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THE RELATIONSHIP OF SELF CONCEPT TO LEVELS OF ANXIETY AND DEPRESSION IN WOMEN RECEIVING VACUUM CURETTAGE ABORTIONS.

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THE RELATIONSHIP OF SELF CONCEPT TO LEVELS OF ANXIETY AND DEPRESSION IN WOMEN RECEIVING VACUUM CURETTAGE ABORTIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Graduate School of the Ohio State University

By

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1978

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To My Parents
Betty and Sloko
ACKNOWLEDGEMENTS

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CHAPTER I

Statement Of The Problem

Chapter I of this study introduces the research question: is there a relationship between self-concept and levels of anxiety and depression in women receiving vacuum curettage abortions? The chapter was organized as follows: 1) introduction to the problem which looked at self-concept as a psychological construct and reviewed some of the literature relating to the nature of self-concept, 2) purpose of the study, 3) hypotheses, 4) need for the study, 5) limitations of the study, 6) definition of terms, and 7) organization of the remainder of the dissertation.

INTRODUCTION

Self-Concept as a Psychological Construct

Various theorists have used the term "self" and "self-concept". Unfortunately, there seems to be little consensus on a concrete definition of self. English and English (1958) and Wylie (1974), state that the many uses of self-concept can be dichotomized roughly into self as agent or process and self as object of the person's own knowledge and evaluation. Wylie (1974) further suggested that self as object is seen by psychologists as the knowledge and evaluation of one's conscious awareness or may be partially or entirely unavailable to awareness. Even with this dichotomization, however, there is still considerable diversity in definition of self as a psychological construct. Part of
the problem seems to be the difficulty in researching and measuring the self-concept. Even though early theorists such as William James wrote on self and how it related to human behaviors and early philosophers wrote on the relationship of self-concept to human behavior, it was not until the late 1940's that the study of self and self-concept became more prominent. With the growth of the human potential movement, self theory began to gain more interest and investigation. From Maslow's theory of self-actualization to Jourard's phenomenological self, the interest in individual differences and self-growth continued. Although no clear cut definition of "self" and "self-concept" emerged, it became evident that there were some similarities in defining self-concept as a psychological construct.

In reviewing the recent literature, one finds a diversity of opinions on self-concept. However, most theorists would agree that self-concept is derived from interaction with significant others (Murphy, 1947; Mead, 1934), is based on each individual's perceptual field (Combs and Syngg, 1959), and able to vary from time to time (Raimy, 1975). Since each individual's self-concept is based not only on his own perceptions, but also on how he or she views those perceptions, the study of self-concept becomes an increasingly more important issue for those involved in therapeutic effectiveness and change.

Lecky (1951) stated that ideas of the self are the most important variable in determining an individual's behavior. Self theorists (Rogers, 1961; Maslow, 1968; Combs and Syngg, 1959) emphasized each individual's unique experiences, thinking, and potential for growth. Raimy (1975) carried this notion even farther to state that the major components of self-concept are the convictions, beliefs, and notions one has about
oneself which accounts for faulty adjustment. Many early and modern day theorists also agreed that it is often one's thinking about self and self in situations that causes psychological stress. Epictetus (1908) discussed thinking as causing emotional states. Spinoza (1901) and DuBois (1907) talked about "morbid ideas" that cause psychological stress. Adler (1924, 1927) talked about fictions that distort reality. Kelly (1955) stated that a person's psychological processes are channeled by the way he/she anticipates events. Combs and Syngg (1959) stated that all behavior is a function of the individual's perceptions. Madga Arnold (1960, 1968) tied in a physiological component suggesting that people make appraisals about something as either "good" or "bad" and, based on these appraisals, experience physiological reactions. Even Gestaltist Fritz Perls (Perls, Hefferline and Goodman, 1965, p.382) stated that behavior can be called neurotic when "the personality consists of a number of mistaken concepts of oneself".

In dealing with patients therapeutically, it becomes increasingly important to recognize their self perceptions in an attempt to intervene in their adaptation to internal and external events. Coopersmith (1967) stated that individuals with low, medium, and high self concepts adapt to events in strikingly different ways. He felt that because they experience the same event differently, they have different expectations, and consequently, different affective reactions. In addition, he felt that individuals with low self-esteem will exhibit higher levels of anxiety, more psychosomatic complaints, and more depressed feelings. It is important, then, to look more closely at how self concept relates to levels of depression and anxiety.
Depression and anxiety are probably two of the most frequent emotional disturbances the therapist meets in the field of mental health. Although some writers suggested that the disturbances, especially depression, are endogenous, more often than not clients suffering from anxiety and/or depression are reacting to transient situational disturbances. How they perceive themselves and themselves in the situation will often determine whether the reactions will be detrimental or enhancing to their own mental health.

As early as the fourth century B.C., Hippocrates attempted to describe melancholia, the name given to depression by earlier writers. In the second century A.D., both Aretacus and Plutarch further described depressive symptoms indicating that the melancholic patient feels "sad, dismayed, sleepless.... They become thin by their agitation and loss of refreshing sleep.... At a more advanced stage, they complain of a thousand futilities and desire death". (Beck, 1967, p. 4)

As the notion of depression evolved, so did the terminology and nomenclature surrounding depression. Presently, theories of depression range from the Psychoanalytical Freudian theory of aggression turned inward to the Behavioral notion of learned helplessness (Seligman, 1975).

In addition, depression is becoming more and more prominent as a diagnosed emotional disturbance. Kline (1964) stated that more people suffer from depression than any other disease. Dunlop (1965) saw depression second only to schizophrenia in first and second admissions to mental hospitals, while the prevalence of depression outside mental hospitals is five times greater than schizophrenia.

Often depression seems to have stress and life events as precipitating factors. Freedman, Kaplan and Sadock (1976, p. 634) reported that
"in the period immediately before the onset of depression, life events of a variety of types occur with greater frequency among depressed patients than among matched control groups". Often it's how the client views these life events that contribute to his/her feelings of helplessness. Beck (1967) talked about the primary triad of depression—the pattern a person has for viewing his experiences, self, and future. Depression, according to Beck, is caused by the client misconstruing his/her experiences so they distract from the self and consequently lead to feelings of helplessness and hopelessness. Ellis (1962), Raimy (1975), Lazarus (1971), Schacter (1966), and Tosi (1974) all supported this view.

In addition to depression, another commonly found disturbance is anxiety. Freud saw anxiety as playing an important role in the development of all types of disruptive behavior. He felt that the organism then develops techniques and defenses for avoiding or alleviating anxiety. Wolpe (1958, 1969) saw anxiety as a specified pattern of the sympathetic nervous system when an individual is exposed to threat. This notion is congruent with Freud (1926), who suggested that anxiety is a warning of an external or internal danger. Leventhal's (1969) "parallel response paradigm" stated that each individual perceives an external threat, makes an appraisal of that threat, and develops appropriate adaptive behavior. Horney (1945, 1950) saw basic anxiety as feelings of helplessness and isolation, a source of unhappiness, and eventually reduced personal effectiveness. Beck (1976, p.126) suggested that it is often a person's thinking about an anticipated event that causes his/her disturbance. "If you question a person about his thoughts at the time he feels anxious, it becomes clear that they involve the
anticipation of an unpleasant event that may occur in the future". Ellis (1971) stated that overgeneralization about future events often causes anxiety. Anxiety is often evident when a perceived event is construed as catastrophic. Just as depression is often a result of the perceptions an individual has about himself and his behavior, so too, anxiety often results when future events regarding self and situation are misconstrued.

Because of the varying opinions on what constitutes self concept, it is difficult to define self concept, its origin, and its relationship to human behavior. Most theorists, however, seem to agree that an individual's perceptions of self do influence behavior. Coopersmith (1967) elaborated this concept and suggested that there is some relationship between self concept and levels of anxiety and depression. Since anxiety and depression are both very common phenomena in today's society, it may prove interesting to investigate whether or not levels of anxiety and depression do relate to self concept.

It seems as though much of man's behavior and emotions are centered around the self, perceptions of the self, and the self in situations. Therefore, it becomes important to study not only the perceptions an individual has about his own worth, but also how his own self-concept is related to how he emotionally experiences life events. With this information, therapists can begin to develop well integrated therapeutic interventions to aid individuals in developing more adaptive behavior.

PURPOSE

The purpose of this study is to examine the self concepts of women receiving vacuum curettage abortion and how the self concept relates to
the levels of experienced anxiety and depression. The major research question posed was whether there was a significant relationship between self concept, as measured by the Tennessee Self Concept Scale (TSCS) (Fitts, 1965), state and trait anxiety, as measured by State Trait Anxiety Inventory (STAI) (Spielberger, Goreuch, and Lashene, 1970), and depression and anxiety, as measured by Multiple Affective Adjective Checklist (MAACL) (Zuckerman and Lubin, 1965) in women receiving vacuum curettage abortions.

HYPOTHESES

The following hypotheses were tested in the study: (1) There is no significant relationship between self concept as measured by TSCS, and state and trait anxiety, as measured by STAI, and anxiety and depression as measured by MAACL in women receiving vacuum curettage abortions. (2) There is no significant difference in levels of state and trait anxiety as measured by the STAI and anxiety and depression as measured by the MAACL in women prior to and following vacuum curettage abortions.

NEED FOR THE STUDY

Since 1973, when the United States Supreme Court legalized abortion, there has been a growing interest in women's services and, in particular, growing availability of abortion services in private and public clinics. However, as early as the 1930's, therapeutic abortion was gaining the attention of psychiatrists. Much of the literature during this time reported that often women experienced serious psychiatric side effects following termination of their pregnancies. According to Simon and Senturia (1966), who reviewed the literature from 1935 to
to 1964, many of the studies done during this time have been quoted
and requoted many times without consideration for the data in the papers.

In the past decade, with the legalization of abortion and the chang­
ing societal climate, there has been almost a complete turnabout in re­
gard to psychiatric opinion on abortion. Williams (1977, p.255) stated
that "prior to the 1970's it was difficult to find a psychiatric
authority who did not believe that abortion left serious scars on a
woman's psyche, especially depression and guilt". However, the recently
emerging literature on post-abortion psychosis or psychiatric distur­
bance is relatively non-existent. Unfortunately, most of the present
literature is either case studies or psychiatric opinion. There are
only a handful of experimental descriptive studies done on the topic.
Sadock, Kaplan and Freedman (1976) suggested that abortion is presently
too charged an emotional issue for objective studies to emerge. This
probably accounts for the lack of research in the area.

In order to improve the psychological treatment given to women
seeking abortions, it is important to investigate some characteristics
of these women and the circumstances related to abortion. Since most
recent psychiatric opinion stated that psychiatric disturbance following
abortion is relatively non-existent, then it seems reasonable to assume
that any disturbance following abortion is probably a transient situa­
tional disturbance. In order to best deal with only situational dis­
turbance, it becomes important to know more about the population in
that situation.

Unfortunately, there is little concrete, statistically sound research
done on women who seek abortions. Most of the literature prior to 1973
dealt with women seeking therapeutic abortions. This population was
considerably different than the population of women seeking abortions today. Now abortion is available to almost all women without the medical or psychiatric "approval" that was imperative in the past. Consequently, the population of women receiving legitimate abortions has drastically changed. In addition, the social and legal stigma of abortions is experiencing somewhat of a turnabout as women begin to recognize that there are alternatives open to them. Unfortunately, even with the legalization of abortion and the changing social climate, there have been very few studies done on characteristics of women receiving abortions, women's reaction to abortions, and what effect, if any, abortions have on a woman's psychological well-being. This study is an attempt to add some information to the dearth of material on abortion.

The purpose of this study was to investigate whether a woman's self concept relates to how she handles levels of anxiety and depression prior to and following vacuum curettage abortion. In addition, it was an attempt to replicate a study looking at levels of anxiety and depression prior to and following vacuum curettage abortion. Hopefully, research of this sort will aid those treating women seeking abortions in better understanding characteristics of that population. Data of this sort will hopefully pave the way for studies investigating how counseling interventions for women seeking abortions may be improved.

LIMITATIONS OF THE STUDY

This study was limited to a sample of one hundred fifty (150) women seeking abortions at a Reproductive Health Screening Center in Columbus, Ohio. The patients who present themselves at the clinic and the sample
for this study were diverse in variables of race and economic status, however, geographic area and region do represent a limitation on random sampling in that no true sampling of the total population of women seeking abortions was represented. Because no further clinic initiated contact can be made with women following the abortion, this study does not contain follow-up data. All psychological testing was done on the day of the abortions. In addition, only first-trimester vacuum curettage or suction abortions are performed at the clinic, thereby eliminating from the sample women who are beyond the first trimester of pregnancy.

DEFINITION OF TERMS

The following definitions are presented for a more thorough understanding of terms used throughout the study:

**Abortion:**

The termination of a pregnancy by medical means. All women in this study received a suction abortion or vacuum curettage abortion which is a simple technique in which the fetus is sucked out of the uterus through a narrow tube which is inserted into the cavity of the uterus through the cervix.

**State Anxiety:**

State Anxiety was seen as a transitory emotional state or condition that fluctuates over time and varies in intensity. It is usually characterized by consciously perceived feelings of tension and heightened automatic nervous activity (Spelberger, Gorsuch and Lashene, 1970).

**Trait Anxiety:**

Trait Anxiety was a measure of anxiety-proneness, that is, the differences between individuals is the probability that anxiety states will be manifested under circumstances involving various amounts of
stress (Spielberger, 1966).

Self-Concept:

Self concept was operationalized as that which is measured by the total self-concept score reported by the Tennessee Self Concept Scale. Elevated scores on this scale were considered to reflect high self concepts, average scores were considered to reflect medium self concepts, and low scores were considered to reflect low self concept scores.

Depression:

Depression was defined as a transient situational disturbance marked by alteration in mood, change in activity level, and feeling of helplessness and/or hopelessness.

High Self-Concept:

High Self-Concept was measured, in this study, by the Total P scores on the Tennessee Self Concept Scale. Total P scores in this study ranged from 238 to 414. Data were trichotomized into high, medium, and low self-concept. For the purpose of this study, individuals with scores higher than 354 were categorized as individuals having high self-concept.

Medium Self-Concept:

Medium Self-Concept was measured, in this study, by Total P scores on the Tennessee Self Concept Scale. Total P scores in this study ranged from 238 to 414. Data were trichotomized into high, medium, and low self-concept. For the purpose of this study, individuals with Total P scores between 324 and up to and including 354 were categorized as individuals having medium self-concept.

Low Self-Concept:

Low Self-Concept was measured, in this study by Total P scores on the Tennessee Self Concept Scale. Total P scores in this study ranged
from 238 to 414. Data were trichotomized into high, medium, and low self-concept. For the purpose of this study, individuals with Total P scores of 323 and below were categorized as individuals having low self-concept.

Self Perception:

Self Perception was defined as the process by which the self becomes aware of events, objects, and people through the interaction of sensation with prior experience.

ORGANIZATION OF THE REMAINDER OF THE DISSERTATION

This chapter has an introduction, statement of the problem, the hypotheses, the need for the study, limitations of the study, and definition of terms used throughout the study. Chapter II presents a review of the literature relevant to the study. Chapter III contains the methodological considerations, data analysis procedures, and the research design. Chapter IV is a report of the results and conclusions and Chapter V addresses implications for practice and further research.
Chapter II

Review of Related Literature

The major research question this study addressed is the relationship between self concept and levels of anxiety and depression in women receiving vacuum curettage abortions. A review of research pertinent to the variables contained in the hypotheses and their relationship to one another will be discussed in this chapter. This chapter will review literature concerned with: 1) abortion and psychological sequelae of women receiving abortions, 2) self concept, 3) self concept measurement, 4) measurement of anxiety and depression: (a) measurement of state and trait anxiety and (b) multiple affect adjective checklist, and 5) summary.

Abortion and the Psychological Sequelae of Women Receiving Abortions.

The idea of abortion is hardly a new concept. Philosophers such as Plato and Aristotle agreed with and encouraged abortions for women who no longer wanted to continue their pregnancies. Devereaux (1955) stated that abortion not only existed in some pre-industrial cultures but was, in fact, encouraged. In the United States, however, the controversy surrounding abortion has existed for a number of years and still continues.

For many years legalized abortions were granted to women if they could somehow prove the abortion was for therapeutic reasons such as the protection of a woman's mental or physical health. With the rise of the feminist movement in the 1960's and the pioneering efforts of
such individuals as Pat Marginnes, Dr. Milan Viutch, Dr. W. J. Bryan Henrie, and others, the right of a woman to terminate an unwanted pregnancy became an issue of growing concern. Finally, in 1973, abortion became legal in the United States. With the legalization of abortion, some elements of society have become more accepting of abortion as a viable alternative. Skowronski (1977) stated that many religious sects altered their policies on the abortion issue. Both Baptist and Unitarian Associations, in 1968, approved of the individual's right to choose whether or not to abort. In 1969, the Quakers echoed the approval of abortion as a woman's choice. In other countries, abortion is often part of the health services. India, Red China and Eastern Europe offer abortions legally and, as in Eastern Europe, free of charge. Even countries where Catholicism has a strong influence, are beginning to legalize abortion. Recently, Italy not only passed an ordinance legalizing abortion in that country, but also allowed for government subsidy for women seeking abortions.

Even with the growing acceptance of abortion, there still seems to be some question as to the psychological effect abortion may have on a woman. Williams (1977) and Skowronski (1977) suggested that the illegality of abortions in the past was probably significant in contributing to the psychological trauma following abortions. However, with the legality of abortions and gradually changing societal attitudes, the trauma and psychological disturbances following abortions have been minimized. Most of the recent literature suggested that women who have had previous psychiatric disturbances are the most vulnerable to developing psychiatric symptoms after abortions (Sadock, Kaplan and Freedman, 1976; David, 1972). Most mentally healthy individuals, however,
experience no significant psychological disturbance. Eklad (1955) suggested that only 1% of the 479 women he studied who had legally aborted had major psychiatric disturbances following the abortions. Kummer (1963, p 982) found that in "surveying a group of American psychiatrists, psychiatric illness following abortions occurs rarely or not at all". Osofsky and Osofsky (1972) reported that the objective data reveals a surprisingly low incidence of psychological complications. Sadock, Kaplan and Freedman (1976) suggested that the majority of papers published after 1967 suggested that abortions performed in a medical setting produced little, if any, psychological sequelae. Kretzchmar and Norris (1967) report on the psychological sequelae of 32 therapeutic abortions. In a 1-5 year follow-up of 24 patients they found no negative side effects. Reardon and Gill (1978) reported that there seems to be little psychological disturbance following abortions. As in any operative procedure, however, there may be some mild transient disturbance. Simon, Senturia and Rothman (1967) suggested that both healthy and psychiatrically ill women will respond with some transient symptomatology following abortions, however, for the most part all patients improve following the procedure. Niswander and Patterson (1967) studied 116 patients following therapeutic abortions and found that few expressed regrets, and those tended to disappear after 8 months.

Fingerer (1973) did a study using the Multiple Affective Adjective Checklist and State Trait Anxiety Inventory on women seeking abortion, those people who accompanied these women to the clinic, post-doctoral students in Psychotherapy and Psychonalysis, and four (4) groups of female role-players. The women were asked to fill out the tests pre and post abortion. All other groups were asked to fill out the tests as they
felt women who were receiving abortion would fill them out. Fingerer found that patients actually receiving the abortion scored lowest on all the tests while the psychoanalytic group scored highest, being committed to the idea of severe psychiatric sequelae.

From these data, Fingerer concluded that, as far as the measures imply, there is no immediate anxiety after abortion. In some instances there were reports of mild depression, probably of a transitional reactive type. She further concluded that abortion seems to result in relief rather than anxiety and depression.

Perhaps one of the greatest contraindicators to abortions in mentally healthy women is if the decision to abort had been made solely on coercion (Friedman, Freenspen and Mittlemen, 1974). Skowronski (1977, p. 107) stated that, "it is harmful to a woman's integrity to be forced into an abortion". A woman who chooses abortion unencumbered by outside pressures is least likely to suffer negative psychological after effects. Brachen, Pihl, Hachemovitch and Grossman (1974, p.155) suggested that women who make their own "high quality decision will experience fewer psychological disturbances later". Fortunately, most reputable abortion facilities will screen patients not only for prior psychiatric disturbance but for whether the decision seems to be made by the individual or is an after effect of coercion by others. Should any question arise, pre-abortion screening is usually continued before the abortion is done.

Because a woman's body goes through hormonal changes during pregnancy, there may be some question regarding the biochemical reactions of women who seek an abortion in their eighth to twelfth week of pregnancy. Since women who carry a pregnancy to term often experience some post partum depression after the hormonal change, it may be hypothesized
that women terminating their pregnancy in the first trimester also ex-
perience some hormonal change, and consequently, may also experience
some depression and stress. Sachar (1976) stated that there is indirect
evidence that the gonadal hormones affect the metabolism of catechola-
mines or cerebral MAO levels. The neurons release catecholamines which
are then metabolized and MAO then causes catecholamines to metabolize
back to the original state. This leaves a high amount of MAO at the
synapse with a low amount of catecholamines. Biochemically, it is hy-
pothesized that this causes depression. Therefore, during a woman's
pregnancy, menopause, menstrual cycle, and while women are taking the
birth control pill, the changing amounts of estrogen, progesterone, and
testosterone may effect the woman's psychological state. The abrupt
lowering of hormonal levels at the termination of pregnancy may leave
the woman's body with high levels of MAO, lowered levels of catechola-
mines, estrogen, and testosterone, causing depression.

Most women receiving abortion, and all women in this study, are in
their first trimester of pregnancy. While it cannot be denied that hor-
monal levels have been changing in early pregnancy, the change is far
from what is would be should they carry to term. Therefore, as stated
earlier, women may experience mild transitory depression following their
abortion. Whether this depression is due to hormonal change, moral or
societal mores, or other extraneous variables remains only hypothesis
at this point. It is important, however, to recognize that mild depres-
sion may be possible in women seeking abortions.

In reviewing the professional literature on abortion, one must con-
clude that opinion seems to be moving toward abortion affecting minimal
psychological disturbance in mentally healthy individuals. However,
little seems to be written on the characteristics of women seeking
abortion. Knowing more about the population in this situation will not aid only in screening individuals but also in developing more beneficial counseling interventions.

Self Concept

Relatively no literature is available on the self concept of women seeking abortions. In fact, the term self concept has only recently gained prominence in the field of behavioral science, and the definitions of self and self concept are still being debated. Coopersmith (1967) saw no single theoretical framework within which self esteem can be considered without accepting a number of vague and unrelated assumptions. However, as early as 1890, William James began to explore the notion of "self". James called the self the Empirical Self and divided the self concept into three (3) subsystems - 1. social self, 2. spiritual self, and 3. physical self. He suggests that each individual's values and aspirations play a significant part in determining each individual's thoughts regarding self. As each individual's world begins to include more and more things, persons, and abstractions, his/her self begins to "expand".

Prescott Lecky (1951) in his book Self-Consistency: A Theory of Personality stated that ideas regarding self are fundamental in determining an individual's behavior. Lecky said that ideas regarding the self are at the center of each person's existence with all other ideas being arranged so that ideas strongly supporting the self are nearest to the nucleus and other ideas are placed at various distances away from the nucleus as they become less important to the ideas of self. This organization of feelings and thoughts becomes each person's "self". Combs and Snygg (1959) stressed the importance of each individual's unique
thinking, perceptions, and feelings - his/her ideas of self influencing his/her behavior. Maslow (1968, p.191) carried this notion even farther suggesting that each individual's nature has some characteristics which are species wide and others that are unique to the individual. He suggested that each individual strives not only for fulfillment of basic needs but for self-actualization - the development of selfhood to the fullest. Murphy (1947) saw self concept as a clinging together of definite patterns and objects that have been brought together by each individual's growth and experiences.

Raimy (1971) also saw the self as a learned perceptual system. He states that behavior can be restructured and altered by self concept. According to Raimy, self concept lays the groundwork for the study of personality from a unified theoretical view. As many social psychologists, he sees the development of self concept being influenced by each individual's social interactions. Each individual's opinion of self is an important means of predicting that individual's social behavior. Many other theorists also supported the notion of self and social behavior. Cooley (1922, p.170) referred to the self as the social self or role self stating:

"The emotion or feeling of self may be regarded as instinctive, and was doubtlessly evolved in connection with the important function in stimulating and unifying the special activities of individuals".

Mead (1934) stated that self-esteem is derived from the reflected appraisal of others. Each individual internalizes the attitudes, values, and ideas of significant others and eventually adopts those as his/her own. Every individual, then, can be seen as a reflecting mirror of his/her social group. Even Combs and Snygg (1959) supported the social self
theory to some degree stating that people's self concept will be found to have some similarity to what other people think of them.

Many theorists believe that notion about self and self in situation revolves around the convictions, thoughts, and beliefs each individual has about him/herself. Early theorists such as Spioza (1901), Epicetus (1899), and Dubois (1909) talked about each individual's ideas regarding self and how these ideas led to psychological stress. Adler (1927) talked about the notions of inferiority and consequently building feelings of superiority. He suggested that these "fictions" and self statements distort reality. Ellis (1962) stated that self thought or perceptions often led to psychological disturbance. Magda Arnold (1960, 1968) said that people make appraisals about self and self in situation as either "good" or "bad". Based on these appraisals, individuals usually feel some psychological stress and experience bodily reactions. Kelly (1966) suggested that each individual's psychological processes, the emotion each individual feels, are channeled by the way that individual anticipates events. Lazarus (1971) stated that individual's judgments and self thoughts influence his/her behaviors.

In studying specific populations, it becomes important to recognize the individual's perceptions of self and consequently any emotional or behavioral relationships between self concept and the individual's interaction with his/her environment. Combs and Snygg (1959) said that how an individual acts in any given situation will be dependent upon (1) how he/she perceives him/herself and (2) how each individual perceives the situation in which they are involved. One may assume that individuals with better feelings about self will react more adaptively and confidently than individuals with negative self feelings. Coopersmith
(1967) stated that persons who are higher in self-esteem are more effective in meeting environmental demands than people low in self esteem. It has been suggested that individuals with higher self concepts will react more adaptively to given situations. Other theorists talk about the effectiveness and productiveness of individuals who feel good about themselves. Rogers (1961) talked about the fully functioning individual. Maslow (1968) suggested the importance of assimilating growth producing experiences and the ability of self actualized persons to better adapt to life situations. Coopersmith (1967) felt that self esteem is related to each individual's basic style of adapting to environmental demands. He felt that individuals with high, medium, and low self concepts adapt to events in markedly different ways. Each experiences the same event differently, yet each has different expectations and different affective reactions. Coopersmith carried this even farther suggesting that higher levels of anxiety, more depressed feelings, more frequent psychosomatic complaints, and a lowering of other expressed affects are symptomatic of individuals with low self concept. If these data and other reviewed data are accurate, then it becomes important, therapeutically, to recognize each individual's self-concept and self thoughts in hopes of dealing with present adjustments and anticipating further ones. Since abortion may require some physical and emotional adjustment, it seems appropriate to investigate how self concept relates to the emotions of anxiety and depression in abortion patients. It may prove beneficial to investigate whether women with high self concepts react to the abortion with less anxiety and depression than women with low self concepts. If women with high self concepts do react with less anxiety and depression, then it may be beneficial for those involved in abortion counseling to screen
applicants on self concept. Perhaps individuals with lowered self concepts could then be helped to more adaptively deal with their abortion.

Self Concept Measurement

As the notion of self-concept began to be used more and more in psychological literature, it was inevitable that instruments to measure self-concept would be developed. Wylie (1961) stated that up to 1960 there were nearly 200 instruments to measure self-concept. Since that time many more have been developed. These instruments measure a variety of different variables related to self-concept. Fitt (1971) in his monograph, The Self-Concept and Self-Actualization, discussed numerous instruments designed to measure self-concept. He stated that one of the instruments looks only at whether or not self-concept is positive or negative (Northway and Detweiler, 1956). Brownfain (1956) sought to measure the stability of self-concept over time. Mason's (1954) instrument looked at whether or not self-concept includes positive or negative affect. LaForge and Suczek (1955) developed The Interpersonal Check List (ICL) which gives three scores: (a) a self description score, (b) an ideal-self score, and (c) a measure of "self-acceptance" which is derived from discrepancies between self and ideal-self. Wylie (1974) cited the Body Cathexis Scale (Secord and Jourard, 1953) which purported to measure the individual satisfaction or dissatisfaction with various body parts. Their rationale was that attitudes toward the body are important aspects of self-regard. Other standard psychological instruments offer scores relating to self-concept. The California Psychological Inventory (Gough, 1964) reported a self-acceptance score while the Sixteen Personality Factor Questionnaire (Cattell & Eber, 1962) reported a score for emotional stability and ego-strength. Recently investigators have begun to look at
similarities between various labelling of self-concept measurement. Vincent (1968) attempted to look at the statistical relationship that existed among various self-concept labels using correlational and factor analysis. She compared subtests on the following four instruments: The Self-Acceptance Scale on The California Personality Inventory, The Security Scale on the Security-Insecurity Inventory, The Self-Satisfaction and Personal Self Scale on The Tennessee Self-Concept Scale and the Confident Adequacy, Emotional Stability, and Ego-Strength of The Sixteen Personality Factor Questionnaire. In conclusion, she found that there is some similarity in construct definition and validity for security, self-satisfaction, confident adequacy or self-confidence, and personal adequacy as measured by the Security-Insecurity Inventory, Tennessee Self-Concept Scale and Sixteen Personality Factor Questionnaire. She found that:

"Since these tests seem to be related in the manner in which they are approaching the assessment of Self-Satisfaction, a sense of personal worth, security and/or self-confidence, research studies which used these tests to measure these constructs would be dealing with essentially the same variable. The specific format of each of these tests is probably responsible for much of the unaccounted variance".

Yet even with the numerous studies done on the self-concept, there are still a number of problems involved in self-concept measurement. Fitts (1971) stated that many of the problems involved in self-concept measurement are problems common to other psychological tests. Often the population that can use the test is limited because of the difficulty of the items, vocabulary used, and the instruction and format of the answer sheet. Tests need to be culturally fair and there needs to be some improvisation made for faking items. In addition, self-concept tests are usually self report measures and self report tests have some
inherent difficulties. Cronbach (1970) related a number of difficulties. Often the items are ambiguous and wording of items can be taken in various ways. The kinds of responses often require quantitative responses and often persons with different behaviors will choose the same word to describe their behavior. Individuals may have a tendency to choose socially desirable items. Wylie (1974), in her book, *The Self-Concept*, discussed the issue of "socially desirable" response on self-report instruments at length. She cited numerous investigators looking at this question extensively. In conclusion, Wylie encouraged further research in the field stating:

"Situational variables which we have reason to think may influence response on our measures should be systematically considered and controlled in designing, applying and interpreting scores from our instruments. Many of these variables need to be studied further as independent variables in their own right in the self-concept research area, with results of such methodological research used to guide further refinement of the measurement situation".

Yet, even with these difficulties, there seems to be no other way to measure self-concept to date. In addition, most self-concept tests are paper and pencil tests and consequently limited to a population with at least a 6th grade reading level.

The instrument used to measure self-concept in this study was the *Tennessee Self-Concept Scale* (Fitts, 1965). A complete description of the *Tennessee Self-Concept Scale* is included in Chapter III.

A brief description of the *Tennessee Self-Concept Scale* (TSCS), validity data, reliability data, interpretation of various scores, and a description of the development of the TSCS can be found in the TSCS Manual (Fitts, 1965). Fitts (1971) reports that the reliability estimate for the TSCS ranges from .60 (Row Total V) to .92 (Total P,GM) and was based on test retest of 60 college students over a two-week period.
The total reliability co-efficient for the TSCS is .92. The Total P score reflects the overall level of self esteem. Scores on all 90 items of the TSCS are summed to provide the Total P score. High scores represent high levels of self-esteem while low scores represent low levels. Nunnally (1968) used Kuder-Richardson split halves technique and found the reliability co-efficient for Total P scores is .91 with a standard error of measurement of .30. Wylie (1974) suggested that the limited number of studies on reliability of TSCS offer no real reliability studies with populations other than normals. In addition, "the procedure which S has to follow in responding could easily open the way to clerical errors especially in younger, disturbed and less able groups". Also, Fitts reported that numerous studies have indicated that over time there are no significant changes in self-concept. However, few of these studies have added hard statistical data. Crites (1965) stated the studies done on the TSCS to date are rather minimal. However, he suggested that most of the data to date are generally favorable. Although the norms for the TSCS are based on an N of 626 in ages ranging from 12 to 68, the sample is somewhat biased because of the large number of college students. Wylie (1974, p.280) agreed with Crites, suggesting a "dearth of methodologically adequate published research". She cited numerous methodological criticism in the construction of the TSCS.

The data on the validity of the TSCS are more extensive than the information on the reliability of the TSCS. Fitts (1971), reported studies that include information of the predictive validity, concurrent validity, content validity, and construct validity of the TSCS.

Smith's (1969) study was one of the first studies done on the
predictive validity of the TSCS. He used the TSCS with visually impaired college students and found that the self-concepts of students upon entering the program make a real difference as to whether students stay in training.

In a study done by George (1970), cited in Fitts (1971), the construct validity of the TSCS is investigated. He asked students to initially respond to the TSCS and then respond to items in terms of how they would like to be. In his investigation, he found that the Self-Criticism Score dropped about one (1) standard deviation and the Defensive Positive Score increased by that same amount. George suggested that this offers evidence of the sensitivity of these two scores to defensive distortion. In addition, all eight P scores were higher for the ideal self and lower on Empirical Scales such as General Maladjustment, Psychopathic Deviancy, and Neurosis scores further supporting validity of the scores. In the Tennessee Self-Concept Scale Manual, Fitts (1965) reports a study done by Wayne (1963) which reports a correlation of .68 between Total Self-Concept Score and Izard's Self Rating Positive Affect Scale. In 1962, Wehmer and Izard found a similar correlation between the two measures.

Fitts (1971) cites numerous factor analytical studies of the TSCS. The TSCS, Edwards Personal Preference Schedule (Edwards, 1959), Sixteen Personality Factor Questionnaire, Form A (Cattell and Eber, 1962), the Mach V Scale (Geis, Christei and Nelson, 1963) and Rokeach's Dogmatism Scale, Form E (Rokeach, 1960) were correlated by Vacchiano, Strauss and Schiffman (1968). A factor analysis of the correlation matrix was performed to determine if the various test measured independent areas of personality functioning. Only seven factors were found, comprising only
TSCS items. Other factors were composed only of scales from the other measures used. The factors were found to group in ways that suggested the independence of the various scales used. Vacchiano and Strauss (1968) also ran a separate factor analysis of the TSCS alone and found some support for independence of five scales - Family Self, Moral-Ethical Self, Physical Self, Personal Self, and Social Self.

Wylie (1974) reported various studies comparing TSCS of "normal" populations to various other groups. Havener and Izard (1962) found that paranoid schizophrenics' self-acceptance scores were more favorable than scores of controls. Vanderpool (1969) and Gross and Alder (1970) report that the self-regard scores were lower for alcoholics than normals. Studies by Congdon (1958), Piety (1958), Havener (1961), and Wayne (1963), cited in Fitts (1965), report differences between patient and non-patients populations.

Pound, Hansen and Putnam (1977) did a study on the empirical analysis of the Tennessee Self-Concept Scale. He used a sample of 323 adolescents who were longitudinally studied from 1972 through 1974. The subjects were tested on three occasions during their 8th, 9th, and 10th year in high school. They used an alpha factor analysis to determine whether all the subscales of the TSCS contribute independently to the understanding of self-concept and canonical correlation to determine whether "internal" subscale profiles the understanding of self-concept. They concluded that any one subscale score or combination of subscale information is not appropriate. They felt that "as much information about self-concept can be obtained from the Total Score as can be extracted from the combined scales", (Pound, Hansen and Putnam, 1977, p.545).
Fitts (1972) cited numerous studies investigating the relationship between self-concept and anxiety. These studies include those done by Fitts (1965), Harris (1968), Sievekerg (1969), and Smith (1969). Based on these studies, Fitts (1972, p.62) concluded that:

"There is a substantial linear relationship between self-concept and anxiety. The consistency of these findings across studies is quite impressive considering the number of different anxiety measures which were used. Also the samples in these studies represent a relatively broad range of people, such as junior high, high school and college students, psychiatric patients and blind college students. Students in these samples showed a variety of self-esteem levels."

As stated earlier, the measurement of self-concept is still a rather nebulous issue. There are many issues that make self-concept difficult to measure. There is some controversy over whether individuals respond honestly to self-concept tests or give what they feel are socially desirable responses.

Unfortunately, most self-concept measurement had some problem statistically in either measuring what they purport to measure, in normative data used, or in the statistical studies used to establish validity and reliability. For the purposes of this study, the Tennessee Self-Concept Scale was used as the measurement of self concept. Although there are some problems with the statistical studies done on the TSCS, it seems to provide the best estimate of overall self concept. Only the Total P score and none of the subtests scores were used in this study. According to Pound, Hansen and Putnam (1977), the various subtest scale scores on the TSCS do not differentiate from one another. They concluded that the Total P score can provide the examiner with as much information as any combination of subtest scale scores. Therefore, although there are some problems with measurement of self concept on
the TSCS, it seems to provide a good measure of total self concept which was the issue of concern in this study.

Measurement of Anxiety and Depression

There were two measurements of anxiety used in this study: (1) State-Trait Anxiety Inventory (STAI) and (2) Multiple Affective Adjective Checklist (MAACL). This section will review the studies validating both instruments and investigating their reliability. Initially, the State-Trait Anxiety Inventory will be reviewed followed by the Multiple Affective Adjective Checklist. Chapter III will describe the instruments and mechanics involved in administration.

Measurement of State and Trait Anxiety

There are numerous theories of anxiety and a great deal of research on anxiety. However, little consensus has been reached regarding the nature and measurement of anxiety. Shedletsky and Endler (1974, p.511) state that "anxiety has been viewed by different theorists as a stimulus for certain behavior, as a response, as a learned drive and as a personality variable".

"For example, anxiety has been regarded by different theorists as: (1) a conflict between energy systems of the brain experienced as an unpleasant affective state or condition (Freud, 1936), (2) a reaction to an internal or external source of danger that results in disequilibrium of the energy systems (Freud, 1936), (3) a maladaptive response to disruptive relationships with others (Sullivan, 1953), (4) a physiological state of arousal caused by stimulus conditions in the environment and interpreted by the individual (Schachter, 1964), (5) a learned drive that creates neurotic conflict and the reduction of (drive) which can reinforce the learning of new experiences (Dollard and Miller, 1950, Mowerer, 1953) and (6) a condition of apprehension precipitated by a threat to values or characteristics basic to the individual's personality (May, 1950)".

When one takes into consideration the numerous theories regarding anxiety, it is understandable why the measurement of anxiety becomes a
complex issue. For a period of time, the measure of anxiety was confined to measurement of trait anxiety. Spielberger (1966, p.12) defines trait anxiety as the anxiety that refers to a specific trait "to individual differences in the extent to which different people are characterized by anxiety states and prominent defenses against such states". Trait anxiety, then, can be seen as individual proneness to anxiety or whether certain situations will be experienced as anxiety-producing by the individual. Cattell and Scheir (1958, 1961), cited in Shedletsky and Endler (1974), provide studies supporting the notion of state and trait anxiety. They defined trait anxiety as a relatively permanent, stable personality characteristic, while state anxiety is seen as a transitory state that can vary from day to day. Spielberger, Gorsuch and Lushene (1970) define state anxiety as a transitory emotional state in which perceived, subjective feelings of apprehension and tension are experienced and the activity of the autonomic nervous system is heightened. State anxiety can fluctuate in individuals over time or in varying situations. With both state and trait anxiety defined, Spielberger and his associates set out to develop an instrument to measure both trait and state anxiety.

Construction of the STAI was begun in 1964. Test-retest reliability correlations range from .73 to .86 for A-Trait Scale and from .16 to .54 with a median of .32 for A-State Scale. Spielberger, Forsuch and Lushene (1970) state that the lowered correlation for state anxiety was anticipated because valid measure of A-State should reflect situational factors that are unique at the time of testing. In order to establish the internal consistency of both A-State and A-Trait subscales, Spielberger and associates ran Alpha co-efficients which were computed by formula
K-R 20. The reliability of these co-efficients ranged from .86 to .92 for A-Trait anxiety and .83 to .92 for A-State anxiety suggesting that the internal consistency for both scales is adequate.


Numerous studies on validity of the STAI are reported in the manual. One such study looked at A-State scale for 977 undergraduate students. Initially, they administered the STAI using standard instructions. They were then told to respond to the STAI as they felt they would "just prior to the final examination in an important course". Critical ratios were found for the difference between means of the two administrations. It was found that the means scores for A-State was significantly higher in the situation in which students were asked to respond as they would before a final examination. This study gives some support for the construct validity of the A-State scale of STAI.

Spielberger, et al. (1970) also report validity data for A-State obtained in a single testing situation with 197 undergraduates. They were given the STAI under four experimental conditions: (1) normal conditions, (2) following ten minute relaxation periods, (3) while being given the Human Concept Mastery Test (IQ test) they were interrupted after ten minutes to take the STAI and (4) after a stressful movie. It was found that all four conditions were significantly different with the movie experiment producing the most anxiety while the relaxation produced the least.
Various studies are reported in the manual adding further validation to STAI as an adequate measure of state and trait anxiety.

The Multiple Affect Adjective Checklist

In the late 50's and early 60's, Zuckerman and his associates were working on the development of an affect adjective checklist for the measurement of anxiety. Zuckerman was interested in the measurement of state anxiety stating that "while the concept of a general level of anxiety" may be useful for gross discrimination, there are many occasions where one would like to measure changes in anxiety over time (Zuckerman, 1960, p.457). According to Zuckerman, the adjective checklist seemed to be well suited for this purpose.

Initially, Zuckerman set out to develop a scoring key and list of adjectives to measure anxiety. He originally set out with sixty-one (61) adjectives but this list was then cut down to twenty-one (21) items rated either anxiety-plus (i.e. adjectives such as afraid, desperate, fearful, nervous) or anxiety-minus (i.e. adjectives such as calm, cheerful, happy, joyful). Both "General" and "Today" forms of Affect Adjective Checklist (AACL) can be considered simple, practical and valid measures of anxiety.

Eventually, Zuckerman and his associates added both a hostility and depression scale to the AACL and consequently named the instrument the Multiple Affect Adjective Checklist. Zuckerman and Lubin (1965, p.3) state that:

"The Multiple Affect Adjective Checklist (MAACL) was designed to fill the need for a self-administered test which would prove valid measures of three of the clinically relevant negative affects: anxiety, depression and hostility. No attempt has been made to measure positive affects but some of the evidence indicates that the scales are bipolar and that low scores on the full scales will indicate states of positive affect".
The reliability data of the MAACL are somewhat minimal. The internal reliability for anxiety on the "General Form" is .72 while the internal reliability for the "Today Form" is .85. Unfortunately, those data are based on an N of 35. Test-retest reliability for that sample was .68 for the "General Form" and .31 for the "Today Form". The internal reliability for the hostility scale is .90. Test-retest reliability is .21 for depression of MAACL-Today and .15 for the hostility scale. There is no reported data collected for the depression and hostility scales of the MAACL-General Form.

The Manual for The Multiple Affect Adjective Checklist reports numerous studies on the validity of the MAACL. Studies range from investigations looking at perceptual isolation to correlation with physiological biochemical measures. Zuckerman, Lubin and Robins (1965) report a study investigating the relationship between performance on the scales and "natural" affects in psychiatric population. The MAACL was given to 266 patients in five psychiatric populations and to 275 normal subjects who were used for comparison. It was found that most psychiatric patients were higher on anxiety and depression while no significant difference was found for hostility. Ratings of observed anxiety were significantly related to MAACL anxiety scores. They also report that the MAACL scales tend to correlate positively with the Depression, Paranoia, Schizophrenia, and Hypochondriasis scales of the MMPI. The authors conclude that there seems to be some problem with the high correlations between scales, however, discriminant validity for the separate scales was confirmed.

Zuckerman, Lubin, Vogel and Valerius (1964) report a validation study done with 34 undergraduate students at Adelphi College. Initially, all students were given the MAACL-General and four days later were given
the MAACL-Today and then shown the film "The Blood of the Beasts," a documentary about procedures in a slaughter house. Following the film, they were again given the MAACL-Today. Unfortunately, their data suggested that there was no increase in depression or anxiety by the males in the student body. Consequently, Zuckerman and his associates suggested that further validation work needs to be done in this area.

There seems to be a need for further validation and reliability studies on the MAACL. However, when time is an important variable, the MAACL may offer a quick method for obtaining anxiety, depression, and hostility scores.

Summary

The major research question this study addressed is the relationship between self-concept and levels of anxiety, and depression in women receiving vacuum curettage abortions. A review of research pertinent to the variables contained in these hypotheses and their relationship to one another have been discussed in this chapter. This chapter reviewed literature concerned with (1) abortions and psychological sequelae of women receiving abortions, (2) self-concept, (3) self-concept measurement, and (4) measurement of anxiety and depression.
Chapter III

Method

This chapter will describe the research methodology and statistical procedures used in this study. The chapter will also present sections related to descriptions of the instruments used, sample selection, statistical procedures, and a general summary.

Research Methodology

Since some people may consider an abortion a traumatic event, both physically and emotionally, there was some question as to whether there would be any difference in self concept prior to and immediately following an abortion. Therefore, initially, forty (40) women were asked to complete the TSCS pre and post abortion. Of the forty (40) women, twenty-nine (29) completed the tests accurately. The twenty-nine (29) women were diverse in variables of race, age, and economic status. However, since most of the women were from the same geographic area, a limitation was put on random sampling since no true sampling of the total population of women seeking abortions was represented. No treatment, other than the administration of the tests was given. A Kuder-Richardson Statistical Analysis Systems computer program (SAS, 1976) was run on twenty-nine (29) women to determine the test-retest reliability of the Tennessee Self Concept Scale (TSCS) when used on a sample of women seeking a vacuum curettage abortion. Correlation co-efficient for the analysis was .93 (see Table 1). It was therefore assumed that
a reliable Total P score on the TSCS could be found either pre or post abortion.

A two-between, one within multivariate analysis of variance (MANOVA) was used to investigate the relationship of self concept to levels of anxiety and depression in women seeking vacuum curettage abortions. Self Concept was operationally defined by Ss scores on Total P scale of the Tennessee Self Concept Scale (TSCS). Level of anxiety was operationally defined by Ss scores on the State Trait Anxiety Inventory (STAI) and the Multiple Affect Adjective Check List (MAACL), and level of depression was operationally defined by Ss scores on the Multiple Affective Adjective Check List (MAACL).

A 3x9x2 factorial design with three (3) levels of self concept, nine (9) levels of group, and two (2) repeated measures will be used to investigate the relationship of self concept to levels of anxiety and depression in women seeking vacuum curettage abortions. The three levels of self concept included in the design were high, medium, and low self concept. Ss scores on the Total P scale of the Tennessee Self Concept Scale were trichotomized statistically into three categories. Additionally, marital status, education level, prior abortion, and the interaction of these three effects will make up nine (9) separate groups. The relationship of each of these groups to self concept and levels of anxiety and depression will then be investigated individually and over time.

Selection of Instruments

Tennessee Self Concept Scale (TSCS): Clinical and Research Form

The TSCS is a self-administering instrument that can be used with individuals twelve years old or older, or with individuals having at
least a sixth grade education. There are two forms of the TSCS, the Clinical and Research Form and the Counseling Form. Both forms can either be hand or machine scored.

Norms for the TSCS were based on a sample of 626 individuals, including males and females from various geographic locations, individuals ranging in age from 12 to 68 and with educational levels from sixth grade through doctorate degrees (Fitts, 1965). Fitts further stated that the data gathered suggested that there is no need to establish individual norms for age, race, or sex. He saw the overabundance of college students and individuals in the age bracket twelve to thirty as one difficulty with the normative data. The overabundance of college students puts some limits on the generalizability of the TSCS on populations differing greatly from college students.

There are 100 self-report statements on the TSCS to which the individual responds on a five-point scale: "completely true", "mostly true", "partly true", "partly false", "mostly false", and "completely false". Ninety (90) of the self-report items were classified into various scales by seven (7) clinical psychologists on the basis of their content. The remaining ten (10) items, called the self-criticism score, were taken from the L-Scale of the MMPI. The Self-Criticism score is a measure of defensiveness with high scores seemingly indicating openness while low scores seemingly indicating defensiveness.

The TSCS consists of the Total P-score or Total Self-Concept Scale, three scales to measure internal frame of reference, and five categories designed to measure external frame of reference. In addition, measurement includes conflict scores, distribution responses, variability responses, and six Empirical Scales.
TABLE 1

TEST RETEST RELIABILITY OF THE TENNESSEE SELF CONCEPT SCALE ON WOMEN RECEIVING VACUUM CURETTAGE ABORTIONS

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Sum</th>
<th>Min</th>
<th>Max</th>
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<td>29</td>
<td>352.48</td>
<td>30.74</td>
<td>10222</td>
<td>278</td>
<td>419</td>
</tr>
<tr>
<td>TSCST2</td>
<td>29</td>
<td>353.72</td>
<td>26.95</td>
<td>10258</td>
<td>301</td>
<td>423</td>
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<tbody>
<tr>
<td>TSCST1</td>
<td></td>
<td>1.00000</td>
<td>0.93334</td>
<td>0.00000</td>
<td>0.0001</td>
<td></td>
</tr>
<tr>
<td>TSCST2</td>
<td>0.93334</td>
<td>1.00000</td>
<td></td>
<td>0.0001</td>
<td>0.00000</td>
<td></td>
</tr>
</tbody>
</table>
Overall self-concept on the TSCS is measured by the Total P score which is a measure of the individual's general level of self-esteem. According to Fitts (1965), individuals with high scores on the Total P tend to be confident, like themselves, feel their own worth, and react accordingly. Individuals with low scores tend to be depressed, unhappy, see themselves as undesirable, and have little confidence. The Total P score is obtained from a 3x5 matrix of subscales which Hamner and Fitts (1968, p.2-3) describe as follows:

The rows are concerned with how the individual describes himself from an internal frame of reference. Row 1 represents his basic identity or "what he is", as he perceives himself at the most basic level. Row 2 gives a measure of Self-Satisfaction or how the individual accepts himself. Row 3 deals with the subject's perception of his own behavior. The three rows then may be seen focusing on: 1) "What he is", 2) "How he feels about himself", 3) "What he does".

The five columns deal with the external frame of reference the individual uses to describe himself:

Column A: Physical Self - The physical attributes or functioning, sexuality, stage of health or appearance.

Column B: Moral-Ethical Self - Moral, ethical and religious aspects of the self.

Column C: Personal Self - Personal worth or adequacy, self-respect, and self-confidence.

Column D: Family Self - The individual's relationship with his primary group (family and close friends) and his sense of adequacy as a family member.

Column E: Social Self - The individual's sense of adequacy or worth in relationships with people or society in general. (Fitts, et.al.,1971).

In addition to the measurement of total self-concept and the internal and external frame of references, the scale also gives measures which provide further information on the individual and his/her
approach to the test.

The True-False Ratio suggests to the examiner whether or not individuals respond with either agree or disagree items with no real regard for the content of the items. Extremes in either direction can give the tester some indication of deviancy in self-description which may be related to deviant behavior.

Conflict scores measure amount and direction of conflict. Fitts, (1965, p.4) suggested that "high scores indicate confusion, contradiction, and general conflict in self-perception. Low scores have the opposite interpretation, but extremely low scores (below the red line on the Profile Sheet) have a different meaning. The person with such low scores is presenting such an extremely tight and rigid self description that it becomes suspect as an artificial, defensive stereotype rather than his true self image".

The Distribution Scores on the TSCS give a distribution of the number of responses to each of the categories from "Completely True" or "5" to "Completely False" or "1". The D score helps the tester to look at whether or not an individual has a clearly or poorly differentiated self-concept.

Variability scores provide a measure of inconsistency from one area of self perception to another. Low scores indicate low variability and perhaps even rigidity, while high scores mean the subject is variable in most respects (Fitts, 1965).

In addition to the above mentioned scales, the TSCS also includes six empirical scales. These scales were derived from the 100 test items and supposedly differentiated among groups found in clinical populations.
According to Fitts (1971), in the development of the six empirical scales, various groups of "deviant" subjects were identified and given the TSCS. Below are the six identified groups:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norm</td>
<td>626</td>
</tr>
<tr>
<td>Psychotic</td>
<td>100</td>
</tr>
<tr>
<td>Neurotic</td>
<td>100</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>100</td>
</tr>
<tr>
<td>Defensive Positive</td>
<td>100</td>
</tr>
<tr>
<td>Personality Integration</td>
<td>75</td>
</tr>
</tbody>
</table>

Fitts (1965) stated that the comparative item responses for all these groups were then analyzed by Chi Square tests. Items which differentiated each group from all the others were then used to compose specific scales for each group. Fitts reported that there was some overlapping of items with a number of items being used on more than one scale.

The six empirical scales derived by this method are as follows:

Defensive Positive Scale (DP) - This scale consists of 29 items which differentiated psychiatric patients having Total P Scores above the norm group mean from the other patient groups and from the norm group. It is thought to represent a more subtle measure of defensiveness than the Self-Criticism Score.

General Maladjustment Scale (GM) - This scale comprises 24 items which distinguish psychiatric patients from non-patients, but do not distinguish between psychiatric classifications.

Psychosis Scale (Psy) - Twenty-three items make up this scale -- items which best differentiate psychotic patients from the other groups.

Personality Disorder Scale (PO) - This scale is composed of 27 items which distinguish this psychiatric classification from the norm, psychotic, neurotic, personality integration and defensive positive groups.

Neurosis Scale (N) - This scale is also composed of 27 items which distinguish neurotic patients from the other group. Like the Gm and PD Scales, it is an inverse one. Low raw scores on these scales result in high T-scores.
Personality Integration (PI) - Twenty-five items are included in this scale, representing a group of subjects adjudged, by outside criteria, to have a better than average level of adjustment.

Number of Deviant Signs (NDS) - The NDS score is an empirically derived measure, being simply a count of the number of deviant features of other scores. It is the Scale's best index of psychological disturbance.

Although a description of all scales of the TSCS was given in this chapter, only the Total P scores were used in this study. Fitts (1965) sees the Total P score as one of the most important scores on the scale. In addition, the Total P is comprised of scores on all subscales rather than investigating isolated aspects of the self. Pound, Hansen and Putnam (1977, p.345) stated that "as much information about self-concept can be obtained from the total score as can be extracted from the combined subscales". Their study using alpha factor analysis and canonical correlation analysis helped to confirm their hypothesis.

State-Trait Anxiety Inventory (STAI):

The State-Trait Anxiety Inventory is a self-report instrument that measures both state (A-State) and trait (A-Trait) anxiety. The STAI consists of twenty (20) statements that ask how the individual generally feels (trait anxiety) and twenty (20) statements that ask how the individual feels at that moment (state anxiety). To each statement on A-State scale, the individual is to respond with one of the following: 1) not at all; 2) somewhat; 3) moderately so and 4) very much so. The categories to which the individual responds on the A-Trait scale are: 1) almost never; 2) sometimes; 3) often and 4) almost never. The scale can be used by any individual with at least a fifth or sixth grade reading level. The initial development of the STAI consisted of one hundred seventy-seven (177) items. After screening and rewriting the items,
forty-four (44) were retained and were cross-validated on a sample of Vanderbilt University students. Finally, the scale was reduced to forty (40) items.

Considerable normative data are available on the STAI. The college students norms are based on two samples: (1) Nine hundred eighty-two (982) incoming freshmen and (2) Four hundred eighty-four (484) undergraduated students. The high schools norms are based on three hundred seventy-seven (377) high school juniors, while the neuropsychiatric norms are based on an N of four hundred sixty-one (461). One hundred sixty-one (161) patients provide the norms for the general medical and surgical patients.

The STAI provides two (2) raw scores: one for state anxiety and one for trait anxiety. Normalized T-scores and percentiles on all above mentioned populations are available.

Multiple Affective Adjective Check List (MAACL):

The Multiple Affect Adjective Check List provides a measure of three affective states: anxiety, depression, and hostility. The MAACL is a self-administered checklist that takes no more than five minutes to administer. There are one hundred thirty-two (132) items (adjectives) that comprise the MAACL. The individual is asked to check the adjective that best relates to him/her individually. There are two forms of the MAACL - the General Form and the Today Form. The General Form purports to measure how the individual generally feels, while the Today Form measures how the individual feels at that moment. For the purpose of this study, the Today Form of the MAACL was used.

Normative samples for the MAACL include job applicants, college students, psychiatric patients, and drug abuse patients.
Although the MAACL provides a quick, rather brief estimate of anxiety, depression, and hostility, there still needs to be more research done on the instrument. For the purposes of this study, however, it does provide a rough measure of anxiety, depression and hostility that would be otherwise unattainable considering the time frame available.

Selection and Description of Sample

Data for this study were collected in March, 1978, at Founders Clinic, a clinic for abortion and women services in Columbus, Ohio. Over two hundred forty (240) women at the clinic volunteered for the study. Initially forty (40) women were given the Tennessee Self Concept Scale pre and post abortion. It was anticipated that the test-retest reliability of that instrument may be questioned because of the abortion and its effect on self-concept. There was also some question as to whether the TSCS should be given prior to, or following, the abortion. Of those forty (40) women, twenty-nine (29) completed the TSCS accurately and completely on both occasions. The data was then analyzed using the Kuder-Richardson formula, and a correlation coefficient of .93 was found. Since test-retest reliability was high and time was a factor, it was decided to give the TSCS following the abortion.

All women who presented themselves at the clinic were asked to participate in the study. Over two hundred (200) women volunteered to participate. Participation meant that the individuals were asked to complete the MAACL and STAI upon entering the clinic. After the abortion, they were again asked to complete the MAACL and the STAI and also to complete the TSCS. Of the two hundred (200) women, one hundred fifty (150) completed all the data. No treatment, other than administration of the tests, was given. Ages of women participating in the study ranged
from sixteen (16) to thirty-nine (39). The mean age of the women was twenty-three years (23). There were one hundred eight (108) women with education levels of twelve (12) years or less and forty-two (42) women with more than twelve (12) years education (for a more specific distribution of the population see Table 2). Ninety (90) of the women were single, thirty-nine (39) were married, and twenty-one (21) were divorced or separated. Of the one hundred fifty (150) women, one hundred sixteen (116) had not experienced a prior abortion. One hundred nine (109) of the women reported using no birth control at the time of conception.

One hundred two (102) of the women were from Columbus, Ohio or the immediate vicinity, forty-six (46) were from the state of Ohio, and two (2) were from out of state. Data were diverse in variables of age, education level, and economic status. However, since most of the women were from the same geographic area, a limitation was put on random sampling since no true sampling of the total population of women seeking abortions was represented.

Statistical Procedures

Initially, Total P scores on the TSCS were trichotomized into high, medium, and low self concept using the SAS computer program package (1976). The scores were then weighted and contrasts were made to look at both the linear (S1) and quadratic trend (S2). The 150 women were separated into nine groups (see Tables 3-6). Those groups were all weighted and contrasts were made to look at marital status, education level, prior abortion, and the interaction of these three effects. A multivariate analysis of variance was then used to analyze the data. Since the dependent variable and the independent variable are ordinal, some fundamental scientists may argue that the ordinal scaling is not
"real" or "good" and, therefore, multiple analysis of variance would
be inappropriate for this study. Nunnally (1967) supports the notion
that there is minimal difference between "real" scales and the approxi-
mate ones usually used in psychological studies. "Since the correla-
tion coefficient is basic to all complex methods of multivariate anal-
yses, e.g., factor analyses; it follows that these more complex methods
also are affected very little by transformation of measures. Conse-
quently, a strong argument can be made that the analysis of results would
be very much the same whether "real" scales had been employed or only
approximate ones had been used. Thus, even if one accepted the funda-
mental point of view about measurement scales, what sense would it
make to sacrifice powerful methods of analyses just because there is no
way of proving the claim about scale properties of the measures?"

Multivariate Analysis of Variance for Large Computers (MANOVA)
(Clyde, 1969) was the computer program package used to do the analysis.
MANOVA was used to analyze the data, to hold down the error term, and
give one overall significant statistic. Multivariate tests were run
for self (linear and quadratic trends), groups (across all eight con-
trasts), time (the repeated measures), time by group, and the inter-
action of self by group, self by time, self by group by time. Separate
univariate tests were also run for each of these effects across all the
dependent variables. In addition, separate univariate tests were run
to look at the effect, if any, of each of the dependent variables on the
overall significance test. Trends among groups and across pre and post
trials were examined visually and graphically rather than statistically.
According to Kirk (1968), the presence of a significant F ratio is
indicative of a trend and therefore, legitimizes the examination.

Summary

Chapter III presented the procedures and research methodology of this study as well as descriptions of the instruments used in the study, selection and description of the sample and the statistical analysis of the data.

Chapter IV will present the analysis of the data and the findings of the study.
**TABLE 2**

**DESCRIPTION OF THE SAMPLE**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Freq.</th>
<th>Education Level</th>
<th>Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 9 years</td>
<td>4</td>
<td>5 - 13 years</td>
<td>12</td>
</tr>
<tr>
<td>2 - 10 years</td>
<td>7</td>
<td>6 - 14 years</td>
<td>14</td>
</tr>
<tr>
<td>3 - 11 years</td>
<td>10</td>
<td>7 - 15 years</td>
<td>3</td>
</tr>
<tr>
<td>4 - 12 years</td>
<td>87</td>
<td>8 - 16 years</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 - 17 years</td>
<td>2</td>
</tr>
<tr>
<td><strong>ED1</strong> = 108</td>
<td></td>
<td><strong>ED2</strong> = 42</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Freq.</th>
<th>Prior Abortion</th>
<th>Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Single, Divorced</td>
<td>111</td>
<td>1-No Prior Abortion</td>
<td>116</td>
</tr>
<tr>
<td>2 - Married</td>
<td>39</td>
<td>2-Prior Abortion</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total = 150</strong></td>
<td></td>
<td><strong>Total = 150</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Birth Control</th>
<th>Freq.</th>
<th>Kinds of Birth Control</th>
<th>Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - No Birth Control</td>
<td>109</td>
<td>0 - None</td>
<td>109</td>
</tr>
<tr>
<td>2 - Birth Control</td>
<td>41</td>
<td>1 - Pill</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total = 150</strong></td>
<td></td>
<td>2 - IUD</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Diaphragm</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 - Foam</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 - Condom</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 - Other</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 - Encaroval</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total = 150</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Freq.</th>
<th>Age</th>
<th>Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>2</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>15</td>
<td>31</td>
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<tr>
<td>20</td>
<td>13</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>18</td>
<td>33</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>9</td>
<td>34</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>11</td>
<td>36</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>7</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>12</td>
<td>38</td>
<td>1</td>
</tr>
<tr>
<td>26</td>
<td>12</td>
<td>39</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>5</td>
<td><strong>Total = 150</strong></td>
<td></td>
</tr>
</tbody>
</table>
**TABLE 3**

Table of Self by Marital Status
Women With 12 Years or Less Education and No Prior Abortion

<table>
<thead>
<tr>
<th>SELF</th>
<th>MARITAL</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>1-Single</td>
<td>2-Married</td>
<td>3-Divorced</td>
<td>Total</td>
</tr>
<tr>
<td>1-High</td>
<td>22</td>
<td>6</td>
<td>8</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>2-Medium</td>
<td>17</td>
<td>6</td>
<td>5</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>3-Low</td>
<td>8</td>
<td>5</td>
<td>6</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>47</td>
<td>17</td>
<td>19</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>SELF Frequency</td>
<td>MARITAL</td>
<td>1-Single</td>
<td>2-Married</td>
<td>3-Divorced</td>
<td>Total</td>
</tr>
<tr>
<td>---------------</td>
<td>---------</td>
<td>----------</td>
<td>-----------</td>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td>1-High</td>
<td></td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>2-Medium</td>
<td></td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>3-Low</td>
<td></td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>TOTAL =</td>
<td></td>
<td>15</td>
<td>8</td>
<td>2</td>
<td>25</td>
</tr>
</tbody>
</table>
TABLE 5

Table of Self by Marital Status
Women With More Than 12 Years Education and No Prior Abortion

<table>
<thead>
<tr>
<th>SELF Frequency</th>
<th>MARITAL</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-Single</td>
<td>2-Married</td>
<td>3-Divorced</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>1-High</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2-Medium</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>3-Low</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>23</td>
<td>4</td>
<td>0</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>
**TABLE 6**

Table of Self by Marital Status
Women With More Than 12 Years Education and A Prior Abortion

<table>
<thead>
<tr>
<th>SELF Frequency</th>
<th>MARITAL</th>
<th>1-Single</th>
<th>2-Married</th>
<th>3-Divorced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-High</td>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>2-Medium</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3-Low</td>
<td></td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL =</td>
<td></td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>
CHAPTER IV

Analysis of the Data

The analysis of the data will be presented in this chapter. This study was undertaken to test the hypothesis stated in Chapter I. Of primary concern was the relationship of self concept as measured by Total P scores on the Tennessee Self Concept Scale to levels of anxiety and depression as measured by Ss scores on the State Trait Anxiety Inventory (STAI) and the Multiple Affect Adjective Check List (MAACL) in women seeking vacuum curettage abortions. Of secondary concern was whether there was a significant difference in levels of anxiety and depression pre and post abortion.

The hypotheses of this study were tested by two between, one within multivariate analysis of variance. The two between subjects variables were the three levels of self concept and the nine levels of group. The one within subjects variable was the repeated measures. There were five dependent variables: Ss scores on trait anxiety and state anxiety as measured by STAI and anxiety, depression, and hostility as measured by the MAACL. Ss scores on the TSCS were the independent variable. Apriori group contrasts were also made.

Initially, the Ss scores on the Total P of the TSCS were trichotomized into high, medium, and low self concept using the SAS computer program package (Barr, Goodnight, Sall, Helwig, 1976). Those women with Total P scores of 355 up to and including 414 were classified as women with high self concepts. Women with Total P scores of 324 up to and
including 354 were classified as having a medium self concept, and women with Total P scores of 238 up to and including 323 were classified as women having low self concepts. The $S$s scores were then recoded and weighed using MANOVA program package (Clyde, 1969). The new apriori contrasts gave both linear and quadratic trend for self concept based on the simple classification of high, medium, and low, yet yielding the same information in a more sophisticated manner. These two trends looked at how $S$s scores on the MAACL and the STAI were being influenced by or related to $S$s scores on the Total P of the TSCS. Of primary interest was the trend of the means over the three levels of self. Hays (1973) suggested that linear and curvilinear relationships are an excellent way to look at the relationship between two variables especially if the examiner wants to look at the form of the relationship and has some notion of what the population relationship may look like. The linear trend ($S_1$) suggested that if means for the MAACL and STAI were plotted against the three levels of self, the trend of the plotted means could be fairly accurately described as a straight line. On the other hand, the quadratic trend ($S_2$) suggested that if means for the MAACL and STAI were plotted against the three levels of self, the trend of the plotted means could be described as a curvature. The relationship between anxiety and depression and an independent variable is often curvilinear. Therefore, it is important to look at the quadratic trend in addition to the linear trend when looking at the relationship between the independent variable and levels of anxiety and depression.

A MANOVA was then run. The program yields not only a multivariate test for all variables but separate univariate tests for each of the dependent measures. (Table 7) The Multivariate tests for self concept and the linear trend for self concept were significant at the .001 level of
### Table 7

**Multivariate Analysis of Variance for Self Concept, Group, and the Interaction of Self Concept, Group, and Time**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>State</th>
<th>df</th>
<th>Trait</th>
<th>df</th>
<th>Anxiety</th>
<th>df</th>
<th>Depression</th>
<th>df</th>
<th>Hostility</th>
<th>df</th>
<th>Multivariate Test</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self Concept</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear S1</td>
<td>2</td>
<td>850.52</td>
<td>.728*</td>
<td>1923.709</td>
<td>21.06*</td>
<td>129.823</td>
<td>6.62*</td>
<td>181.252</td>
<td>4.02*</td>
<td>62.027</td>
<td>3.73*</td>
<td>10 242</td>
<td>4.12*</td>
<td></td>
</tr>
<tr>
<td>Quad S2</td>
<td>1</td>
<td>1528.94</td>
<td>13.10*</td>
<td>3399.888</td>
<td>36.70*</td>
<td>246.122</td>
<td>12.94*</td>
<td>283.527</td>
<td>6.30*</td>
<td>107.287</td>
<td>6.66*</td>
<td>9 121</td>
<td>7.57*</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>8</td>
<td>199.118</td>
<td>1.71</td>
<td>115.283</td>
<td>1.26</td>
<td>20.797</td>
<td>1.09</td>
<td>50.302</td>
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*P<.05
**P<.001
significance. Separate univariate tests for the dependent measures across self concept were all significant at either the .05 or the .001 level of significance. Univariate tests on the anxiety, depression, and hostility of the MAACL were significant at the .05 level and trait and state anxiety measures of the STAI were significant at the .001 level of significance. The quadratic trend for self concept was non-significant for the multivariate as well as the univariate tests across all dependent measures. This finding suggests that self concept is significantly different for all individuals with the linear trend suggesting a significant linear difference between high, medium, and low self concepts.

Using marital status, education level, and prior abortion as criteria, nine groups of women were established using the SAS computer program package. The nine groups of women were as follows: (1) Single women with 12 years or less education who had experienced no prior abortion, N=47 (2) Married women with 12 years or less education who had experienced no prior abortion, N=17 (3) Divorced women with 12 years or less education who had experienced no prior abortion, N=19 (4) Single and divorced women with 12 years or less education who had a prior abortion, N=17 (5) Married women with 12 years or less education who had a prior abortion, N=8 (6) Single women with more than 12 years education who had experienced no prior abortion, N=23 (7) Married women with more than 12 years education who had experienced no prior abortion, N=10 (8) Single women with more than 12 years education who had a prior abortion, N=5 (9) Married women with more than 12 years education who had a prior abortion, N=7 using MANOVA (Clyde, 1969). The data were recoded and weighted and eight apriori contrasts were made (see Table 7). The eight contrasts looked at marital status (single vs married), education level (12 years or less
education vs more than 12 years education), prior abortion (prior abor-
tion vs no prior abortion), and the interaction of these three main ef-
teffects. Multivariate tests proved to be non-significant across all eight contrasts. Univariate tests for all dependent measures were also non-
significant across all eight apriori contrasts.

Next, self concept by group was analyzed using all eight contrasts and both linear and quadratic trends for self concept. Univariate and multivariate tests were run across all 16 contrasts. All multivariate and univariate tests were non-significant except for the contrast of S2, and the quadratic test for self concept, by G1, the contrast looking at married and single women. (see Table 7, Figures 1-5). The multivariate tests for self concept by marital status was significant at the .05 level of significance as were the univariate tests for state anxiety, trait anxiety, and anxiety as measured by the MAACL. Univariate tests for depression and hostility were significant at the .001 level of significance. Means for state anxiety, trait anxiety, and anxiety, depression, and hostility were weighted and plotted, (see Figures 1-5).

Graphs indicate that married women classified as having a medium self concept seemed to experience less state anxiety as measured by the STAI and less anxiety, depression, and hostility as measured by the MAACL. Married women with low self concepts reported less trait anxiety than either high or medium self concept women. On the other hand, single women with low self concepts showed a significantly lower level of state anxiety and trait anxiety as measured by the STAI and anxiety, depression, and hostility as measured by the MAACL than single women with either high or medium self concepts.

The multivariate tests for the repeated measures were significant
Figure 1

Mean Scores For State Anxiety (STAI) by Self Concept Levels

- = Married
- - - = Single
Figure 2

Mean Scores For Trait Anxiety (STAI) By Self Concept Levels

--- = Married
- - - = Single
Mean Scores For Anxiety (MAACL) By Self Concept Levels

--- = Married
----- = Single
Figure 4

Mean Scores For Depression (MAACL) By Self Concept Levels

--- = Married
--- --- = Single
Figure 5
Mean Scores For Hostility (MAACL) By Self Concept Levels

--- = Married
- - - - = Single
Figure 6

Mean Scores On The - STAI Across Time

1 = Pre Testing
2 = Post Testing
Figure 7

Mean Scores On The MAACL Across Time

1 = Pre Testing
2 = Post Testing
at the .001 level of significance except for the measure of trait anxiety, which was significant at the .05 level of significance. The means for the five measures were then graphed, (see Figures 1 - 5). Graphs indicated significant decreases of anxiety, depression, and hostility, on post-testing. This finding suggested that anxiety, depression, and hostility are all lowered following an abortion.

The interaction of time by self concept was non-significant for both multivariate and univariate tests across all five (5) repeated measures.

Non-significance was also found for the interaction of time by group for both the multivariate and univariate tests across all eight contrasts.

Finally, the interaction of time, by self concept, by group was investigated. Non-significance was found for the overall testing as well as across all sixteen (16) contrasts for both multivariate and univariate tests.

**Summary of Results**

The major purpose of this study was to examine the relationship between self concept and levels of anxiety and depression in women receiving vacuum curettage abortions. Of secondary interest was whether levels of anxiety and depression would differ pre and post abortion. On the basis of data collected on one hundred fifty (150) women seeking vacuum curettage abortions, the relationship of self concept and levels of anxiety and depression was investigated using a two-between, one-within multivariate analysis of variance.

Ss scores on the **Tennessee Self Concept Scale** were trichotomized into high, medium, and low self concept and contrasts were made yielding
linear and quadratic trends. Both self concept, linear trends for self concept, and univariate tests for depression and hostility were found to be significant at least the .05 level of significance while univariate tests of state and trait anxiety were significant at the .001 level of significance.

Initially, eight (8) contrasts were made for groups investigating marital status, education level, prior abortion, and the interaction between marital status, education level, and prior abortion. Non-significance was found for multivariate and univariate tests across all levels.

The interaction of self by group yielded non-significance across fifteen (15) of the sixteen (16) contrasts made. Significance was found for the interaction of self concept, using a quadratic trend for self, by marital status. Married women with medium self concepts appeared to experience less anxiety and depression than married women with high or low self concepts. Single women, however, appeared to experience less anxiety and depression if they had a low self concept than if they had a high or medium self concept. However, it should be mentioned that because fifteen (15) of the sixteen (16) contrasts made were non-significant, it may be that the significance for the contrast, self, quadratic trend by marital status, (S2G1) may have occurred purely by chance.

Significance was found on the repeated measures variable with significant decreases in anxiety (p<001) and depression (p<001) following the abortion.

Non-significance was found for all contrasts of time by self concept, time by group, and time by group by self concept. Tables and graphs were used to illustrate all results.
CHAPTER V

Summary and Conclusions

This final chapter is divided into three sections: (1) summary of the research study, (2) a discussion of the findings of this study and their implications, and (3) conclusions and recommendations.

SUMMARY:

The purpose of this study was to examine the relationship of self concept to levels of anxiety and depression in women seeking vacuum curettage abortions. Of secondary interest was the difference, if any, in levels of anxiety and depression pre and post abortion.

The review of the literature was undertaken and revealed a need for statistically sound studies investigating the characteristics of women seeking abortions to better understand the population and eventually aid in developing effective counseling techniques. This provided the rationale for the study.

This study was conducted in a Human Reproductive Health Screening Center in Columbus, Ohio. One hundred fifty (150) women who volunteered for the study and were eventual participants were between the ages of sixteen (16) and thirty-nine (39). Thirty-nine (39) of the women who participated were married while One hundred eleven (111) of the women were either single or divorced. Thirty-four (34) of the 150 women had experienced prior abortions. One hundred eight (108) of the women had education of twelve years or less while Forty-two (42) of the women had education of more than twelve years.
Before the study was undertaken, twenty-nine (29) women were given the TSCS pre and post abortion to investigate the test retest reliability of the Total P score of the TSCS when used on a population of women receiving vacuum curettage abortions. A Kuder-Richardson (SAS computer program package, 1976) was run on the data and a correlation coefficient of .93 was found. Therefore, it was determined that the TSCS could be given either pre or post abortion with no significant differences in self concept.

A two-between, one-within multivariate analysis of variance was used to test the hypotheses of this study, (MANOVA Computer Package).

Ss scores on the Total P scale of the TSCS were used as the measure of self concept. Ss scores on the MAACL and STAI pre and post abortion were used to assess the levels of anxiety and depression.

All of the data were recorded on IBM cards in accordance with the format instructions contained in the selected computer program packages (SAS Computer Program Package, 1976; MANOVA Computer Program Package, 1969). Only the Total P scores of the TSCS were used. Ss scores on the MAACL and the STAI were all reported as raw scores. Contrasts were also developed for marital status, education level, prior abortion, and the interaction of marital status, education level, and prior abortion.

The Null Hypothesis for the relationship of self concept to levels of anxiety and depression was not rejected as a non-significant F ratio was found for the interaction of time by self concept. The Null Hypothesis for differences in levels of anxiety and depression pre and post abortion was rejected inasmuch as a significant F ratio was found for the multivariate test across time as well as for all univariate tests across time.
All one hundred fifty (150) women were divided into either high, medium, or low self concepts. Apriori contrasts were then made yielding both a linear and quadratic trend for self concept, so that the relationship between self, group, time, and the dependent measures could be explored more fully. The linear trend (S1) suggested that if means for the MAACL and STAI were plotted against the Ss scores on the three levels of self concept, then the relationship between the variables would be represented by a straight line. The quadratic trend (S2) suggested that if means for the MAACL and STAI were plotted against Ss scores on the three levels of self concept, then the relationship between the variables would be described as a curvature. It was found that there was a significant multivariate test (p<.001) for self concept and the linear trend for self concept. Significant univariate tests were also found across all five dependent measures. This finding suggests that there was a significant difference in self concept for women participating in the study. The significant linear trend suggests that relationship between self concept and the dependent measures appears to fall in a straight line.

Non-significance was found across all group contrasts, for time, by group, by self concept.

The repeated measure variable was significant (p<.001). Significance was also found for the interaction of quadratic self (S2) by marital status (G1), (p<.05). Married women with medium self concepts have lower levels of anxiety and depression than women with high or low self concepts while single women with low self concepts have lower levels of anxiety and depression than women with either high or medium self concepts.
DISCUSSION AND IMPLICATIONS:

This was a descriptive study. No treatment other than the abortion itself was given. Because abortion is becoming a more visible and controversial aspect of modern society and more and more women are receiving abortions legally, it is hoped that the findings of this study will help individuals understand the population and develop better counseling interventions where needed.

The findings of this study offer meaningful information in light of the fact that: (a) more precise and interpretable statistical procedures were used, (b) consideration was made for marital status, education level, prior abortion, and the interaction of these three effects, and (c) this is one of the few studies done on this population. Although a considerable number of articles are written on abortion, most of these are either case studies or position papers. Little statistically sound descriptive or experimental research has been done on this population. Therefore, research looking at the characteristics of the sample of women receiving vacuum curettage abortions is a relatively new consideration.

The findings of this study suggest that there was no relationship between self concept and levels of anxiety and depression in women receiving vacuum curettage abortions. There was, however, a significant difference between married women and self concept and single women and self concept. Married women with medium self concepts experienced the least amount of anxiety and depression while single women with low self concepts experienced less anxiety and depression than single women with medium or high self concepts. Since this study is only intended to suggest a relationship between self concept and levels of anxiety and depression, it is impossible to determine the exact nature of the
relationship or the cause and effect nature of the relationship. However, it may be hypothesized that women with high self concepts, whether married or single, have more highly developed super egos and, consequently, tend to be more critical of, and hold high expectations for, their own behavior. Women with high self concepts may feel more anxiety and depression for allowing themselves to be put in such a situation. They may be harder on themselves both emotionally and behaviorally. Married women with medium self concepts are probably in a somewhat more secure position because of their marital status. Their medium self concepts probably allow a "middle of the road" approach to situations without the high expectations and demands of the person with a high self concept or the lowered expectations and behaviors of the person with the low self concept. Single women with low self concepts may experience less anxiety and depression because their estimations of themselves and their behavior is already low. Consequently, they probably expect less from themselves and are less bothered by situations such as abortion because they may feel it only goes along with their negative picture of themselves.

The finding that women experienced lowered anxiety and depression following abortion lends more credence to the proposition that abortion is not as traumatic an event as some people have postulated.

When abortion became legalized, there was some question as to how women would handle the event emotionally. Articles were written expressing the psychological dangers inherent in abortion. Recently, some writers have been re-investigating the issue of psychological reaction to abortion. Fingerer's (1973) study illustrates that women receiving abortions experience less anxiety and depression than the levels of anxiety and depression expressed by those who accompanied
them to the abortion. Studies of this sort lead one to question whether some of the notions about the psychological consequences are societal rather than reality based.

RECOMMENDATIONS:

Recommendations resulting from this study will be presented in two parts. The first set of recommendations will suggest areas of future research into the characteristics of women seeking abortions. Secondly, recommendations will be made for clinicians for implementing these findings.

In this dissertation, a broad descriptive study has been conducted which has provided some answers but also generated a number of questions. The following are some suggested areas of further research:

(1) There is a need to generate controlled experiments in which the nature of self concept is investigated further so that more definitive statements can be made about the nature of self concept and, consequently, the impact of self concept on human behavior. Because there are so many theories regarding self concept, it seems that statistically sound research will give a more accurate picture of the characteristics that make up various self concept levels. For example, methodologically sound studies can shed some light on whether women with high self concepts do, in fact, have larger super-egos and consequently are more demanding of themselves and more critical of their behavior. This kind of information would be most helpful in dealing therapeutically with the constructs that make up self concept. Although some authors have suggested that persons with high self concepts handle stressful situations more constructively, there seems to be little concrete data to back up that statement.
As it stands now, the measurement of self concept is also a difficult area for a number of reasons. Besides the difficulty of giving socially appropriate responses that bias measurement of self concept, there is, in addition, the difficulty inherent in measuring constructs that have not been clearly defined. As the nature of self concept becomes more clear, more accurate self concept measures can also be developed. Those involved in self concept measurement may want to approach self concept measurement with the multitrait - multimethod matrix described by Campbell and Fiske (1959). Perhaps self concept can be measured not only by self report but also by peer rating, therapist rating, or by behavioral observation of individuals in group settings. Campbell and Fiske (1959, p.103) suggest that examining such methods will eventually lead to development of better measurement. "We believe that a careful examination of a multitrait - multimethod matrix will indicate which methods should be discarded or replaced, which concepts need sharper delineation, and which concepts are poorly measured because of excessive or confounding method variance".

(2) There is a need to further identify psychological correlates of women seeking abortions to improve the psychological treatment and provide further statistically sound answers to those questioning the psychological impact of abortion. Because there is currently so much conflict surrounding abortion, perhaps a study that clearly identified psychological constructs may show that a sample of women seeking abortions are not much different than any given sample of women.

(3) Further studies may want to investigate the relationship of environment and socio-economic factors that may relate to emotional levels and self concept in women receiving abortions. This study has
attempted to address the relationship of self concept to levels of anxiety and depression while looking at marital status, prior abortion, and education level. It may prove helpful to also look at socio-economic level, occupation, number of people presently in the household, religious affiliation, and ethnic background to test whether any of these factors would show a relationship to self concept and levels of anxiety and depression.

(4) Further studies may want to investigate emotional levels of women at some later points following abortion. If possible, it may prove helpful to get measures of anxiety and depression at either six weeks following abortion or perhaps at the time when the women would have delivered if their pregnancies had proceeded to term. It has been hypothesized by some writers that depression and anxiety do, in fact, increase over time in women receiving vacuum curettage abortion. They hypothesize that as a woman has more time to think about her decision, she experiences more guilt and anxiety which may, in turn, increase her emotional levels. If this is the case, and there are no other life stresses interfering at that time, then it may be very important to offer post abortion counseling, either long or short term, to women who receive vacuum curettage abortions. If, however, emotional levels stay relatively the same following vacuum curettage abortions, then perhaps the counseling treatment presently offered is adequate.

(5) Since this study is limited to women seeking vacuum curettage abortions, it may prove beneficial to conduct studies on women who are beyond the twelfth week of pregnancy and seek either saline or D & C abortions. A careful study of this population may provide information relative to different psychological constructs operating. For instance,
these women may be less bright and/or in more conflict regarding the abortion. Or they may be women who had difficulty asserting themselves and making a decision and tend to procrastinate.

As it stands now, most counseling interventions done with women seeking vacuum curettage abortions take place on the day of the abortion. Counseling interventions are primarily used to screen women, explain medical procedures, and to allow women the opportunity to express their thoughts and feelings about abortion, their situations, and about themselves in relation to their abortion. Since reduction of anxiety and depression seems to be a natural phenomena post abortion, perhaps the counseling intervention should remain relatively unobtrusive and aid individuals in processing cognitively their decision to abort. If future research finds that emotional levels remain low after six weeks or nine months post testing, then the need for post abortion counseling does not seem particularly indicated. However, if future research indicates that emotional levels increase post abortion at six weeks or nine months post testing, then the need for post abortion counseling at a later date may be indicated.

A viable one shot counseling modality to use with women seeking vacuum curettage abortions may be a cognitive behavioral approach. Often, medical and psychological misconceptions result in irrational thoughts, and consequently, irrational behaviors. The counseling intervention may become a means of clarifying and reconstructing irrational thinking and direct women toward more rational ways of thinking, feeling and behaving. Rainy's (1975) misconception hypothesis, which gets an individual to substitute more rational cognitions for irrationalities, emphasized the reconstruction of irrational thinking. Meichenbaum and
Cameron (1974) and Mahoney (1977) advocated the use of cognitive methods in modifying a client's thinking. Schacter (1966) suggested the role of cognition in modifying client's behavior.

In summary, with the information we have, it may be assumed that the counseling intervention on the day of the abortion should be directed toward dispelling irrational misconceptions and aiding women in developing more rational thinking. It should be remembered, however, that such a short-term intervention will probably only aid women in getting through the abortion procedure more easily. Should future studies indicate increases in emotional levels at varying points following abortions, it may prove beneficial to investigate other, more comprehensive treatment modalities for long term treatment.
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