esteem and depression has generally been well established. The present investigation suggests that more empirical investigation is needed concerning the finding that depressed people are dependent upon external sources to maintain their self-esteem. Therefore they are particularly prone to depression when involved in unsatisfactory relationships or following the disruption of relationships. This indicates that an important therapeutic task in working with depressed women, particularly to prevent the recurrence of depressive episodes, would be to help them develop more confidence in their ability to take care of themselves. Specific techniques would include exploring with women
clients areas of real skill deficits, such as lack of knowledge about finances, mechanics or business, lack of assertiveness or fears about independence. Therapeutically, it would be important to explore possible resistances such as not feeling feminine when carrying out such activities. It would be important to help female clients examine personal qualities and accomplishments that she feels positively about to reduce her external dependency. The therapist must be particularly careful to convey his or her belief that the patient is capable of doing these things herself rather than allowing the woman to become dependent upon the therapist.

When women are already experiencing a considerable degree of hopelessness, this must be first examined to reduce the risk of suicide and to improve their motivation in treatment. Beck and Rush (1978) have developed extensive procedures for reducing depression and hopelessness. For women, in particular, to reduce the feelings of hopelessness, they must feel that their own efforts will ultimately improve their situation. To insure success, treatment needs to systematically help women take control of areas of their life and make independent decisions, gradually working from minor and perhaps, uncontrollable ones. It is crucial that the therapist help the female patient develop ways to emotionally care for herself. For many women, the basic task of recognizing what they want and what is reinforcing for them is a major one because they have focused so long upon deriving their primary reinforcement from pleasing others. This process can be hampered by women feeling guilty about being self-centered or selfish. Such complaints present the opportunity for the therapist to help the woman explore her ideals and perhaps, modify her unrealistic expectations for herself. As the hopelessness is reduced, the woman should become better able to take an active role in obtaining satisfaction for herself since she no longer expects her actions to be futile and she is able to obtain satisfying and positive results for herself. At this point in treatment, emphasis would need to continue to help the
woman develop a realistic self-image based upon her own self-worth rather than solely depending on her relationships.

In summary, the present investigation strongly supports Beck's cognitive theory of depression for women. The depressed women were lower on all three aspects of the cognitive triad. Depressed women scored lower on self-esteem, helplessness measures and scored higher on hopelessness measures than did non-depressed women. Thus, Beck's theory of depression appears to be a valid explanation for women's experiences of significant depression. Treatment implications of this finding were also discussed.

Finally, it was found that the presence of positive feminine sex traits alone did not relate to higher incidence of depression. Thus, it was suggested that current sex role instruments, which identify only positive sex traits may be incomplete. It is suggested that further refinement of sex role instruments may better identify the full range of effects of sex types upon psychopathology. With such an identification of the full range of sex role attributes and their contributions to sex role behavior, their contribution to women's greater vulnerability to depression would be more completely understood.
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APPENDIX A
<table>
<thead>
<tr>
<th></th>
<th>DEPRESSED</th>
<th>NONDEPRESSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age(x)</td>
<td>30.80</td>
<td>30.03</td>
</tr>
<tr>
<td>Education(x)</td>
<td>14.26</td>
<td>15.06</td>
</tr>
<tr>
<td>Employed(%)</td>
<td>73%</td>
<td>70%</td>
</tr>
<tr>
<td>Marital Status (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Single</td>
<td>30%</td>
<td>37%</td>
</tr>
<tr>
<td>- Married</td>
<td>47%</td>
<td>60%</td>
</tr>
<tr>
<td>- Divorced more than 2 years</td>
<td>10%</td>
<td>3%</td>
</tr>
<tr>
<td>- Divorced less than 2 years</td>
<td>13%</td>
<td>0%</td>
</tr>
<tr>
<td>Children (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- None</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>- Preschoolers</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>- Older children</td>
<td>30%</td>
<td>20%</td>
</tr>
</tbody>
</table>
TABLE 2
A comparison of the depressed and non-depressed group on the criteria measures, the MMPI and the BDI.

<table>
<thead>
<tr>
<th></th>
<th>Depressed</th>
<th>Non-depressed</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI score (x)</td>
<td>18.00</td>
<td>2.90</td>
<td>7.32*</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(11.01)</td>
<td>(2.58)</td>
<td></td>
</tr>
<tr>
<td>MMPI T-score (x)</td>
<td>72.73</td>
<td>47.77</td>
<td>10.66*</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(11.41)</td>
<td>(5.86)</td>
<td></td>
</tr>
</tbody>
</table>

*significant at p<.001 level
TABLE 3
Means, Standard Deviations and t-values for the depressed and non-depressed groups on the Texas Social Behavior Inventory, the Hopelessness Scale, the Levenson Internal, Powerful Others and Chance Scale.

<table>
<thead>
<tr>
<th></th>
<th>Depressed</th>
<th>Non-Depressed</th>
<th>t-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TSBI(x)</strong></td>
<td>35.73</td>
<td>47.00</td>
<td>-4.26**</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(12.70)</td>
<td>(6.94)</td>
<td></td>
</tr>
<tr>
<td><strong>HS (x)</strong></td>
<td>6.93</td>
<td>1.60</td>
<td>5.17**</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(5.48)</td>
<td>(1.40)</td>
<td></td>
</tr>
<tr>
<td><strong>LI(x)</strong></td>
<td>34.20</td>
<td>37.37</td>
<td>1.73*</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(7.65)</td>
<td>(6.46)</td>
<td></td>
</tr>
<tr>
<td><strong>LP(x)</strong></td>
<td>21.60</td>
<td>18.23</td>
<td>1.87*</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(8.13)</td>
<td>(5.59)</td>
<td></td>
</tr>
<tr>
<td><strong>LC(x)</strong></td>
<td>22.00</td>
<td>18.50</td>
<td>1.97*</td>
</tr>
<tr>
<td>(s.d.)</td>
<td>(7.91)</td>
<td>(5.67)</td>
<td></td>
</tr>
</tbody>
</table>

**one-tailed t-value p<.0001
*one tailed t-value p<.05
TABLE 4

A summary of Pearson Product Moment Correlations between the Beck Depression Inventory, the Minnesota Multiphasic Personality Inventory (MMPI) and selected measures.

<table>
<thead>
<tr>
<th></th>
<th>BDI</th>
<th>MMPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS</td>
<td>.84***</td>
<td>.56***</td>
</tr>
<tr>
<td>TSB</td>
<td>-.49***</td>
<td>-.48***</td>
</tr>
<tr>
<td>LI</td>
<td>-.35**</td>
<td>-.34**</td>
</tr>
<tr>
<td>LP</td>
<td>.41***</td>
<td>.22*</td>
</tr>
<tr>
<td>LC</td>
<td>.41***</td>
<td>.28*</td>
</tr>
<tr>
<td>M</td>
<td>-.49***</td>
<td>-.26</td>
</tr>
<tr>
<td>F</td>
<td>-.21</td>
<td>-.06</td>
</tr>
</tbody>
</table>

* significant at $p < .05$ level
** significant at $p < .005$ level
*** significant at $p < .001$ level
TABLE 5

A frequency table of sex types divided into depressed and non-depressed groups.

<table>
<thead>
<tr>
<th>Sex Type</th>
<th>Depressed</th>
<th>Non-depressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Androgynous</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>Masculine</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Feminine</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>
Project #81-0035
Texas Department of Mental Health and Mental Retardation

Informed Consent

This is a study of emotional difficulties among women in the Central Texas area. Each participant will be asked to complete the Minnesota Multiphasic Personality Inventory (MMPI), the Beck Depression Inventory (BDI), the Texas Social Behavior Inventory, the Hopelessness Scale, the Personal Attributes Questionnaire and the Levenson Internal, Powerful Others and Chance Scale. All of these questionnaires are widely used, paper and pencil measures requiring about a sixth grade reading level. Participants will receive individualized feedback concerning their results which may be useful in treatment planning for them. The participants's identity will be kept anonymous. The only anticipated risk may be slight boredom, with benefits to include an opportunity to learn more about oneself and to participate in research aimed at learning more about women in this area.

Completion of testing material is estimated to take between one and a half to three hours. All subjects will be fully informed of the nature of the study when the research is completed. Questions may be directed to the principal investigator, Barbara Hardin, M.S.. In addition:

1. You may consult with a member of the Human Assurance Committee, Austin State Hospital, 4110 Guadalupe, Austin, Texas 78755 by writing or calling Robert J. Silver, Ph.D., Chairman, at (512) 452-0381, ext. 4492.

2. You may consult with a member of the Public Responsibility Committee at any time regarding your treatment and welfare by writing: Public Responsibility Committee, Austin State Hospital, P. O. Box 4770, Austin, Texas, 78751.

Each participant may withdraw at any time during the investigation.
I understand each of the above items relating to the participation of ____________________________________________, in the research project #81-0035, under the care of Barbara M. Hardin, M. S., Investigator, and I hereby agree to participation in the research project.

DATE: _______________________

_______________________________________________
SIGNATURE OF PATIENT
Demographic Data

Case #____________________    AGE_______

Marital Status: (Check One)

_____1. Single (Never married or living with a man)

_____2. Single (Divorced, separated, or widowed two or more years)

_____3. Married (or living with a man in a steady relationship)

_____4. Married (separated or divorced less than two years)

Employed? Yes______ No_____

If yes, occupation_______________________

Number of hours per week_______________

Children? Yes______ No_____

If yes, list ages_______________________

Educational Level___________________________

(Highest grade or degree completed)

Instructions: Each questionnaire is to be filled out. Please include your case number on each page.
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These consist of pages:

82-84, Beck Depression Inventory.
85, Hopelessness Scale.
86-87, Levensons' Internal, Chance and Powerful Others Scale.
88-90, Texas Social Behavior Inventory.
91-92, Personal Attributes Questionnaire.

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EXAMINATION AND THESIS REPORT

Candidate: Barbara Marie Hardin

Major Field: Clinical Psychology

Title of Thesis: Selected Factors Contributing to Depression Among Women

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

November 2, 1982