INFERRED VALUES OF CLOTHING
RELATED TO ADJUSTMENT
AMONG PREGNANT WOMEN

by

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ABSTRACT

Inferred Values of Clothing Related to Adjustment Among Pregnant Women by Violet Elizabeth Dowdeswell

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The first objective of this study was to investigate the adjustment of women during pregnancy through various indices, namely: level of anxiety, attitudes to pregnancy, and perception of body-image boundaries, and to investigate the relationship among these indices. A second objective was to determine if a significant rank order of values inferred through clothing exists among pregnant women, and to relate these values to the measures of adjustment. The comparison of women by trimester and gravidity on the measures of adjustment and the inferred values, was a third objective.

The theoretical framework proposed that adjustment to the stress of pregnancy has important implications for the mental health and welfare of mother and child. It was also based on research findings that the subconscious evaluation of body boundaries is an index of adjustment, as is level of anxiety and attitudes to pregnancy. The interdisciplinary approach to the study of clothing postulates that clothing can facilitate adjustment by serving as an extension of self, as reinforcement of boundaries, and as a communicative factor. Value
Analysis is central to understanding and predicting behavior, therefore, the values pregnant women seek to reinforce through clothing should provide insight into the function of clothing in adjustive behavior.

The sample of 56 pregnant women was selected on a non-random basis from prenatal clinics in southwest Saskatchewan. The instruments administered were: Cattell's IPAT Anxiety Scale, Grimm's H.I.P. Pregnancy Questionnaire, Holtzman Inkblot Protocols, Kernaleguen's Inferred Values of Clothing Inventory, and a General Information Questionnaire.

The analyses revealed: (1) significant association among anxiety and factors in attitudes and adjustment to pregnancy, and some of the inferred values of clothing; (2) relationships among factors in attitudes and adjustment to pregnancy and the four inferred values of clothing; (3) positive correlation between Barrier and Penetration, but no significant relationships among Barrier or Penetration and the other indices of adjustment or the inferred values; (4) significant difference in Penetration among subjects in each trimester of pregnancy; (5) no significant difference between primigravidae and multigravidae on any of the variables; (6) significant rank order of inferred values among all subjects, by trimester and gravidity, with value for physical comfort ranked highest and the social values ranked lowest.

The theoretical framework received some support. High level of anxiety was related to negative attitudes to pregnancy. The relationship of the measures of adjustment with the more subconscious concept of body-image was not clearly established. A number of recommendations are included.
CHAPTER I
INTRODUCTION

Nature and Origin of the Problem

Pregnancy is believed to be a period of stress which a large percentage of women encounter. The Dominion Bureau of Statistics reported 388,162 Canadian women of a total female population of 9,960,536, were pregnant during 1966. (Dominion Bureau of Statistics, 1971) However, surprisingly little scientific research has been undertaken to describe the dynamic development of the emotional life of the pregnant woman.

Pregnancy, like other processes of growth which involve psychological and somatic changes, results in a disturbance of the body's equilibrium. (Stone, 1965) Stress that causes high levels of anxiety often results in the development of behavior patterns which, when extreme, impede self-realization and socialization. (Sawrey and Telford, 1971)

Studies of human behavior under conditions of stress indicate that stress results in anxiety. (Sawrey and Telford, 1971) Most theorists studying personality place great emphasis on anxiety as a motivating force in life adjustment, whether the anxiety be a result of the external environment, or of factors involving self dynamics. (Fromm-Reichmann, 1955) It has been established that changes in life style require adjustive behavior, and this adjustment is essential for mental health. (Sawrey and Telford, 1971) Empirical research dealing with stress
has been limited to a study of artificially induced stress rather than stress emanating from naturally occurring events. (Appley and Trumbull, 1967)

At present, there appears to be increasing interest among researchers on the effects of anxiety and stress on the psychological course of pregnancy and the behavior patterns of the normal fetus. A higher incidence of complications during pregnancy has been demonstrated to be associated with maternal stress, perhaps reflected in the mother's emotional attitude toward the pregnancy. (Grimm, 1961; Davids and DeVault, 1962; McDonald, Gynther, and Christakos, 1963) Grimm (1961) found that psychological tension was related to the trimester and also to gravidity (first or subsequent pregnancy). Early psychological assessment of pregnant women holds out the promise of being able to predict the course and outcome of pregnancy. (Grimm and Venet, 1966) It is therefore imperative to know more about the level of anxiety in people under a natural stress such as pregnancy.

There is support among researchers for the theory that body schema is important to mental health. Certain patterns of behavior are related to the organization of one's perceptions of one's body. In 1968 Fisher and Cleveland used the term Barrier to mean an abstract measure of body-field perceptual differentiation or, "the body as experienced". They concluded that knowing the degree to which a person experiences his body boundaries as firm and definite or weak and lacking in demarcation, enables prediction of certain aspects of behavior such as resiliency in the face of stress. They also concluded that definiteness of
boundaries or a high Barrier score was linked with various modes of behavior that constituted self-steering behavior. Those individuals who exhibited the ability to cope with stress and were self-directing, were found to have high Barrier scores. (Fisher and Cleveland, 1968) Fisher and Cleveland (1968) postulated a second aspect of body boundary, the Penetration of Boundary score, which implies vulnerability or weakness of body boundaries.

Megargee (1965) viewed the body boundary index as a measure of adjustment or fitness since high scores are associated with adaptive behavior and low scores with maladjusted behavior. McConnell and Daston (1961), in a study of women under the stress of pregnancy, showed that a high Barrier score was linked positively with favorable attitudes toward pregnancy. Some data suggest that in the absence of a body-image boundary capable of supplying constancy in new situations, the individual finds it necessary to create exterior conditions which could artificially provide a substitute boundary. (Fisher and Cleveland, 1968)

Although Fisher and Cleveland (1968) contend that Barrier is essentially a subconscious construct, they also recognize the importance of the socialization process and the internalization of the attitudes and values of significant others. As Barrier is a body-image concept, and body-image is one factor in the total self-concept picture, Barrier is therefore a sensitive indicator of a person's sense of self in social relationships.

There is a dearth of research relating adjustment during pregnancy to clothing and appearance. However, clothing is of necessity involved in physical and psychological adjustment to
pregnancy because it has to accommodate the changing size and
shape of the body. After interviewing 40 pregnant women, Carty
(1970) reported that the way a woman saw herself in maternity
clothes was an indication of her satisfaction or dissatisfaction
with figure changes. Carty (1970) concluded that medical person-
nel who are conscious of the importance of body-image in pregnancy
can, by stressing clothing and appearance, reinforce positive
feelings and prevent, reduce, or remove negative feelings of the
wife, husband, or family during pregnancy.

Only recently has attention been focused upon research into
the many implications of clothing. Early scholars recognized the
intimate relationship between clothes and psychological variables
of a body-image order. (Garma, 1949; Schilder, 1950) Because
behavior is largely determined by one's self-concept, self
theorists suggest that clothing takes on subjective meaning when
it is a means of projecting, defending, and vindicating the self.
(Jersild, 1952) Hartmann (1949) emphasized this theory by stating
that clothing is useful in helping build up the person because
it is related to ego-enhancement.

Studies by Stepat (1949) and Ryan (1966) confirmed a
relationship among self-esteem and social and emotional adjust-
ment with the emphasis placed on clothing. Through clothing one
may express individuality and convey many facets of his personal-
ity such as confidence. Clothing may also be used to obtain de-
sired rewards such as comfort and security. (Horn, 1968) Findings
from studies pertaining to personality projection through clothing
are inconsistent. (Ryan, 1966) It would appear that interest in
clothing for the self is related to the adjustment a person makes to his environment. If the concept of self provides the key to understanding mental health, it seems likely that clothing could serve to enhance the self, and consequently could be a factor in adjustment. Jersild (1952) maintained that one can study a person's self in a non-threatening manner by way of his clothing.

Followers of social interactionist theory suggest that appearance is important for establishing and maintaining the self in social situations. (Stone, 1962) Clothing, because it is such an integral part of our material culture, acts as an important nonverbal cue in communication. Extensions of the self are developed as one discovers that one's worth, in the eyes of others, is partly a result of the value placed on things extraneous to self, such as clothing, housing, and other possessions. (Sawrey and Telford, 1971)

Studies by Compton (1964, 1969) and Kernaleguen (1968) hypothesized that clothing, as an extension of the body, serves the purpose of reinforcing body walls or transforming the body-image. Compton (1964) studied psychotic women and found that those characterized by low Barrier scores tended to reinforce body boundaries through their fabric choices for clothing, while Kernaleguen (1968) concluded that college women with low Barrier scores attempted to reinforce body boundaries by wearing fashionable attire.

Clothing has communicative value in adjustment to roles. Because clothing yields overt evidence of role enactment, it can facilitate role change. (Treece, 1959) A change in life situation
such as pregnancy, is made evident through clothing. Treece (1959) discussed the possibility that the pregnant woman perceived herself as performing an important and relatively short role. Her clothing had to contribute to the successful performance of this major social function.

Actions, judgement, and perception are all influenced by values. When a person's values are known, it often becomes possible to predict his behavior in given situations. (Combs and Snygg, 1959) Value analysis is central to understanding behavior because values are directly involved in an individual's existence as a self. (Rogers, 1951) In reviewing the instruments used in measuring values, Robinson and Shaver (1969) suggested that values are assumed to be central to the way a person orders his environment, and even to the way he defines himself. If adjustment to a stress such as pregnancy can be influenced by clothing, it is important to know whether there is agreement among values inferred. The values pregnant women seek to reinforce through clothing could suggest approaches to adjustment during pregnancy. Differences in value orientation have been found to parallel differences in body-image boundary definiteness. (Fisher and Cleveland, 1968)

Research studies of pregnant women have been restricted to studying the effects of emotions on ease of delivery and outcome of pregnancy. Pregnancy is repeatedly referred to as a state of stress. Although adjustment is proclaimed to be essential to mental health, studies examining level of anxiety during pregnancy and ways of facilitating adjustment to pregnancy, are few. Body-
image boundary has been studied in relationship to adjustment under stress, to certain aspects of clothing choice, and to values. However, the interrelationship of these factors with pregnancy has not been examined. It is possible that people with a high Barrier score use clothing in a different way from that used by people with weak body boundaries. Since a person's value system is intimately involved with his behavior, particularly adjustive behavior, the values inferred through clothing are seen as the clothing variable most worthy of investigation. Questions remain unanswered about the relationship of clothing to various personality variables and manifest behavior, especially with pregnant women. The function of clothing during a period of adjustment has to be understood if the potential of clothing in maximizing human well-being is to be realized.

**Statement of the Problem**

Pregnancy is believed to be a period of stress, the psychiatric management of which has important implications for the mental health and welfare of both mother and child. To date, the accumulation of research findings concerning the dynamic development of the emotional life of the pregnant woman, is inadequate. Adjustment to internal and environmental changes is a key factor in mental health, so an examination of adjustment during pregnancy could provide information concerning ameliorative possibilities.

One aspect of mental health is self-concept, in which body-image plays a significant role. This body-image approach has been fruitful in analyzing psychological and somatic changes and
predicting behavior under stress. In addition, level of anxiety and attitudes regarding pregnancy function as indices of adjustment. If the concept of self provides the key to understanding mental health, it seems likely that clothing can function to enhance the self and consequently could be a factor in adjustment. The values pregnant women seek to reinforce through clothing could suggest approaches to adjustment during pregnancy.

**Objectives**

Three main objectives have been formulated for this research study.

1. To investigate the pregnant woman's level of adjustment through the administration of a variety of indices of adjustment, and to determine the relationships among level of anxiety, attitudes toward pregnancy, and body-image boundary.

2. To determine if there is communality of agreement in the rank order of inferred values of pregnant women, with respect to clothing, and to relate these values inferred through clothing to the measures of adjustment.

3. To compare the women in each trimester, and primigravidae with multigravidae, on the measures of adjustment and the inferred values of clothing.
Procedure

1. Select a sample of pregnant women and administer the following instruments:
   a. Cattell's IPAT Anxiety Scale
   b. Grimm's H.I.P. Pregnancy Questionnaire
   c. Holtzman Inkblot Protocols for Barrier and Penetration
   d. Kernaleguen's Inferred Values of Clothing Inventory
   e. General Information Questionnaire, developed specifically for this study.

2. Score all the standardized tests and code the data from the General Information Questionnaire.

3. Analyze descriptively the general information and compare the results of the standardized tests with the norms.

4. Investigate the data statistically and interpret the findings with reference to the theoretical framework.

5. Summarize and evaluate the study and make recommendations for further research.

Limitations

The limitations of this investigation are as follows:

1. The sample was chosen on a non-random basis since it was not possible to identify the total population. Therefore, generalizations cannot be made beyond this population.

2. A consistent approach to the sample may not have been achieved due to differences in introductory information prior to the testing date by outside personnel.
3. The testing situation itself might have contributed to conditions of stress.

4. Pregnant women who attend prenatal clinics may have characteristics different from pregnant women who do not attend prenatal classes.

5. Uncontrolled variables may affect the results.
CHAPTER II

REVIEW OF LITERATURE

Theory and research pertaining to the states of pregnancy and stress are basic to this research. The frame of reference for discussing personality variables, the body as a psychological construct, will be surveyed in relevant literature. Clothing will be examined from the viewpoint of importance to the self, and as a media necessary for social interaction. This chapter will be organized under the following headings: pregnancy, stress and anxiety, stress and anxiety in pregnancy, body-image, and clothing-related behavior.

Pregnancy

Pregnancy has been thought of as a biological event necessary for the procreation of the human race. Much research has explored the nature of the physical and biochemical changes inherent in this process, but only recently has research explored pregnancy as a psychological state.

Kroger and Freed (1962) stated that to bear a child required psychological fitness as well as physical well-being. The demands of pregnancy made on the woman's physical and emotional reserves could upset physical and emotional equilibrium. (Kroger and Freed, 1962) Richardson and Guttmacher (1967) prefaced their collection of articles on the social and psychological aspects of childbearing by stating that certain reproductive disturbances such as
spontaneous abortion, prematurity, and pseudopregnancy have been only partially explained by an emphasis on the physiological aspects of pregnancy.

The awareness of pregnancy creates unlimited variations and combinations of emotions in the expectant mother. Perlman (1968) suggested that the demands of pregnancy and the expectations of parenthood were sometimes met with feelings of accomplishment, contentment, ambivalence, or shock. Stone (1965) supported the view that ambivalence was almost always present and that it might be expressed psychosomatically.

Grimm (1967) described psychological and physiological functioning of pregnancy as two interacting forces. In a later discussion concerning women's psychology and physiology, Bardwick (1972) postulated that there was a close two-dimensional relationship between a woman's psychological functioning and her reproductive system. The reproductive system had been shown to produce distinct effects on personality, and women of varying personalities used their reproductive systems to act out their conflicts, anxieties, and needs. Habitual abortion and traumatic vomiting during pregnancy were cited as examples of psychosomatic symptoms. (Bardwick, 1972)

Confidence in regard to femininity was found to be important for adequate preparation for motherhood. (Caplan, 1957) Later, Bibring (1959) compared pregnancy to other life situations which also involve psychological and somatic changes.

In pregnancy, as in puberty and menopause, new and increased libidinal and adjustive tasks confront the individual, leading to the revival and simultaneous
emergence of unsettled conflicts from earlier developmental phases and to the loosening of partial or inadequate solutions of the past. This disturbance in the equilibrium of the personality is responsible for creating temporarily the picture of a more severe disintegration. (Bibring, 1959, p.116)

In every individual, pregnancy produces a conflict between the instinct to reproduce and the instinct for self-preservation, stated Kroger and Freed (1962). Ferreira (1969) also recognized that to be pregnant was to be committed. In 1962, Corbin, Brown, and Hugnes, observed that obstetric advances had effected a decline in maternal mortality, but the satisfaction of the total needs of the mother had not been accomplished. Because pregnancy involves a constant reappraisal of the self, a personality assessment of the pregnant woman is necessary to evaluate the emotional complications of pregnancy, labor, and the post-partum period. (Kroger and Freed, 1962)

Perlman (1968) stated that a woman's feelings about pregnancy were a complex combination of her sense and conception of self. A study in 1969 by Wenner et al. concluded that pregnant women did what they felt was expected of them as a substitute for establishing a firm self-image. This study also discussed other factors that affected the psychological course of pregnancy - the motivation for the pregnancy, the solidity of the woman's feminine identity, and the relationship with husband and parents. Dick-Read (1968) emphasized the importance of a healthy emotional development, adequate sex education, and a well-handled adolescence.

A study by Grimm and Venet (1966) concluded that it was important from a mental health standpoint to determine what variables
influenced optimal adjustment during pregnancy. Their research aimed to develop measures for adequately assessing the emotional adjustment and attitudes of pregnant women. Emotional adjustment and attitudes as measured early in pregnancy, were investigated and found to be related to attitudinal characteristics and emotional adjustment later in the maternity cycle.

Pregnancy appears to create a crisis that affects all pregnant women, but for the person without an internal sense of balance, emotional problems may become acute. Perlman expressed:

Pregnancy is a crucial period then, even at its most even keel in the sense that it is a period of rapid and deeply felt body change and growth with its accompanying physiological responses. (Perlman, 1968, p.120)

Whence do attitudes toward pregnancy come? A number of studies have investigated attitudes and adjustment to pregnancy as they related to a variety of societal factors. Corbin, Brown, and Hughes (1962) suggested that the way in which the childbearing needs of families were met, was a reflection upon the values of a society. At the same time, this study suggested that many problems of pregnancy were caused by society.

Dick-Read (1968) believed that a mother was considered a valuable member of society and that she occupied a certain status in her home and community. Although the desire for self-fulfillment through creation at a biological level was found to be a dominant motivation in many women, Klein, Potter, and Dyk (1950) reported that pregnancy was also desired as a means of securing status within the woman's family. For some women, pregnancy was also a means of insuring the love of a husband.
Research has indicated that an uncomplicated pregnancy depends on the success of the marital relationship. (Wenner et al., 1969) The husband's role in the childbearing process was recommended for future study. Earlier, Stone (1965) found that a pregnant woman's reactions were influenced by the real or imagined responses of her husband. The relationship of marital satisfaction and pregnancy of 407 primiparous couples was investigated by Meyerowitz (1970). He concluded that a woman accepted pregnancy when it served to bring her closer to her husband, but rejected pregnancy when it excluded her from him. One index assessed the importance of the husband's satisfaction with his wife's physical attractiveness.

Carty (1970) suggested that appearance was important. The husband/wife relationship might be strengthened if the wife was pleased with the way she looked during pregnancy. Furthermore, dissatisfaction with her appearance might cause the woman to blame the baby and consequently have difficulty developing a close relationship with the infant. (Carty, 1970)

The impact of pregnancy involves changes in familial relationships and the role system within the family. (Caplan, 1957) Stone (1965) concluded that the indications of acceptance, ambivalence, or rejection of pregnancy, stirred up responses and repercussions in the family. These in turn set up reactions in the pregnant woman. The reactions she perceived from her key reference group members, especially her husband, could add to interpersonal distress during pregnancy. (Stone, 1965) Kroger and Freed (1962) noted that the number of previous children, the
timing of the pregnancy, and certain economic factors, might be important in the adjustment of the family to a pregnancy.

In 1959, Bibring objected to the clinical approach to childbearing. The progress of knowledge and techniques may have removed the psychological understanding, emotional support, and the human approach, which are important to the pregnant woman. In addition, in a rapidly changing world, the traditional supports offered by the extended family have been lost. This lack of support may cause the pregnant woman to attempt to adjust by internalizing all her emotions. Our society, in comparison with more traditional ones, lacks the mechanisms of customs, for helping the woman cope with this crisis period. (Bibring, 1959) Wenner et al. (1969) concluded that measures to overcome the feelings of isolation often present in pregnant women, could be expected to reduce difficulties during pregnancy.

Lubic (1969) proposed that anthropology could make contributions to the field of maternal care. Behavior patterns, values, preferences, and habits, taught by our society are employed without thinking. Patterns of body care and adornment during pregnancy are influenced greatly by these sociocultural concepts. Richardson and Guttmacher (1967) stated that accepted values would be useful in predicting customs and practices, and that these in turn would influence reproductive behavior.

In our North American society the positive and negative feelings about pregnancy, have caused pregnancy to be vague and undefined in comparison with other cultures. Goshen-Gottstein (1966) based a study of Israeli pregnant women on the premise that
the understanding of the psychology of the expectant mother might be increased if extensive information concerning her marriage background and immediate environment were collected. She classified her sample of women as traditional, modern, or transitional in their life style. The traditional woman attempted to exploit her pregnant situation to make up for the lack of concern and attention given her as a person. As a result, she showed many symptoms during pregnancy. This woman also tended to have a negative attitude towards her body. The modern woman enjoyed a relationship of equality with her husband and could fulfill her maternal role as well as function outside the home. The transitional woman was concerned with socially determined behavior and attitudes, but was less passive and subservient than the traditional woman. She experienced a positive attitude toward her body, described pregnancy as a pleasant experience, and suffered from fewer symptoms than her traditional counterpart.

In 1964, Rice identified the following cultural aspects complicating pregnancy: lack of marriage and parenthood education; desire to keep working or the necessity to do so; failure to complete school education. Illsley (1967) listed social conditions and behavior influencing the course of pregnancy as: socioeconomic status; place of residence; illegitimacy; prenuptial conception. Even biological categories such as maternal age and parity were considered socially significant factors. The risk of pregnancy, particularly involving illegitimacy, was related to censure of certain forms of behavior by society.
The concept of social class, which classifies people in our society in terms of their distinctive life styles, has also been studied with respect to pregnancy. Richardson and Guttmancher (1967) summarized that studies showed a greater risk of pregnancy and delivery complications and premature births among women of lower social class than among those of upper social class. Rosengren (1961), in exploring the relationship of pregnancy and social status, found that women who showed a high degree of social instability tended to view pregnancy as an illness, hence they had negative social aspirations. Rosengren (1961) also postulated that women with high occupational status felt a decrease in social position due to pregnancy, whereas, pregnancy could actually increase the status of a woman on a lower level.

Acceptance of pregnancy is the prescribed cultural norm. (Stone, 1965) This statement was upheld by Caplan (1957) when he explained that in our society, having a baby is assumed to be an important goal for the young married woman, while at the same time, many cultural, social, and economic factors run counter to this aim. Kroger and Freed (1962) had previously suggested that the physical, social, and economic limitations imposed by pregnancy might cause resentment. When pregnancy is a socially expected and desirable condition, the woman feels affirmed by society's respect for her. These studies seem to show that adjustment to pregnancy requires an understanding of personality, within the societal framework of each individual.
Stress and Anxiety

Early studies examining the nature of stress were carried out by Hans Selye (1956). As a result of extensive physiological examination, the conception of the general adaptation syndrome (G.A.S.) or stress syndrome occurred. Selye (1956) defined stress in terms of the homeostatic mechanism of the body, and the life process of adaptation.

Appley and Trumbull (1967) edited reports that had originally been presented to a conference concerned with the issues of research on psychological stress. The editors observed that stress was a state of the total organism under extenuating circumstances, rather than an event in the environment. Many environmental conditions were capable of producing a stressful state, but in turn, many responses could be given to a common stimulus by different individuals. Intra-individual response patterns occurring in stress situations were consistent, while inter-individual responses were varied. It was also concluded that the intensity and extent of the stress state could not be predicted from a knowledge of the stimulus conditions alone because personal motivation was also an important factor. The understanding of the interaction of one stressor with another was considered imperative. (Appley and Trumbull, 1967)

Pepitone (1967) believed that although there was no one correct definition of stress, there were at least three ways of characterizing stress. First, stress is a disturbance which the organism tries to eliminate; second, physiological or behavioral responses
which are symptoms of a disturbing inner state; and third, as an
event of the physical or social environment which leads to avoid­
ce, aggression, or problem-solving methods to remove the condition.

Lazarus (1963) perceived states of stress as obstacles in
personal adjustment to the internal and external demands of the
environment. Adjustment is reduced as stress interferes with think­
ing and narrows the perceptual field. Stress reactions were de­
defined as "reflections or consequences of coping processes intended
to reduce threat". (Lazarus, 1967, p.159) Lazarus emphasized the
role of the cognitive processes which underlie the observed pattern
of reaction, and stressed the importance of taking into account
individual differences.

More recently, Holmes and Masuda (1970) investigated stress­
ful life events and their bearing on illness susceptibility. It
was postulated that the life-change events evoked adaptive efforts
that were faulty in kind and duration, and consequently enhanced
the probability of disease occurrence. The Life-Change Units
Scale assigned a numerical weight to each type of life change,
such as pregnancy. Any of the changes required adjustment and
coping, and Holmes suggested that it was the general rate of change
itself, rather than the particular type of change that correlated
with illness. (Holmes and Masuda, 1970)

Sawrey and Telford (1971) stated that "adequacy of adjustment
is related more to one's means of coping with stress than with the
extent of stress". (Sawrey and Telford, 1971, p.405) Appley and
Trumbull commented: "... stress is a concept which can have
interpretation and relevance at many levels of human organization, from cellular to cultural". (Appley and Trumbull, 1967, p.12)

The relationship between stress and anxiety is confusing. Lazarus (1963) suggested that anxiety is the affective aspect of stress, while Sawrey and Telford (1971) stated that stress engenders anxiety. Other explanations and definitions abound. Anxiety in its milder forms is a universal phenomenon with both disintegrative and constructive facets. (Fromm-Reichmann, 1955) Coleman (1964) defined stress as "any condition impinging on the organism which requires adaptive reactions". (Coleman, 1964, p.671) Cattell and Scheier (1958) reported that "anxiety is generally conceded to be a phenomenon that manifests itself in immediate experience as an unpleasant emotional feeling with a characteristic anticipatory character - the expectation of impending danger". (Cattell and Scheier, 1958, p.351) The Dictionary of the Social Sciences states:

Anxiety may be defined as a reaction of apprehension ranging from uneasiness to complete panic preceded by a real or symbolic condition of threat which the person perceives diffusely and to which he reacts with an intensity that tends to be disproportionate. (Gould and Kolb, 1964, p.30)

Cattell and his associates (1958, 1960) have systematically studied anxiety using multivariate analyses. Their work is based upon the principle that a separate state exists if a distinct response pattern factor can be found. States cannot be defined only by the stimuli which cause them because many different stimuli trigger the same response. (Cattell, 1957)

Thirteen multivariate analyses isolated the single state-trait anxiety factor U.1.24. (Cattell and Scheier, 1958) This anxiety
factor was a seven-factor theory, consisting of ego weakness, super
ego strength or fear of deprivation, general or repressed drive
(id pressure), general timidity, protension or paranoid expression,
lack of integration, and, constitutional difficulty in sublimating.
(Cattell, 1957) Of these seven, the largest single source of high
anxiety was lack of integration, resulting in conflict and in-
effective organization of channels for the discharge of ergic ten-
sion. Anxiety was interpreted as both a state and a trait because
changing circumstances result in varying levels of stress, but
there is also evidence that some people vary in general anxiety
levels. (Cattell, 1965) The IPAT Anxiety Scale was built up from
a combination of items on the questionnaires concerning anxiety
that were factor analyzed by Cattell (1965).

The relationship of stress and anxiety to various personality
characteristics and social factors has been examined, but very
little information has been obtained. (Appley and Trumbull, 1967)
Few experiments are comparable because they employ different kinds
of instruments under different conditions. (Lazarus, 1963) Lazarus
(1963) recognized the usefulness of being able to predict which
people would be adversely affected by a stressful situation.

A study of 200 adolescents attempted to investigate the re-
lationship between anxiety and the representation a person has of
himself. (Tome and Zlotowicz, 1968) The anxiety scores were
positively correlated with egocism, which was considered by the
authors to be a devalued aspect of personality. Scores on self-
mastery and autonomy were negatively correlated with anxiety level.
Results also indicated a significant difference in anxiety scores
according to sex, but not according to age.

Pepitone (1967) hypothesized a relationship between stress and self dynamics. Performance under stress has been negatively correlated with submissiveness in children (Taylor and Farber, 1948), low intelligence (Lazarus and Eriksen, 1952), and with low dominance feelings in women (Meadow, 1940). Cattell and Scheier (1963) reported studies which confirmed that subjects with higher anxiety reported less favorable views of themselves. Gergen and Marlowe (1970) postulated that under stress the person low in self-regard may begin more rapidly to demonstrate anxious behavior. Because anxiety may interfere with cognitive processes and problem solving, this person may also be more receptive to the opinions of others.

Cultural issues such as loss of social function, physical disablement, economic insecurity, and imminence of death, were considered by Cattell (1965) to be factors of importance. Lazarus (1963) mentioned expectations of others and conformity to social values and culturally developed patterns of behavior, as external sources of stress.

Conceptual ambiguities have resulted because of a lack of coordination in efforts to measure stress and anxiety. Terminology has been a problem. Frequently the terms stress and anxiety have been used interchangeably. (Cattell, 1957) Cattell's extensive research has been a systematic effort to resolve this confusion and to organize a general taxonomy. In 1960, Cattell and Scheier stated that both stress and anxiety stimuli were defined as provoking a certain pattern of responses. Stress stimuli possessed
the quality of evoking a great deal of physical and mental effort, whereas anxiety stimuli seemed to affect or threaten the individual's massive life purposes, or more specifically, his sentiment systems. The conclusion that has been drawn from the literature reviewed, for the purposes of this study is that the level of anxiety, during a period of stress, is defined as a measure of the individual's adjustment to, or coping with, stress.

**Stress and Anxiety in Pregnancy**

The temporary impairment of an individual's usual capacity to cope with changing environmental stresses is a characteristic of pregnancy. (Stone, 1965) In fact, Stone felt that "it is a rare woman who adjusts to pregnancy with no stress". (Stone, 1965, p.88) Caplan (1957) elaborated by proposing that pregnancy may impose stress on biological and physiological functioning, and in many cases lead to a disequilibrium of the interplay of social, cultural, and economic forces. Earlier, in an article for medical personnel, Caplan (1954) stressed the importance of ego-strengthening support, and anticipatory guidance in creating an atmosphere conducive to good mental hygiene in the maternity patient.

In 1968, Dick-Read hypothesized that anxiety was a psychological state in which the individual lives in a state of tension, usually associated with a subconscious expectation of some sort of trouble. This is the type of anxiety that women experience during pregnancy.

The universality of anxiety during pregnancy seems to be indicated by the following studies. Hirst and Strousse (1938)
reported an increase in expressed anxiety during pregnancy by 75 percent of 100 women interviewed. These anxieties were diverse in type and of relative importance to each individual. When anxiety decreased following pregnancy for 80 percent of the women, in spite of an unchanged poor economic situation, Hirst and Strousse concluded that anxiety is characteristic of the pregnancy period.

The women in a study by Klein, Potter, and Dyk (1950) were all found to have anxiety at some time during pregnancy, regardless of whether the baby was wanted or unwanted. Klein, Potter, and Dyk (1950) assumed that anxiety was common to all primiparae, and suggested that it was imperative for the medical personnel to recognize the inevitability of anxiety during pregnancy, and to be sensitive to subtle or disguised expressions of this anxiety.

Davids, DeVault, and Talmadge (1961) used a variety of psychological procedures to study emotional factors in women during pregnancy and following childbirth. Results on the Taylor Manifest Anxiety Scale indicated that anxiety decreased following pregnancy. Bibring (1959) explained the stress inherent in pregnancy by suggesting that endocrinological changes activate unconscious psychological results. Psychosomatic symptoms are overt manifestations of individual personality difficulties. (Bibring, 1959)

In the Klein, Potter, and Dyk study (1950), anxiety was indicated in primiparous patients by insomnia, depression, restlessness, or uneasiness. Kroger and Freed (1962) stated that symptoms of frustration and overindulgence were common among women experiencing unplanned pregnancies. Anxiety seemed to be normally heightened during pregnancy in a study by Newton (1963). It was estimated
that extreme resentment resulted in one out of six conceptions being terminated by induced abortion. (Newton, 1963)

Rice (1964) suggested that some symptoms of basic emotional stress were the difficulty in adjusting to a prenatal diet and the delay in getting prenatal care. Kroger and Freed (1962) and Dick-Read (1968) all recognized the importance of physical attractiveness. Dick-Read said that appearance, shape, and gait were matters of serious concern, no woman liked the look of swollen ankles, stretch marks and blemished skin.

Rosengren's study (1961) with 76 pregnant women was concerned with the sick role of pregnancy. Results indicated that women who defined their pregnancy as an illness tended to express many negative social aspirations and many desires for material acquisitions. More women of low socioeconomic status regarded themselves as sick than those of a higher socioeconomic status.

Colman (1969) listed emotional lability, anxiety, insomnia, and crying spells as common symptoms of pregnancy. He stated that the shift in hormone level can produce strong behavioral effects, such as mood changes and an altered field of consciousness, which may lead to overreactions.

Anxieties during pregnancy have been categorized as: anxieties centering about the child, such as concern about deformity, injury, miscarriage; anxieties centering about the woman, for example, concern about her health, death, delivery and pain. Concern about the future was also felt. Misconceptions about the physiology of pregnancy, labor, and delivery created additional anxieties. (Klein, Potter, and Dyk, 1950) The pregnant woman coped by
repeated verbalization, the observance of rituals, identification with someone who had an uneventful pregnancy, and projection. Pregnancy proved to be a catalyst for potential anxieties.

Toxemia in pregnancy has been studied by Coppen (1959). His comprehensive study involved matched pairs of toxemic and normal subjects. Coppen found that the toxemic women had significantly less favorable attitudes toward sexual adjustment and pregnancy, and exhibited more psychiatric symptoms and experienced more emotionally disturbing events during pregnancy. A study of 41 toxemic pregnant patients showed that only 8 percent were found to have normal personalities as measured by the Minnesota Multiphasic Personality Inventory. (Ringrose, 1961) Ringrose (1961) implied that toxemia was a psychosomatic disorder of pregnancy.

Rosen (1955) studied 54 women during their first trimester of pregnancy and concluded that the severity of nausea and vomiting was commensurate with the degree of emotional stress. Ferreira (1969) however, observed that the question of emotional factors in nausea and vomiting was in doubt. His review of research on the complications of pregnancy discussed nausea, habitual abortion, infertility, prematurity, prolonged pregnancy, and toxemia. Grimm's study (1961) of habitual aborters, revealed that a pattern of poor emotional control, compliance, dependency, and proneness to guilt feelings, was characteristic of these women. In a study of emotional problems in pregnancy, Wenner et al. (1969) suggested that although pregnancy was a period of great emotional and psychological change, motivation for success was usually high. The assumption that the desire for a child was of
central importance was found to be inadequate in explaining the motivational forces for the pregnancies. The writers found that pregnancy could represent an anxious effort to cope with loneliness, boredom, threatened abandonment, or an uncertain self-image. Women who handled pregnancy well were motivated by natural gratification, whereas subjects with troubled pregnancies were highly motivated by security. This study, involving 52 maternity patients, indicated that planning seemed to have little relationship to the ability to handle the pregnancy.

Psychological stress may not be equally harmful at all stages of pregnancy. (Richardson and Guttman, 1967) In 1950, Klein, Potter, and Dyk reported that some prospective mothers were upset by the stories of multiparous women about difficulties and abnormalities of childbirth experiences. They also observed that anxieties increased as the end of pregnancy approached. Patients expressed most physical discomfort at this time and reported feelings of "going into the unknown". Dreams were most frequently reported during the last trimester.

Caplan (1957) drew a parallel between the emotional manifestations of pregnancy and the hormonal and general metabolic changes in the maternity patient. In the first trimester, anxiety may be associated with unhappiness and disappointment at becoming pregnant. Caplan (1957) found that primiparae hid their feelings and feared condemnation if they admitted rejection of their pregnancy.

In the middle of the second trimester, another common manifestation of pregnancy may be increased introversion, passivity, and dependency. (Caplan, 1957) Women who are insecure in their
feminine role may have special difficulties in accepting these changes. Mood changes may invite anger and rejection from others, just at the stage when affection is needed. With the onset of the third trimester, a shift occurs between a woman's ego and her unconscious forces. (Caplan, 1957) Old conflicts and fantasies come to the surface, while normal defensive forces are bypassed.

Ringrose (1961) suggested that the greater increase in toxemia as the end of pregnancy approached was perhaps due to the increased duration of the stress of pregnancy. In Grimm's 1961 study, results also indicated that psychological tension was greatest during the last half of the last trimester. Finally, Carty (1970) found that the degree of dissatisfaction with appearance seemed to increase as pregnancy progressed.

It has been suggested that gravidity influences anxiety in pregnancy. Klein, Potter, and Dyk (1950) commented that childbirth was mysterious for primiparous patients, and hence caused stress. In a later study, primiparous women were thought to be less apprehensive than multiparous women. (Winokur and Werboff, 1956) The suggestion was made that perhaps the primiparous patients had no painful experiences or events to remember.

Clinical impressions that maternal prenatal anxiety generally was inversely related to gravidity, led McDonald, Gynther, and Christakos (1963) to match their samples according to gravidity. Newton (1963) suggested that women with no children were more likely to be pleased with the idea of pregnancy. In 1965, a study by Erickson showed that primiparous women experienced more fears for themselves and the baby, yet showed less tension and irritability
than multiparous women. In conclusion, Illsley (1967) reported that obstetric risks were higher for primiparae of 30 years or over.

Studies published regarding anxiety and pregnancy can be divided into two broad categories, those concerning anxiety and obstetric difficulties, and those investigating anxiety and the development of the child. In one study of anxiety in pregnancy and childbirth, 27 primiparous women were studied in depth at prenatal clinic visits through interviews with a psychiatric social worker. (Klein, Potter, and Dyk, 1950) These women were classified as stable or unstable in terms of their personality organization. It was concluded that the general pattern of behavior in pregnancy was consistent with this personality organization in most of the patients. Klein, Potter, and Dyk thus suggested that for the physically healthy primiparous woman, personality makeup may be a predictive clue to the kind of emotional and physiological adaptation made to pregnancy.

A complex research design by Zemlick (1952) tested the hypothesis that anxiety, as it is measured by an attitude questionnaire, projective tests, and psychosomatic symptom inventory, could be used to predict the mother's adjustment during pregnancy and delivery. Although the sample was relatively small, results showed that those women with favorable attitudes early in pregnancy, were more apt to be well adjusted and to have less somatic complaints during pregnancy than women with unfavorable attitudes.

Grimm (1961) developed a research tool to measure tension in pregnancy. The aim was to identify those women who would be most likely to encounter obstetrical difficulties, in which emotional
factors are important. Although the general level of psychological tension remained fairly constant throughout the rest of pregnancy, a greater number of women in the third trimester obtained scores indicative of disturbance. Primiparae were found to have a somewhat higher tension index than multiparae. Significant relationships were found between the higher tension index and the amount of weight gained during pregnancy as well as the length of the second stage of labor in multiparae. Grimm concluded that not all women react the same way during pregnancy as variations in the amount of tension present at various times during pregnancy were indicated.

Davids, DeVault, and Talmadge (1961), using the Thematic Apperception Test, reported a greater degree of alienation and significantly lower self-ratings on happiness in patients whose pregnancies were complicated. Fifty women in the third trimester of pregnancy, in a later study by Davids and DeVault (1962) were assessed by a battery of psychological tests, including the Taylor Manifest Anxiety Scale. Anxiety scores were also obtained from self-ratings and ratings expected from others, a sentence completion test, and the Thematic Apperception Test. Following childbirth, the women were classified as normal or abnormal on the basis of delivery room complications and childbirth abnormalities. Analysis showed that the women who experienced complications and difficulties in childbirth, had been more anxious during pregnancy.

In a study designed to assess the role of anxiety in obstetrical complications, McDonald, Gynther, and Christakos (1963) administered the IPAT Anxiety Scale to 86 pregnant women at the
beginning of the third trimester. Patients were classified as normal or abnormal according to pregnancy, delivery-room, and post-partum records. The two groups were matched by age, intelligence, total pregnancies, and first pregnancies. Data from the standardized tests were scored independently of knowledge of the clinical data. The authors concluded that there was a positive relationship between anxiety and obstetric complications since the abnormal group scored significantly higher anxiety scores. Specifically, the abnormal group was found to have less ego strength, less self-sentiment development and more ergic tension and guilt proneness. As well, total labor time and birth weight were positively correlated with anxiety. Furthermore, the mechanism by which the effects of anxiety were manifested physiologically was explored.

Reviewing these studies, Grimm (1967) concluded:

> In general, both favourableness of attitude toward pregnancy and psychological comfort or stability have been demonstrated to have some relationship to emotional adjustment and the occurrence of minor symptoms during pregnancy. (Grimm, 1967, p.23)

No studies were found which investigated personality attributes of women before, during, and after pregnancy. "The pregnant woman brings to the experience of labor all of her structural, physiological and psychological assets and liabilities." (Klein, Potter, and Dyk, 1950, p.56) Klein, Potter, and Dyk (1950) stressed the importance of the role of emotional factors because the physiology of labor is largely under the domination of the parasympathetic division of the nervous system.

Prenatal development is related to the psychological effects of a woman's pregnant condition on herself. (Sarason, 1966)
Sarason (1966) explained that mothers who differ in emotionality and in the psychological stresses experienced during pregnancy show differences in blood chemicals and differences in autonomic nervous system activity.

The IPAT Anxiety Scale was again used with pregnant women in a study by Ottinger and Simmons (1964). Nineteen subjects with extreme anxiety scores during gestation were tested during each trimester. Results indicated a positive relationship between high anxiety and the amount of neonatal crying, as measured on the second, third, and fourth day of life. After reviewing research studies relating state of pregnancy and the newborn child, Grimm (1967) concluded that various kinds of maternal stress could influence the fetal environment, the fetus, and its birth.

Ferreira (1968) experimentally confirmed the importance of the mother's attitude during pregnancy on the infant's prenatal environment. He assigned scores on the degree of fear of harming the baby and the extent of pregnancy rejection to expectant women during the thirty-sixth week. Following birth, the babies were observed, and their behavior rated. Mothers of deviant babies were found to have had a significantly greater degree of fear of harming the baby during pregnancy.

Sontag (1941) believed that the central nervous system of the fetus could be affected by maternal stress. He demonstrated that there was a relationship between emotional disturbances in the third trimester and increased fetal activity. He concluded that the psychophysiological state of pregnant women exerted an influence upon the behavior pattern of the normal fetus.
According to Ringrose (1961) the stress of pregnancy is the sum total of the fear of the unknown and environmental stresses. Although Biskind (1958) believed that the fears and anxieties that accompany pregnancy could be offset by education, Ferreira (1969) believed that emotions may not be affected by logic. A statement by Grimm (1961) pointed to the difficulties involved in the investigation of anxiety and childbirth:

It is difficult to determine cause and effect with any degree of certainty ... it would be difficult to ascertain, for example, whether a woman is highly anxious because she is expressing unpleasant physiological sensations, whether the symptoms are in part caused by her continued state of anxiety, or whether both reactions are caused by a third factor such as endocrine imbalance. (Grimm, 1961, p.35)

**Body-Image**

Body-image refers to the body as a psychological experience. It focuses on the individual's feelings and attitudes with his body and is concerned with the individual's subjective experiences with his body, and the manner in which he organizes them. (Fisher and Cleveland, 1968)

Fisher and Cleveland (1968) suggested that an individual's body boundaries play a fundamental role in many aspects of behavior, and that to know the state of a person's boundaries enables someone to make meaningful predictions about his behavior. A means of measuring boundary definiteness was devised by classifying responses to an inkblot series. Fisher and Cleveland's work involved intense experimentation relating this Barrier index to psychosomatic behavior and social variations. From a review of the literature and the experimentation done in this area, the following is a summary:
1. "There is some evidence that the body scheme may function
as a basic standard or frame of reference which influences some of
the individual's modes of perception and also his ability to perform
certain skills." (Fisher and Cleveland, 1968, p.50)

2. By and large, body-image has been defined as a psychologi-
gical variable - usually described as evolving gradually in the
course of a learning process in which the individual experiences
his body in manifold situations and also notes the varied reactions
of others to it. (Fisher and Cleveland, 1968)

3. Techniques for studying body-image range from introspection,
informal observations, questionnaires, and the drawing of a person,
to self-ratings.

In some subjects, Barrier score was found to be related to
certain patterns of behavior. Fisher and Cleveland's concept of
self-steering behavior evolved from the construction of an idealized
model of a high Barrier person. High Barrier score was related to
a high level of goal-setting, a high need for task completion, low
suggestibility, ability to express anger outwardly when frustrated,
ability to tolerate stress and the degree of orientation toward
self-expressiveness and self-gratification. (Fisher and Cleveland,
1968) Most of these characteristics involve obvious social and
ego-involving behavior.

Adams and Caldwell (1963) postulated that body-image may be
the core or center about which one tries to build up an ego struc-
ture. A study in 1965, conducted by Megargee, investigated the
relation between Barrier scores and the agressive behavior of 75
juvenile delinquents. He concluded that the Barrier score was
both an index of adjustment, and an index of ego identity. Fisher and Cleveland (1968) reported that Barrier scores have been correlated with a number of psychosomatic conditions, severe neuroses and psychoses, family patterns, and cultural differences.

A second aspect of the body boundary concept is Penetration. Fisher and Cleveland (1968) revealed that Penetration scores represented weakness, lack of substance, and penetrability of the body boundary. Penetration score is also obtained by classifying responses to an inkblot series. The authors felt that Penetration score was not the opposite equivalent of the Barrier score. With normal groups they seemed unsure of its meaning, although the Penetration score was found to have meaningful application with certain special groups. (Fisher and Cleveland, 1968)

A study by McConnell and Daston (1961) confirmed the idea that the Barrier index manifests little relationship to indices that describe the actual structure or condition of the body. The body-image boundary probably does not reflect the state of immediate situations, but it may be a means of maintaining homeostasis. Body-image changes during pregnancy were investigated in 28 multiparous women. The Osgood Semantic Differential and the Rorschach tests were administered during the eighth or ninth month of pregnancy and again three days after delivery. An interview was also conducted during the third trimester. The Osgood Semantic Differential revealed higher evaluation of the body after delivery than during pregnancy. The authors implied that pregnancy was seen as an unnatural condition by the subjects, with the body being misshapen, ugly, and devalued. A significant decrease in Penetration scores
after delivery was explained by noting that an individual might feel less integrated and more vulnerable during pregnancy. The Barrier score did not change significantly. McConnell and Daston (1961) concluded that the Barrier concept referred to slower changing aspects of body-image, whereas the Penetration scores reflected less stable characteristics of the body-image boundaries. Situation-al factors threatening the ego could cause the shift in Penetration scores.

It was also found in the McConnell and Daston (1961) study, that positive attitudes toward pregnancy were related to positive evaluation of the body during that period. Those subjects with positive attitudes also had higher Barrier scores than those with negative attitudes. Possibly women with favorable attitudes emphasized the ability of their body walls to protect and contain their young. It was concluded that attitude toward pregnancy could be understood as a criterion of adjustment. (McConnell and Daston, 1961)

After interviewing 40 women in varying stages of pregnancy, or in the immediate postpartum period, Carty (1970) concluded that acceptance of changes in the body-image during pregnancy was vital. She observed that some prospective mothers were not happy at the sight of their enlarged abdomen, while others could scarcely wait for their abdomen to give visible evidence of advancing pregnancy. Carty (1970) suggested that the latter show their maternal pleasure by wearing maternity clothes before they really need to. Perhaps the way a woman views herself could be a factor which determines how she adapts to her new role.
Meyerowitz (1970) studied eight aspects of marital satisfaction in relationship to experiences during first pregnancies. One index measured satisfaction in terms of a woman's acceptance of body-image. A negative body-image, which led to low self-esteem, was associated with pregnancy dissatisfaction.

Differences in value orientation parallel differences in body-image boundary definiteness. Testing 60 students, Appleby (1956) found that subjects with high Barrier scores tended to score low in theoretical values, as measured by the Allport-Vernon Study of Values. In the same study, a negative relationship was found between Barrier score and physical science interests on the Thurstone Interest Schedule. A significant positive relationship existed between Barrier score and humanitarian interests. It appears that the more definite an individual's body-image boundaries, the less likely he is to be interested in the physical sciences, or to have a value orientation emphasizing the importance of things and abstractions. The high Barrier person is more interested in activities which focus upon communication with other people, about matters that are of emotional significance and ego-involving. (Fisher and Cleveland, 1968) A similar study conducted by Fisher and Cleveland (1968) used the Morris-Jones Ways of Life form. The results indicated that the higher Barrier subjects were differentiated from the lower Barrier subjects not so much by their preference for any one way of life, as by their choice of a middle position which accepts some aspects of a number of ways of life as good.

In the decade from 1958 to 1968 response to stress was studied further, and findings indicated that the Barrier index is "an
excellent predictor of the ability to cope with actual or threatened damage of one's body". (Fisher and Cleveland, 1968, p.381)

This body-image index is also an indication of how an individual structures his relations with others. Groups of high Barrier individuals showed a pattern of equal participation, with a high regard for the importance of the individual. The low Barrier group structured personal relations. (Fisher and Cleveland, 1968) The process of socialization wherein one interacts with social figures, is basic to the boundary development. Fisher and Cleveland (1968) supported Mead's theory of personality and self formation.

Fisher and Cleveland (1968) raised the question as to whether or not the body-image boundary encompassed the clothes one wears. Kernaleguen (1968) found that being regarded as a fashion leader by one's peers related negatively to high Barrier scores. This research seemed to indicate that college women with weak boundaries sought fashionable clothes to reinforce and redefine weak boundaries. Likewise, Compton (1964) in a study of psychotic women found a relationship between low Barrier and preference for highly saturated colors. She hypothesized that low Barrier individuals may reinforce boundaries by specific clothing variables.

In conclusion, the Barrier index seems to be an abstract measure of differentiation, a measure of how an individual experiences his body. From the knowledge of how a person has organized his perceptions of his body, one can discover some of his basic feelings about himself and consequently how he will conduct himself. The body-image boundary does not mirror the actual properties of the body, rather, it represents attitudes projected onto the body. (Fisher and Cleveland, 1968)
Clothing-Related Behavior

The necessity for understanding and predicting behavior reliably gave impetus to research and interest in the social and psychological interpretations of clothing-related behavior. Hartmann (1949) was one of the first to suggest that clothing was a subject for serious psychological study, saying that it could be of value in understanding sociological concepts as well. He saw clothing as both a stimulus and a response. Treece (1959) hypothesized that relevant behavioral concepts from the field of social psychology could be applied to the study of behavior relating to clothing, and that these concepts would be fundamental to an understanding of the function of clothing in behavior. Because clothing is a part of our material culture, it seems evident that an understanding of clothing-related behavior might lead to insight into the problems of individual adjustment and interpersonal relationships.

Self-concept is thought to be a controlling force in behavior. This self-concept, a psychological construct, is defined as the sum of a person's appearance, background and origins, abilities, attitudes, and feelings which serve to direct behavior. (LaBenne and Greene, 1969) This self-concept is built up through accumulated experiences with others. Behavior is seen as an attempt to maintain this organized concept of self. Because it indicates the most stable, important, and characteristic self-perceptions, psychologists consider the self-concept useful.

Clothing plays an important part in establishing this self-concept. (Ryan, 1966) Although use of clothing in regard to the
self has been investigated by numerous authors such as Hall (1897), Dearborn (1918), Harms (1938), and Murphy (1966), further research needs to be conducted for clarification. Just how clothing builds or destroys one's self-concept is not clear.

The subjective aspect of personal appearance was considered by Dearborn (1918) when he reported that clothes help to protect us from fear: fear of ridicule, fear of lack of taste, fear of lack of self-respect and self-confidence, and fear of homeliness. Hurlock (1929) discussed the relationship of clothing to the self:

We are apt to think of clothes as we do our bodies - they become perhaps more than any of our other possessions, a part of ourselves. It is impossible to disassociate ourselves from this intimate part of our material possessions. We appropriate the admiration our clothes call forth, and this tends to enhance our self-esteem. (Hurlock, 1929, p.44)

Hartmann (1949) saw clothing as valuable only to the degree that it extended, differentiated, or enhanced the wearer's self. The self must become a better self with that particular piece of clothing than without it. Jersild (1952) mentioned that clothing takes on subjective meaning if it is a means of projecting or defending the self in communication with others. In his study concerning what young people liked about themselves, Jersild (1952) called attention to the fact that a large number of the students mentioned dress and grooming as an important part of what they liked about themselves. A large amount of personal pride is involved in clothing the body, and this gives the observer an important clue to the understanding of another's self-concept. At the same time, however, Treece (1959) pointed out that dress cannot be expected to function with the same intensity for all individuals.
Clothing becomes closely identified with the body and becomes important in establishing self-awareness very early in life. (Hall, 1897) Garma (1949) and Schilder (1950) recognized a relationship of clothes to body scheme and personality:

Since clothes are a part of the body schema, they gain the same significance as parts of the body and can have the same symbolic significance as parts of the body. (Schilder, 1950, p.203)

An individual's attitude toward his somatic self may mirror important aspects of identity. Schilder (1950) saw the function of clothes as transforming the body-image, and the full development of the personality was only possible through the medium of the body and the body-image. Sawrey and Telford (1971) suggested that because of the social evaluations of one's physical make-up, the physical characteristics of one's body may indirectly influence self-concept. Although a person's physical self soon becomes unimportant in itself, it may be significant because it determines how other people evaluate that person.

Clothing may function as an extension or enrichment of the self, by making the person a more important and attractive person. (Flugel, 1969) Extensions of the self occur because a child discovers that his value in the eyes of others is partly a result of the values assigned to things extraneous to himself, such as clothing. (Sawrey and Telford, 1971)

Treece (1959) postulated that clothing may be used as an adaptive type of behavior to fulfill a need for self-regard by serving as a camouflage for one's true self-image. Calvin and Holtzman (1953) studied 79 male students and concluded that the
tendency to enhance the self was inversely related to maladjustment. The more poorly adjusted the individual, the more self-deprecative he appeared. A highly significant relationship between feelings of clothing deprivation and lack of self-confidence was reported by Vener and Hoffer (1959). Combs and Snygg (1959) also recognized that the self could be enhanced through clothing. A study by Ryan in 1966 showed that clothing is one of the means by which one strengthens self-esteem. College girls felt that knowing they were well dressed in appropriate attire, enhanced their feeling of self-confidence. (Ryan, 1966)

In the past decade, numerous studies and dissertations have attempted to study the relationship of clothing with self-concept, in one of its various forms. (Deemer, 1967; Dickey, 1967; Klassen, 1967; Humphrey, Klassen, and Creekmore, 1971) Horn (1968) concluded that "clothing is a significant force in the enhancement of the self, and when used positively, contributes to one's feelings of self-acceptance, self-respect, and self-esteem". (Horn, 1968, p.101) Years before, Meiklejohn (1938) expressed similar thoughts:

Clothes are so intimate, obvious and omnipresent a part of our personality that no other expenditure of equal amount can contribute so much to the satisfaction of our deep desire of personal recognition and to the sense of personal security always under threat in this uncertain world. (Meiklejohn, 1938, p.304)

Clothing appears to be operative also in the restoration of feelings of self-worth. Goffman (1959) stated that the lack of interest in personal appearance shown by the mentally disturbed person is an indication of loss of situational awareness and rejection of society. Fashion therapy is the term now used to
designate programs geared to help mentally ill patients improve their physical appearance. (Thompson, 1962) This emphasis on fashion therapy has emerged as a result of observing that as health is regained, the individual tends to project an improved self-image through the medium of clothing. Thus, personal appearance is recognized as one of the clues to mental health. Compton's work (1964) with psychotic patients, suggested that clothing functions by strengthening or weakening the body-image boundary. Those subjects with weak body boundaries seemed to reinforce their body boundaries through their clothing fabric choices. Perhaps those individuals with a high self-regard use clothing as a means of self-expression while those with low self-esteem may use clothing to cope with the social situation. So, an article of dress becomes a means of communicating with the self. (Jersild, 1952)

Stone (1962) postulated that the self is established, maintained, and altered through communication. Social interactionists describe the process of self formation as the internalization of subjective evaluations of the attitudes of others. (Morris, 1962) Secord and Backman (1964) stated that nonverbal cues operate when situations involve minimal information, minimal interaction, and the lack of a structured relationship. Clothing and appearance are considered nonverbal cues in social transactions. Stone (1962) declared that appearance was at least as important as discourse in the establishment and maintenance of the self. Hall (1959) included clothing as part of the "silent language" that is communicated through the use of visual symbols. Horn (1968) suggested that clothing serves to communicate to others impressions of one's
social status, occupation, role, self-confidence, and other personality characteristics.

Theories have been proposed regarding the function of clothing in social situations, but there is little empirical research to substantiate them. Machover (1949), using the Draw A Person Test, found that individuals who overclothed the figures were superficially quite sociable and extroverted. She felt that a strong desire for social approval rather than genuine interest in clothing was the motivation. Ryan (1966) proposed that the individual who is unsure of himself has low self-esteem, especially in social situations, and will place more emphasis on the importance of clothes than the individual who is self-assured socially. Douty (1963) inquired into the part clothing plays in interactions. The personality and character one thinks his clothing portrays may be quite different from what is perceived by others. (Douty, 1963)

Another communicative function of dress is that of role identification, role assumption, and role performance. Flugel (1969) declared that "clothes have entered into the very core of our existence as social beings". (Flugel, 1969, p.16) Murphy (1966) observed that in most cultures physical appearance is a major factor in social acceptability, and usually is more important for women than for men. "Clothes make the man - and especially the woman ... ." (Murphy, 1966, p.518)

Ryan (1966) explored the relationship between clothing and social roles further. Roles are the functions a person is expected to perform within society. These expected functions dictate acceptable behavior. Clothing functions in the task of role identification
because it is overt expression of role enactment. In fact, clothing may make the playing of a role easier. (Ryan, 1966) Wass and Eicher (1964) affirmed this function in their study of teenage girls.

Clothing facilitates role enactment by setting the stage for a different type of behavior. The great emphasis placed on appropriate costume is always evident in the theatre. (Horn, 1968) Conflict often arises from the fact that an individual usually occupies more than one role in society. The conflict here may result in deviation from the expected norms of clothing behavior. (Horn, 1968)

Clothing is of great importance for the pregnant woman because it must accommodate the changing figure with the progressive growth of the fetus. "Increasing size necessitates changes in wardrobe, creates a typical posture of pregnancy, and finally makes the heretofore simple process of tying shoes almost impossible." (Ingalls, 1967, p.80) Recommendations by physicians regarding clothing refer to the utilitarian aspects of clothing - fit, comfort, and support. The need for specially designed clothing was discussed by Moomaw (1947). Groseclose (1958) investigated the way in which the clothing needs of pregnant women were met and reported that the needs varied with the resources available in the situation of each individual. Kleh (1954), in a study of buying practices among pregnant women, found that there was great interest in personal appearance among pregnant women.

No report of studies pertaining to the selection of maternity clothing with regard to the special psychological factors involved
in pregnancy has been found. Textbooks in the behavioral science aspects of clothing reveal this dearth of investigation. (Roach and Eicher, 1965; Ryan, 1966; Horn, 1968) It seems possible that clothing could be an important environmental tool that the pregnant woman could use to assist in adjustment to the changes that accompany pregnancy. "We do find some evidence that interest in clothing for the self is related to the type of adjustment the subject makes to the environment." (Ryan, 1966, p.95)

Physicians see maternity wear as a possible morale booster, a way of creating positive attitudes. Dick-Read (1950) emphasized the psychological importance of clothing during pregnancy. Well designed garments may save the expectant mother from embarrassment and discomfort and enable her life to proceed in the manner to which she is accustomed. (Dick-Read, 1950) Daniels (1965) did suggest that the self-awareness of the pregnant woman was related to the selection of maternity clothing.

Does the pregnant woman perceive herself as performing an important and relatively short role? Treece (1959) said that because pregnancy may be a "once only" experience, the pregnant woman has to look the part of the role she is performing. Stone (1965) proposed that role conflict might be manifested in an attempt to keep the condition of pregnancy secret through the use of constricting garments.

Rubin (1967) observed that women often begin wearing maternity clothes long before physically necessary, perhaps because these garments are indicative of a desired change in status. Results of this study indicated that women who began wearing maternity garments
early in pregnancy expressed more positive attitudes about maternity wear. Rubin (1967) implied that primiparae who began wearing maternity clothing quite early in pregnancy were more anxious to assume the maternal role.

Results of Wilson's study (1968), with a sample of 100 married pregnant women, showed that women who began wearing maternity garments early in pregnancy expressed more positive attitudes about maternity wear than those who began wearing maternity garments later. Wilson (1968) also found that expressed attitudes toward pregnancy and expressed attitudes toward maternity wear were interdependent. She implied that a lack of interest in maternity wear could be a clue to discontentment with other aspects of pregnancy.

Behaviors often observable in the use and choice of clothing may be classified as values. Values are thought to be central to a person's self-concept and resulting behavior. Jacob and Flink (1962) defined values as "normative standards by which human beings are influenced in their choice among the alternative courses of action which they perceive". (Jacob and Flink, 1962, p.10) Parsons and Shils (1951) suggested that values act by narrowing the range of alternatives open, and by amplifying the consequences of various alternatives. Values are instigators of behavior. Values influence judgments and actions by providing an abstract frame of reference for organizing experiences. (Robinson and Shaver, 1969) John (1966) stated that the system of social values develops through social interaction, with group values being internalized. This internalization of values stabilizes the person's behavior and makes him internally more consistent. Combs and
Snygg (1959) suggested that when a person's values are known, it often becomes possible to make predictions about his behavior in certain situations. They concluded that a more adequate understanding of values is essential in order to arrive at a solution for human problems.

Horn (1968) maintained that values are a central motivating force in human action, and in clothing behavior. Through one's clothing choices, the individual reflects a set of beliefs about himself that he wants others to believe about him too. This process may occur consciously or unconsciously. (Horn, 1968) Lapitsky (1961) developed a study based on the idea that because values give direction to actions, the investigation of values people hold in regard to clothing is important in an understanding of behavior. The study showed that general basic values were consistent with values concerning clothing. Divided on the basis of anxiety measures, the emotionally secure group scored significantly higher in aesthetic values, while those judged to be socially insecure placed greater emphasis on the social values of clothing.

Summary

Personality variables measured early in pregnancy have been found to relate to a woman's emotional adjustment and to the occurrence of physiological symptoms in later pregnancy, labor, and delivery. Therefore, to enhance maternal care, it is imperative to determine a woman's reaction and adjustment during a period of stress. Anxiety level is indicative of adjustment.
The concept of self provides a key to the understanding of mental health. Theoretically, a person's body characteristics as he perceives them, may exert a central influence on the development and maintenance of this self-concept. Therefore, the feeling towards one's body is a significant personality variable with mental health implications. The body-image boundary concept has been suggested as a measure of adjustment.

The review of literature points out three different measures of adjustment, each of which operates at a different level of consciousness, within the individual. These are the general level of anxiety, attitudes and adjustment to pregnancy, and body-image boundary.

Clothing is of intimate concern to the individual in terms of his physical and psychological well-being. Inferred values of clothing may offer insight and understanding of aspects of the self, and hence may contribute to increased knowledge of human behavior. The relationship between clothing and the process of mental health needs clarification.
CHAPTER III

METHODS AND PROCEDURE

This chapter is organized in the following manner: theoretical framework, hypotheses, definition of terms, selection of sample, description of population, instruments, directional rating of variables, test administration, and analyses of data.

Theoretical Framework

The theoretical framework for this study, is based on the work of Grimm who believed pregnancy to be a period of stress when the homeostatic mechanisms of the body are disturbed. Adjustment to this stress is essential to mental health and is predictive of the ease of delivery and outcome of pregnancy. One index of this adjustment is level of anxiety. Furthermore, this study is based on theory and empirical research by Fisher and Cleveland who formulated the body-image boundary concept. This subconscious evaluation of the quality of body boundaries is also an index of adjustment. As man's most proximate and personal environment, clothing can contribute to adjustment by reinforcing body boundaries and by serving as an extension of the self. Value analysis is central to understanding and predicting behavior. The values pregnant women seek to reinforce through clothing will provide insight as to the function of clothing in adjustive behavior.
Hypotheses

On the basis of the theoretical framework and the literature pertinent to the problem, the following null hypotheses were drawn.

1. There will be no significant relationship between anxiety level and the following variables:
   a. seven factors in attitudes and adjustment to pregnancy.
   b. body boundary (Barrier and Penetration).
   c. four inferred values of clothing.

2. There will be no significant relationship between the seven factors in attitudes and adjustment to pregnancy and the following variables:
   a. body boundary (Barrier and Penetration).
   b. four inferred values of clothing.

3. There will be no significant relationship between body boundary (Barrier and Penetration) and the four inferred values of clothing.

4. There will be no significant relationship between the two aspects of body boundary, Barrier and Penetration.

5. There will be no significant difference among subjects in each trimester of pregnancy in the following variables:
   a. anxiety level.
   b. seven factors in attitudes and adjustment to pregnancy.
   c. body boundary (Barrier and Penetration).
   d. four inferred values of clothing.

6. There will be no significant difference between primigravidae and multigravidae in the following variables:
a. anxiety level.
b. seven factors in attitudes and adjustment to pregnancy.
c. body boundary (Barrier and Penetration).
d. four inferred values of clothing.

7. There will be no significant agreement in rank order of the four inferred values of clothing:
a. among all subjects.
b. among subjects in each trimester of pregnancy.
c. between primigravidae and multigravidae.

Definition of Terms

Pregnancy is "the state of being with young or with child. The normal duration of pregnancy in the human female is 280 days, or 10 lunar months, or 9 calendar months". (Fitzpatrick, Eastman, and Reeder, 1966, p.606)

Trimester is "a period or term of three months". (Webster's New World Dictionary, 1970, p. 1520) Hence, a normal pregnancy consists of three trimesters.

Gravida is "a pregnant woman". (Fitzpatrick, Eastman, and Reeder, 1966, p.115)

Primigravida (ae) is "a woman who is pregnant for the first time". (Fitzpatrick, Eastman, and Reeder, 1966, p.606)

Multigravida (ae) is a woman experiencing a pregnancy other than her first.

Primipara (ae) is "a woman who has given birth to her first child". (Fitzpatrick, Eastman, and Reeder, 1966, p.606)

Multipara (ae) is "a woman who has had 2 or more children".
The usage of these four terms in the literature reviewed is not consistent. For purposes of this study, the terms will be used in their correct form as stated above.

**Labor** is "the physiological process by which the fetus is expelled from the uterus at term". (Taber, 1958, p.L-1)

**Fetus** is "the child in utero after the third month of development". (Taber, 1958, p.F-13)

**Delivery** is "expulsion of the child at birth with placenta and membranes from the mother". (Taber, 1958, p.D-9)

**Parturition** is the "act of giving birth to young". (Taber, 1958, p.P-22)

**Anxiety** (Anx) is a measure of adjustment to stress. Cattell's anxiety syndrome is a major second-order personality factor comprising five expressions of sources: lack of self-sentiment development or failure to integrate behavior about an approved, conscious self-sentiment, and socially-approved standards; ego weakness or inability to control and express frustrative tensions in a suitably realistic way; suspiciousness, ranging from paranoid-type insecurity; guilt proneness or feelings of unworthiness and depression; frustration tension, which is id pressure or the degree to which anxiety is generated by excited drives and unsatisfied needs of all kinds. (Cattell and Scheier, 1963) Operationally defined, the level of general anxiety is the total score on the 40 items of the IPAT (Institute for Personality and Ability Testing, Anxiety Scale Questionnaire, Self Analysis Form). Possible range of scores is from 0-80, and a high score is indicative of a high level of anxiety.
Stress is "any conditions impinging on the organism which require adjustive reactions". (Coleman, 1964, p.671)

Adjustive behavior is "behavior by which the individual attempts to deal with stress and meet his needs; also, effort to maintain harmonious relationships with the environment". (Coleman, 1964, p.656)

Coping behavior is required when one encounters stress and experiences tension. It involves actions that are purposive, to secure a balance of internal desires and needs with external demands. (Nichols, 1971, p.3)

Attitudes and adjustment to pregnancy is an index of seven psychologically meaningful dimensions relating to pregnancy. The operational definition is the seven independent scores obtained on the Grimm H.I.P. (Health Insurance Plan of Greater New York) Pregnancy Questionnaire.

Psychological factors in attitudes and adjustment to pregnancy

Factor 1. (Neu) Neuroticism or relative lack of neuroticism; range of scores from 0-66 obtained on 22 items; high score represents low neuroticism.

Factor 2. (Lab) Attitudes toward labor and delivery; range of scores from 0-24 obtained on 8 items; high score represents positive attitudes.

Factor 3. (Des) Desire or lack of desire for pregnancy; range of scores from 0-42 obtained on 13 items; high score represents high desire.

Factor 4. (WoB) Worry or lack of worry about the baby; range of scores from 0-21 obtained on 7 items; high score represents lack of worry.
Factor 5. (Sat) Satisfaction or dissatisfaction with the husband and life in general; range of scores from 0-30 obtained on 10 items; high score represents satisfaction.

Factor 6. (D-I) Dependent - independent attitudes and the extent to which one experiences oneself as "sick"; range of scores from 0-42 obtained on 14 items; high score represents independent attitudes.

Factor 7. (Som) Extent of somatic symptoms; range of scores from 0-27 obtained on 7 items; high score represents few somatic symptoms. (Grimm, 1968)

Body boundary is a personality dimension denoting how an individual experiences his body boundaries. (Fisher and Cleveland, 1968)

Barrier (Bar) is an index of the degree to which the individual regards his body exterior as a defensive barrier. Barrier score is operationally defined as the number of times a Barrier response is given to the first 25 cards of the Holtzman Inkblot Technique, Form A; theoretical score range from 0-25; high score indicates high Barrier. (Fisher and Cleveland, 1968)

Penetration (Pen) is an index of the degree to which the individual regards his body boundaries as readily penetrable. Penetration score is operationally defined as the number of times a Penetration response is given to the first 25 cards of the Holtzman Inkblot Technique, Form A; theoretical score range from 0-25; high score indicates high Penetration. (Fisher and Cleveland, 1968)
Value is "a conception of the desirable which has a normative impact on behavior and is inferred from verbal statements and other behaviors". (Kernaleguen, 1971)

Inferred Values of Clothing Inventory (IVCI) is a paper and pencil test designed by Kernaleguen (1971) to indicate strengths of four basic values which a person expresses through clothing choices. The operational definition of each value is the score, obtained on 8 of the 48 statements designed to measure each respective value. The range of scores for each value is from 8-48.

Inferred values

1. Aesthetic (Aes) Seeking beauty and self-expression through clothing.

2. Economic (Ec) Seeking maximization of resources through clothing.

3. Comfort
   a. Physical comfort (Comf-Phy) Seeking well-being of body through clothing.
   b. Psychic comfort (Comf-Psy) Seeking well-being of mind through clothing.

4. Social
   a. Social Acceptance (Soc-Acc) Seeking membership with others through clothing.
   b. Social Recognition (Soc-Rec) Seeking leadership of others through clothing. (Kernaleguen, 1971)
Selection of Sample

The sample consisted of 56 pregnant women, of whom 42 were primigravidous and 14 were multigravidous. The women were recruited on a voluntary basis while in attendance at prenatal clinics. The prenatal service of the provincial Department of Public Health provides a series of five or six orientation lectures by a nurse, for expectant mothers and fathers. These lectures cover such topics as fetal development, nutrition, hygiene of pregnancy, preparation for pregnancy and post-delivery care, and the care and clothing of the baby.

In order to choose a representative sample of the Saskatchewan obstetric population, all prenatal clinics being organized in southwest Saskatchewan, were visited. A map is included in Appendix C. The six testing centers were the only locations where the Department of Public Health had a registration of at least three participants in each clinic during the months of October and November, 1971. The testing centers, Cabri, Eatonia, Gull Lake, Kindersley, Moose Jaw, and Swift Current, provided subjects from urban, small town, and rural areas. The hour and day of the classes varied in each center, as did the class structure. Table 1 gives a detailed breakdown of the characteristics of these clinics.

In four of the six locations, the nurses had given advance notice of the testing. In two locations the group testing was completed at the time of the first visit and a second visit was undertaken to complete the individually-administered Holtzman Inkblot Protocols. In one location individual sessions were scheduled following the group session, and on the following morning. In the
Table 1. Characteristics of six prenatal clinics in southwest Saskatchewan by location, time, attendance, and procedure followed

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Number of Women</th>
<th>Attendance of Husbands</th>
<th>Procedure Followed</th>
<th>Subjects Completing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabri hospital</td>
<td>afternoon monthly classes</td>
<td>6</td>
<td>No</td>
<td>doctor visit, exercises, class, testing</td>
<td>6.1.</td>
</tr>
<tr>
<td>Eatonia church</td>
<td>evening weekly classes</td>
<td>4</td>
<td>No</td>
<td>testing only, class series completed in previous week</td>
<td>4</td>
</tr>
<tr>
<td>Gull Lake hospital</td>
<td>morning weekly classes</td>
<td>8</td>
<td>No</td>
<td>3rd class, exercises, class, testing</td>
<td>6</td>
</tr>
<tr>
<td>Kindersley hospital</td>
<td>afternoon weekly classes</td>
<td>5</td>
<td>No</td>
<td>testing only, class series completed in previous week</td>
<td>5</td>
</tr>
<tr>
<td>Moose Jaw public health office</td>
<td>evening weekly classes</td>
<td>27</td>
<td>Yes</td>
<td>1st class, testing followed introduction to classes</td>
<td>22</td>
</tr>
<tr>
<td>Swift Current public health office</td>
<td>evening weekly classes</td>
<td>14</td>
<td>Yes</td>
<td>3rd class, exercises, class, testing</td>
<td>14</td>
</tr>
</tbody>
</table>

1. One subject completed testing and was later disqualified due to incomplete Holtzman protocol, leaving total sample number at 56.
final three locations, both group and individual testing were completed at one session. Because attendance was voluntary, and fluctuated from session to session, an attempt was made to complete the testing within a short period of time to avoid attrition of numbers. Seven subjects were unable to complete the individual testing due to the fact that convenient times could not be arranged. No subjects refused to participate.

It was assumed that the subjects would be heterogeneous with respect to age, income, occupation, and stage of pregnancy and consequently would be characteristic of the maternity population. Attendance at the prenatal classes was free, voluntary, unrestricted, and generally recommended by doctors for any of their maternity patients. Subjects who participated in the study were not paid. Anonymity was guaranteed.

Permission was obtained from the Department of Public Health in the Moose Jaw, Rosetown, and Swift Current regional offices to attend classes under their sponsorship and to make a request for volunteers. Subjects were approached as a group, a brief explanation of the project was given, and an invitation was extended for their participation. The precise explanation of the project is reproduced in Appendix B.

### Instruments

**IPAT Anxiety Scale Questionnaire**

The IPAT Anxiety Scale is designed to be a brief, non-stressful, and objective measure of general anxiety level. The test is the product of large scale factor-analytic research by
Cattell and his associates at the Institute for Personality and Ability Testing. The 40 items were selected from the five scales of the 16PF test, also developed by Cattell from his work on personality. The questions are distributed among the five components that measure anxiety sources: defective integration, lack of self-sentiment; ego weakness, lack of ego strength; suspiciousness or paranoid insecurity; guilt proneness; frustration tension or id pressure. Of the 40 items, 20 are considered less subtle and provide an estimate of overt anxiety, the remaining 20 items measure covert or hidden anxiety. Each question has three alternative answers. A numerical score from 0-80 is obtained, and this raw score may be converted into percentile scores for analysis and interpretation. (Cattell and Scheier, 1963)

Construct validity was estimated at +.85 to +.90 for the total scale. (Cattell and Scheier, 1963, p.7) Cattell and Scheier (1963) claimed concrete validity for their scale, citing substantial correlations with physiological, behavioral, and laboratory tests of anxiety. Correlation between clinical consensus and the IPAT Anxiety Scale scores range from +.30 to +.40. (Cattell and Scheier, 1963, p.8)

Reliability coefficients for the total anxiety score range from +.80 to +.93, depending on the type and nature of the group. (Buros, 1965) Test-retest scores report reliability coefficients of +.87 with a sample of Japanese students, and +.93 with male and female adults. Split-half reliabilities, indicating homogeneity are reported as +.84 with 240 normal adults, and +.83 with 200 male and female college students. (Cattell and Scheier, 1963, p.8)
Internal consistency reliabilities for each of the five anxiety components are low, due to their brevity, and prudence is suggested in using these partial scores.

**H.I.P. Pregnancy Questionnaire**

The H.I.P. Pregnancy Questionnaire from the Health Insurance Plan of Greater New York, was developed from data on normal emotional reactions in pregnancy by Grimm and Venet (1966). It is a measure for assessing the emotional adjustment and attitudes of pregnant women, which can be applied in large scale research. The original sample consisted of 124 pregnant women, typical of the obstetric population, 20 percent primiparas and 80 percent multiparas. (Grimm and Venet, 1966) The original 215 items in 17 subject matter areas, yielded a reliability coefficient of +.93 according to a modification of Kuder-Richardson formula, after administration to a pilot group of 58. Testing of this group was done before the 16th week of pregnancy. The validity of the questionnaire was enhanced by close correspondence between two independent measures derived from different assessment techniques. Overall scores correlated +.42 and +.58 on two samples, indicating a fair amount of agreement between self reports and judgments based on a problem interview. (Grimm and Venet, 1966)

An item analysis was taken and the questionnaire revised on the basis of internal test criteria and item correlation with ratings. The best 78 items were selected and each was followed by four alternatives - definitely agree, more agree than disagree, more disagree than agree, definitely disagree.
Factor analysis of the revised questionnaire yielded seven psychologically meaningful dimensions, all of which could be easily identified:

Factor 1. Neuroticism or relative lack of neuroticism
Factor 2. Attitudes toward labor and delivery
Factor 3. Desire or lack of desire for pregnancy
Factor 4. Worry or lack of worry about the baby
Factor 5. Satisfaction with the husband and life in general
Factor 6. Dependent-independent attitudes and the extent to which one experiences oneself as "sick"
Factor 7. Extent of somatic symptoms.

All factors were scored in a positive direction, that is, a high score indicated a lack of neuroticism, positive attitudes, desire, lack of worry, high satisfaction, independent attitudes, and few somatic symptoms. There were few significant intercorrelations among the seven factors, indicating their relative independence of each other. Reliability coefficients were: Factor 1. +.95, Factor 2. +.87, Factor 3. +.97, Factor 4. +.93, Factor 5. +.96, Factor 6. +.94, Factor 7. +.93. In late pregnancy, the questionnaire was again administered to the sample, and results indicated a high degree of consistency and stability of scores on all factors. (Grimm and Venet, 1966)

The questionnaire thus proved to be composed of 7 fairly independent, highly reliable, easily identifiable emotional and attitudinal dimensions and to correlate significantly with expert judgements of the woman's psychological status. (Grimm and Venet, 1966, p.39)

Permission to use the test and details regarding scoring were obtained from Grimm.
**Body Boundary Index**

The body boundary index was devised by Fisher and Cleveland to measure the degree to which a person perceives his body boundaries as firm and definite, or weak and indistinct. For this study, the original Rorschach inkblots were replaced by the first 25 cards of the Holtzman Inkblot Technique. Form A was used. The procedure as outlined by Holtzman et al. was followed. (Holtzman et al., 1961, p.29-33) The Holtzman Protocols were then sent to Fisher for scoring.

The method of scoring the protocols for Barrier and Penetration scores is outlined by Fisher and Cleveland (1968) in their studies of body-image and personality. Responses receiving a Barrier score would be those referring to any protective covering, membrane, shell or skin, that might be symbolically related to perception of body-image boundaries. These responses would include all separate articles of clothing; animals or creatures whose skins are distinctive or unusual; references to enclosed openings in the earth; unusual animal containers; overhanging or protective surfaces. In addition, a Barrier score is given for references to things that are armoured, covered, surrounded, or concealed; things with unusual container-like shapes, and a few masks or buildings. The Barrier score is the total number of Barrier responses given to the 25 cards. A score of one is given each Barrier response. (Holtzman et al., 1961, p.74-77)

Similarly, the Penetration score is the total number of Penetration responses given to the 25 cards, with a score of one given for each Penetration response. Responses indicating that the body
exterior is of little protective value would receive a Penetration score. These responses would include images that involve the penetration, disruption, or wearing away of the outer surface of things; images that emphasize modes or channels for getting into the interior of things; images that involve the surface of things being easily permeable or fragile. (Holtzman, 1961, p.77,78)

Reliability studies are reported indicating intra-scorer reliability of +.90 for Barrier and +.89 for Penetration, and inter-scorer reliability of +.84 for both Barrier and Penetration. (Holtzman, 1961) Holtzman (1961) reported relatively low odd-even reliability coefficients ranging from +.41 to +.68 for normal samples. Results indicated that the intra-subject stability of Penetration could fluctuate appreciably from one population to another, with the standard errors showing considerable variability. No statistics regarding validity of the Barrier and Penetration aspects of body-image boundary have been reported by Holtzman.

Inferred Values of Clothing Inventory

Four approaches to the study of values have been outlined by Adler (1956). First, values may be considered as absolutes existing as external ideas. Second, values may be thought to inhere in objects as the potential of those objects to satisfy wants and needs. Third, values may be seen present in man as preferences held by people. Finally, values may be conceptualized in terms of action. (Robinson and Shaver, 1969, p.408)

Rokeach (1968) summarized the difference between values, attitudes, and value system by stating that a value is a single belief
which transcendentally guides actions and judgments across specific objects and situations beyond immediate goals to more end states of experience. A value is imperative to action, not only a belief about preferable, but a preference for the preferable. (Lovejoy, 1950) A value is a standard or yardstick to guide actions, attitudes, comparisons, evaluations, justifications of self and others. (Rokeach, 1968) Hence, values differ from attitudes in being fewer in number, more central and pervasive, less situation bound, and more resistant to modification. Values influence judgments and actions beyond an immediate or specific situation or goal by providing an abstract frame of reference for perceiving and organizing experiences and from which to choose courses of action. (Robinson and Shaver, 1969, p.10) A person's value system represents a learned organization of rules for making choices and for resolving conflicts between two or more desirable modes of behavior or between two or more terminal states for which to strive. (Rokeach, 1968, p.17)

Catton (1954) offered specific demonstrations of three methods of eliciting information about values: choosing between paired alternatives, selecting the most infinite value, and rating values according to ultimacy or importance. Values are assumed to be central to the way an individual structures his world and defines himself and thus are not subject to experimental change.

For the Inferred Values of Clothing Inventory, the term value is defined as "a conception of the desirable which has a normative impact on behavior and is inferred from verbal statements and other behaviors". (Kernaleguen, 1971) Four basic values were culled from the literature and were assumed to be closely associated
with attributes of clothing which served as a means of attaining these goals.

1. Aesthetic - Seeking beauty and self-expression through clothing.

2. Economic - Seeking maximization of resources through clothing.

   b. Psychic - Seeking well-being of mind through clothing.

4. Social - a. Acceptance - Seeking membership with others through clothing.
   b. Recognition - Seeking leadership of others through clothing. (Kernaleguen, 1971)

The inventory was devised as a pencil and paper test consisting of eight statements designed to measure each of aesthetics and economics. The comfort and social values were each subdivided into two categories, the former, physical and psychic, the latter, acceptance and recognition. Eight statements measure each of these subdivisions. The total inventory is composed of 48 statements to which the subject is asked to indicate to what degree each statement describes his feelings and actions, on a five-point scale.

Other behaviors often observable in the use and choice of clothing, such as conformity and modesty, were not classified as values since these were not assumed to be basic motives in clothing choices. Moreover, they tend to be situationally linked and hence do not fit the concept of value which implies relative
consistency and stability with time. Since values which determine human choices appear arrayed in a well defined order of precedence or in hierarchical pattern, according to the magnitude of their influence upon the given actor, the scores obtained for the four values may be arranged from highest to lowest to study an individual's pattern of values. This ordering does not necessarily apply to action in all kinds of situations, the relative priority of different determinants shifts when the actor confronts markedly different types of problems. The construction of this test is such that the scores for each value are mutually independent, thus avoiding the implication of ipsative scoring. The total inventory takes approximately 10 to 15 minutes for completion.

To date, only face validity has been established for the test. Reliability is currently being estimated. Item-total correlation coefficients for a group of college men and women (N=179) reported by Hiller and White are recorded in Table 2. Since norms are not available, item-total correlation coefficients for the IVCI were calculated for this study and are compared with those of Hiller and White (Table 2). All items for each value were significant at the .001 level with only four exceptions in the sample of pregnant women.

General Information Questionnaire

A general information questionnaire was devised to obtain background information about each subject. Questions concerned age, gravidity, trimester, planning of pregnancy, residence, amount of education, occupation and work status, and initial use of maternity apparel. (See Appendix A for the complete questionnaire.)
Table 2. Item-total intercorrelation matrix for four values of Inferred Values of Clothing Inventory with 56 pregnant women (Dowdeswell, 1971) and 179 college men and women (Hiller and White, 1971)

<table>
<thead>
<tr>
<th>Value</th>
<th>Item</th>
<th>1</th>
<th>11</th>
<th>16</th>
<th>19</th>
<th>23</th>
<th>26</th>
<th>38</th>
<th>46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=56)</td>
<td></td>
<td>.649</td>
<td>.788</td>
<td>.677</td>
<td>.571</td>
<td>.572</td>
<td>.537</td>
<td>.701</td>
<td>.610</td>
</tr>
<tr>
<td>(N=179)</td>
<td></td>
<td>.722</td>
<td>.591</td>
<td>.796</td>
<td>.674</td>
<td>.685</td>
<td>.578</td>
<td>.781</td>
<td>.681</td>
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<tr>
<td>Economic</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=56)</td>
<td></td>
<td>.531</td>
<td>.810</td>
<td>.754</td>
<td>.654</td>
<td>.528</td>
<td>.618</td>
<td>.539</td>
<td>.659</td>
</tr>
<tr>
<td>(N=179)</td>
<td></td>
<td>.543</td>
<td>.616</td>
<td>.742</td>
<td>.661</td>
<td>.720</td>
<td>.451</td>
<td>.659</td>
<td>.599</td>
</tr>
<tr>
<td>Comfort</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>a. Physical</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=56)</td>
<td></td>
<td>.385</td>
<td>.571</td>
<td>.384</td>
<td>.797</td>
<td>.705</td>
<td>.596</td>
<td>.575</td>
<td>.557</td>
</tr>
<tr>
<td>(N=179)</td>
<td></td>
<td>.616</td>
<td>.679</td>
<td>.485</td>
<td>.551</td>
<td>.542</td>
<td>.578</td>
<td>.623</td>
<td>.643</td>
</tr>
<tr>
<td>b. Psychic</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=56)</td>
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<td>.305</td>
<td>.618</td>
<td>.506</td>
<td>.592</td>
<td>.466</td>
<td>.741</td>
<td>.576</td>
</tr>
<tr>
<td>(N=179)</td>
<td></td>
<td>.724</td>
<td>.590</td>
<td>.624</td>
<td>.503</td>
<td>.681</td>
<td>.712</td>
<td>.719</td>
<td>.620</td>
</tr>
<tr>
<td>Social</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Acceptance</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=56)</td>
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<td>.396</td>
<td>.621</td>
<td>.729</td>
<td>.662</td>
<td>.588</td>
<td>.526</td>
<td>.719</td>
<td>.663</td>
</tr>
<tr>
<td>(N=179)</td>
<td></td>
<td>.558</td>
<td>.485</td>
<td>.596</td>
<td>.665</td>
<td>.706</td>
<td>.583</td>
<td>.645</td>
<td>.587</td>
</tr>
<tr>
<td>b. Recognition</td>
<td>Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N=56)</td>
<td></td>
<td>.667</td>
<td>.508</td>
<td>.747</td>
<td>.806</td>
<td>.670</td>
<td>.608</td>
<td>.517</td>
<td>.577</td>
</tr>
<tr>
<td>(N=179)</td>
<td></td>
<td>.541</td>
<td>.520</td>
<td>.685</td>
<td>.664</td>
<td>.718</td>
<td>.698</td>
<td>.555</td>
<td>.607</td>
</tr>
</tbody>
</table>

r.995 (54df) = .336
r.995 (177df) = .194

(N=56) - Dowdeswell, 1971, all correlations significant at .001 level with 4 exceptions
(N=179) - Hiller and White, 1971, all correlations significant at .001 level
Directional rating of variables

Table 3 gives the directional rating of all variables and the possible ranges of scores. Each of the factors in the H.I.P. Pregnancy Questionnaire, and each of the values in the IVCI are scored independently of the other factors and values.

Table 3. Directional rating of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Possible Range</th>
<th>High Score</th>
<th>Low Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety (Cattell's IPAT Anxiety Scale)</td>
<td>0-80</td>
<td>high anxiety</td>
<td>low anxiety</td>
</tr>
<tr>
<td>Attitudes and Adjustment (Grimm's H.I.P. Pregnancy Questionnaire)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neu</td>
<td>0-66</td>
<td>low neuroticism</td>
<td>neurotic</td>
</tr>
<tr>
<td>Lab</td>
<td>0-24</td>
<td>favorable</td>
<td>unfavorable</td>
</tr>
<tr>
<td>Des</td>
<td>0-42</td>
<td>desire</td>
<td>no desire</td>
</tr>
<tr>
<td>WoB</td>
<td>0-21</td>
<td>lack of worry</td>
<td>worry</td>
</tr>
<tr>
<td>Sat</td>
<td>0-30</td>
<td>satisfaction</td>
<td>dissatisfaction</td>
</tr>
<tr>
<td>D-I</td>
<td>0-42</td>
<td>independence</td>
<td>dependence</td>
</tr>
<tr>
<td>Som</td>
<td>0-27</td>
<td>few somatic symptoms</td>
<td>many somatic symptoms</td>
</tr>
<tr>
<td>Body boundary (Holtzman Inkblot Technique)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrier</td>
<td>0-25</td>
<td>high Barrier</td>
<td>low Barrier</td>
</tr>
<tr>
<td>Penetration</td>
<td>0-25</td>
<td>high Penetration</td>
<td>low Penetration</td>
</tr>
<tr>
<td>Values (Kernaleguen's IVCI) 6 values each value</td>
<td>8-40</td>
<td>high value</td>
<td>low value</td>
</tr>
</tbody>
</table>
Test Administration

Testing was completed during the last two weeks of October and the first week in November, 1971. The following order was used in the administration of tests: IPAT Anxiety Scale, H.I.P. Pregnancy Questionnaire, IVCI, General Information Questionnaire, and the Holtzman Inkblot Technique. The first four instruments were administered to the entire group, while the Holtzman Inkblot Technique was individually administered at a time convenient for that subject. Seven subjects were unable to make a convenient appointment to complete the testing. The group administered tests required approximately 30 minutes. Testing locations were generally free from noise and distraction. The nurses displayed a positive attitude toward the testing when explaining the project, and created a favorable atmosphere for the testing. No subjects refused to participate, 57 completed both parts of the testing, one of which was later disqualified by Fisher during the scoring of the Holtzman Inkblot Technique.

Analyses of Data

Descriptive

Information obtained from the general information questionnaire was coded and frequency distributions were tabulated on this information. Tables show the mean scores on all variables and the comparison of mean scores with the established norms.

Statistical

Hypotheses 1a, 1b, and 1c, 2a and 2b, 3, and 4 were analyzed using the Pearsonian product-moment correlation coefficient (r)
with 54 degrees of freedom, to provide a measure of relationship among variables. Limits of +1.0 and -1.0 represent perfect direct relationship or inverse relationship, respectively. To determine significance, the correlation coefficients were compared to the appropriate values in a correlation table, N-2 degrees of freedom.

Hypothesis 5a, 5b, 5c, and 5d was analyzed using a one-way analysis of variance with 2,53 degrees of freedom \([(k-1)(n-k)]\). Analysis of variance makes it possible to determine if there is a significant difference among subjects in each trimester of pregnancy on anxiety level, attitudes and adjustment to pregnancy, body boundary, and inferred values of clothing.

Hypothesis 6a, 6b, 6c, and 6d was also analyzed using a one-way analysis of variance to indicate if there is a significant difference between primigravidae and multigravidae on anxiety level, attitudes and adjustment to pregnancy, body boundary, and inferred values of clothing.

Hypothesis 7a, 7b, and 7c was tested using the coefficient of concordance \((W)\) which represents the degree of agreement among the order of preference of ranked data. A highly significant coefficient indicates a considerable communality of strength of values among subjects. When perfect agreement exists, \(W=1\); when maximum disagreement exists, \(W=0\). In this specific case, \(W\) represents the community of agreement among the subjects on four inferred values of clothing. The null hypothesis is tested using chi-square since \(W\) is distributed approximately as chi-square. (Ostle, 1963)

For statistical results, levels of significance are: \(p<.10\) - highly significant; \(p<.05\) - significant; \(p<.10\) - approaching significance.
CHAPTER IV
RESULTS

This chapter will contain the results of the descriptive and statistical analyses obtained on data from: IPAT Anxiety Scale, H.I.P. Pregnancy Questionnaire, Holtzman Inkblot Technique, scored for Barrier and Penetration, Inferred Values of Clothing Inventory, and General Information Questionnaire. The descriptive analysis is organized as follows: (1) general information from the questionnaire; (2) ranges, means, and standard deviations for all variables; (3) comparison of means and standard deviations with established norms. The statistical analysis is divided into three sections: (1) results from the Pearsonian product-moment correlation; (2) results from analyses of variance; (3) the coefficient of concordance for rank order of values. Finally a statement pertaining to the acceptance and/or rejection of hypotheses will be given.

Characteristics of the Sample

The General Information Questionnaire (Appendix A) yielded information on age, gravidity, trimester, pregnancy planned, residence, amount of education, occupation, work status, husband's occupation, and initial maternity clothing use. Table 4 gives the frequency and percentage distribution of the above information.

Participants in the study included 56 married, pregnant women in attendance at prenatal clinics in southwest Saskatchewan. In selecting the sample, all 64 women registered at the six rural and
Table 4. Frequency and percentage distribution of 56 pregnant women by age, gravidity, trimester, pregnancy planned, residence, amount of education, occupation, work status, husband's occupation and initial maternity clothing use

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (N=56)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 20</td>
<td>6</td>
<td>10.71%</td>
</tr>
<tr>
<td>20-24 years</td>
<td>26</td>
<td>46.44%</td>
</tr>
<tr>
<td>25-29 years</td>
<td>20</td>
<td>35.71%</td>
</tr>
<tr>
<td>30-34 years</td>
<td>4</td>
<td>7.14%</td>
</tr>
<tr>
<td>35 or older</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Gravidity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primigravidae</td>
<td>42</td>
<td>75.00%</td>
</tr>
<tr>
<td>Multigravidae</td>
<td>10</td>
<td>17.86%</td>
</tr>
<tr>
<td>Multigravidae - miscarried</td>
<td>4</td>
<td>7.14%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Trimester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>8</td>
<td>14.28%</td>
</tr>
<tr>
<td>Second</td>
<td>33</td>
<td>58.93%</td>
</tr>
<tr>
<td>Third</td>
<td>15</td>
<td>26.79%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Pregnancy planned</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>44</td>
<td>78.57%</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>21.43%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>32</td>
<td>57.14%</td>
</tr>
<tr>
<td>Farm</td>
<td>12</td>
<td>21.43%</td>
</tr>
<tr>
<td>Town</td>
<td>12</td>
<td>21.43%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
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</table>
Table 4. Continued.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (N=56)</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Amount of education</td>
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<td></td>
</tr>
<tr>
<td>9 years</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>10 years</td>
<td>3</td>
<td>5.36%</td>
</tr>
<tr>
<td>11 years</td>
<td>9</td>
<td>16.07%</td>
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<td>12 years</td>
<td>13</td>
<td>23.22%</td>
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<td>15 years</td>
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<tr>
<td>16 years</td>
<td>6</td>
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<tr>
<td>17 years</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>Total</td>
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<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency (N=56)</th>
<th>Percent</th>
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<tbody>
<tr>
<td>housewife</td>
<td>26</td>
<td>46.42%</td>
</tr>
<tr>
<td>teacher</td>
<td>11</td>
<td>19.64%</td>
</tr>
<tr>
<td>secretary</td>
<td>5</td>
<td>8.92%</td>
</tr>
<tr>
<td>nurse</td>
<td>2</td>
<td>3.56%</td>
</tr>
<tr>
<td>dietician</td>
<td>2</td>
<td>3.56%</td>
</tr>
<tr>
<td>lab technician</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>medical records librarian</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>physiotherapist</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>biologist</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>social worker</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>sales clerk</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>teller</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>telephone operator</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>cook</td>
<td>1</td>
<td>1.79%</td>
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<tr>
<td>waitress</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
</tr>
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<tr>
<th>Work status</th>
<th>Frequency (N=56)</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Did not work during pregnancy</td>
<td>42</td>
<td>75.00%</td>
</tr>
<tr>
<td>Worked or planned to work to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>month 1</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 2</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 3</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 4</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 5</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 6</td>
<td>3</td>
<td>5.36%</td>
</tr>
<tr>
<td>month 7</td>
<td>4</td>
<td>7.14%</td>
</tr>
<tr>
<td>month 8</td>
<td>5</td>
<td>8.93%</td>
</tr>
<tr>
<td>month 9</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>undecided</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
Table 4. Continued.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (N=56)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Husband's occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>farmer</td>
<td>11</td>
<td>19.64%</td>
</tr>
<tr>
<td>teacher</td>
<td>8</td>
<td>14.27%</td>
</tr>
<tr>
<td>armed forces</td>
<td>6</td>
<td>10.70%</td>
</tr>
<tr>
<td>mechanic</td>
<td>3</td>
<td>5.34%</td>
</tr>
<tr>
<td>agrologist</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>clergymen</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>engineer</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>laborer</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>manager</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>salesman</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>truckdriver</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>accountant</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>banker</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>carman</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>firefighter</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>lab technician</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>lawyer</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>machinist</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>oilman</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>parts trainee</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>shipping clerk</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>steamer operator</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>student</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>sub foreman</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>telephone operator</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>100.00%</td>
</tr>
<tr>
<td><strong>Initial maternity clothing use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>month 1</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 2</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 3</td>
<td>3</td>
<td>5.36%</td>
</tr>
<tr>
<td>month 4</td>
<td>21</td>
<td>37.50%</td>
</tr>
<tr>
<td>month 5</td>
<td>18</td>
<td>32.14%</td>
</tr>
<tr>
<td>month 6</td>
<td>11</td>
<td>19.64%</td>
</tr>
<tr>
<td>month 7</td>
<td>3</td>
<td>5.36%</td>
</tr>
<tr>
<td>month 8</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>month 9</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
urban centers were contacted, and completed the group testing session. Of these, seven women were unable to make arrangements for an individual testing appointment, and one woman completed the testing, but was later disqualified.

Table 4 gives a detailed breakdown of the sample. Of the total sample, 11 percent were under 20 years of age, 46 percent were between the ages of 20 and 24, 36 percent were between 25 and 29 years, and 7 percent were 30 to 34 years of age. Forty-two of the 56 women or 75 percent of the total sample were primigravidae. Of the remaining 14 multigravidae, four had previously been pregnant but had miscarried. Eight women were in the first trimester of their pregnancy, 33 were in the second trimester, and 15 were in the final trimester.

With respect to the planning of this pregnancy, 79 percent indicated that they had planned to have a child at this time, while 21 percent specified that the pregnancy had not been predetermined. Cities, farms, and towns were all represented as residences. Fifty-seven percent lived in a city, 22 percent resided on farms, and 21 percent resided in a small town. The amount of formal education varied from 9 to 17 years. Twenty-three percent did not have a Grade Twelve standing, 23 percent completed Grade Twelve but had no further training, and the remaining 54 percent pursued education beyond the Grade Twelve level.

The occupations of the women and for their husbands were quite diversified. Forty-six percent of the women listed housewife as their occupation, 20 percent were teachers, 5 percent were secretaries, and the remaining 29 percent represented numerous
occupations. Husbands' occupations showed still greater variation. Twenty percent were farmers, 14 percent were teachers, and 11 percent were armed forces personnel. Seventy-five percent of the women did not work during this pregnancy, 5 percent, 7 percent, and 9 percent worked or planned to work until their sixth, seventh, and eighth month of pregnancy, respectively. Four percent indicated that they would continue to work as long as they could, or until their health necessitated a change. The month of initial maternity clothing use varied from month three to month seven. Five percent began wearing maternity garments in the third month of pregnancy, 38 percent started in the fourth month, 32 percent started in the fifth month, 20 percent started in the sixth month, and 5 percent did not begin wearing maternity garments until the seventh month of pregnancy.

Ranges, Means, and Standard Deviations

The ranges of scores, means, and standard deviations for the IPAT Anxiety Scale, H.I.P. Pregnancy Questionnaire, Barrier and Penetration scores of the Holtzman Inkblot Technique, and the Inferred Values of Clothing Inventory are recorded in Table 5.

Comparison with norms

The mean and standard deviation on the IPAT Anxiety Scale is reported for 56 pregnant women, and these are compared to norms published by Cattell (1963) for women. No norms specifically for pregnant women were recorded by Cattell, but means and standard deviations are reported for a group of pregnant women, classified as normal and abnormal, by McDonald, Gynther, and Christakos (1963).
Table 5. Ranges of scores, means, and standard deviations for all variables for 56 pregnant women

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mean (N=56)</th>
<th>Standard Deviation (N=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety (Cattell's IPAT)</td>
<td>7-58</td>
<td>31.982</td>
<td>10.372</td>
</tr>
<tr>
<td>Attitudes and Adjustment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Grimm's H.I.P. Factors)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neu</td>
<td>12-54</td>
<td>35.304</td>
<td>10.662</td>
</tr>
<tr>
<td>Lab</td>
<td>7-24</td>
<td>18.589</td>
<td>3.879</td>
</tr>
<tr>
<td>Des</td>
<td>20-40</td>
<td>32.411</td>
<td>4.107</td>
</tr>
<tr>
<td>WoB</td>
<td>0-21</td>
<td>11.839</td>
<td>5.144</td>
</tr>
<tr>
<td>Sat</td>
<td>14-29</td>
<td>23.161</td>
<td>3.637</td>
</tr>
<tr>
<td>D-I</td>
<td>15-36</td>
<td>24.036</td>
<td>4.740</td>
</tr>
<tr>
<td>Som</td>
<td>7-24</td>
<td>16.893</td>
<td>3.323</td>
</tr>
<tr>
<td>Body Boundary (Holtzman)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrier</td>
<td>0-10</td>
<td>4.679</td>
<td>2.420</td>
</tr>
<tr>
<td>Penetration</td>
<td>0-14</td>
<td>3.214</td>
<td>2.585</td>
</tr>
<tr>
<td>Values (Kernaleguen's IVCI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Aes</td>
<td>21-40</td>
<td>32.214</td>
<td>4.639</td>
</tr>
<tr>
<td>2. Ec</td>
<td>18-40</td>
<td>31.196</td>
<td>4.893</td>
</tr>
<tr>
<td>3. Comf-Phy</td>
<td>24-40</td>
<td>33.536</td>
<td>3.968</td>
</tr>
<tr>
<td>-Psy</td>
<td>18-39</td>
<td>29.804</td>
<td>4.534</td>
</tr>
<tr>
<td>4. Soc-Acc</td>
<td>13-37</td>
<td>22.911</td>
<td>5.442</td>
</tr>
<tr>
<td>-Rec</td>
<td>13-33</td>
<td>22.357</td>
<td>5.206</td>
</tr>
</tbody>
</table>

Table 6 reports the means and standard deviations of the IPAT Anxiety Scale for the group of pregnant women (1971), and for the women reported on by Cattell (1963), and the two groups of pregnant women investigated by McDonald, Gynther, and Christakos (1963). It is apparent that the mean anxiety level for pregnant women is slightly higher than for Cattell's sample of women, or for the pregnant women classified as normal in the 1963 sample. The reported standard deviations point to smaller variance from the mean in members of the 1971 sample.
Table 6. Comparison of means and standard deviations on IPAT Anxiety Scale Questionnaire

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dowdeswel1 (1971) Pregnant women, Saskatchewan, average age range 20-24 years (N=56)</td>
<td>31.982</td>
<td>10.372</td>
</tr>
<tr>
<td>Cattell (1963) Women, average age 30 years (N=405)</td>
<td>28.6</td>
<td>11.3</td>
</tr>
<tr>
<td>McDonald, Gynther, and Christakos (1963) Pregnant women, normal group (N=42)</td>
<td>29.86</td>
<td>13.38</td>
</tr>
<tr>
<td>McDonald, Gynther, and Christakos (1963) Pregnant women, abnormal group (N=44)</td>
<td>40.09</td>
<td>8.07</td>
</tr>
</tbody>
</table>

Table 7 reports the means, ranges of scores, and standard deviations for each of the seven factors in Grimm's H.I.P. Pregnancy Questionnaire for the sample of 56 pregnant women, and those reported by Grimm (1968). The 1971 group appear to be more neurotic, have more positive attitudes toward labor and delivery, have a greater desire for pregnancy, worry less about the baby, and are more satisfied and independent. Some of these differences are only slight. The extent of somatic symptoms for both groups is almost identical. On the whole, subjects in the 1971 study appear to cluster about the mean while Grimm's subjects show greater variability.

Direct comparison of Barrier and Penetration means with those of Holtzman et al. (1961) is impossible since the norms are based on 45 inkblot plates. Table 8 reports the means and standard deviations for Barrier and Penetration for pregnant women (1971) and for a group of average adults. (Holtzman et al., 1961) As well, data from studies by Baer (1970), Fleming (1968), Kernaleguen (1968, 1970), and
Table 7. Comparison of means, ranges of scores, and standard deviations on Grimm's H.I.P. Pregnancy Questionnaire

<table>
<thead>
<tr>
<th>Factor</th>
<th>Dowdeswell (1971) N=56</th>
<th>Grimm (1968) N=124</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Range S.D.</td>
<td>Mean Range S.D.</td>
</tr>
<tr>
<td>Neu</td>
<td>35.3 12-54 10.7</td>
<td>36.2 9-60 10.0</td>
</tr>
<tr>
<td>Lab</td>
<td>18.6 7-24 3.9</td>
<td>16.0 2-24 4.6</td>
</tr>
<tr>
<td>Des</td>
<td>32.4 20-40 4.1</td>
<td>30.9 4-42 8.6</td>
</tr>
<tr>
<td>Wob</td>
<td>11.8 0-21 5.1</td>
<td>14.8 0-21 5.1</td>
</tr>
<tr>
<td>Sat</td>
<td>23.2 14-29 3.6</td>
<td>22.9 11-30 4.6</td>
</tr>
<tr>
<td>D-I</td>
<td>24.0 15-36 4.7</td>
<td>22.1 6-39 3.2</td>
</tr>
<tr>
<td>Som</td>
<td>16.9 7-24 3.3</td>
<td>16.1 6-24 3.2</td>
</tr>
</tbody>
</table>

Table 8. Comparison of means and standard deviations for Barrier and Penetration scored on Holtzman Inkblot Technique

<table>
<thead>
<tr>
<th>Group</th>
<th>Test Items</th>
<th>Barrier Mean</th>
<th>Barrier S.D.</th>
<th>Penetration Mean</th>
<th>Penetration S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dowdeswell (1971) pregnant women, N=56</td>
<td>25</td>
<td>4.68</td>
<td>2.42</td>
<td>3.21</td>
<td>2.59</td>
</tr>
<tr>
<td>Holtzman (1961) average adults, N=252</td>
<td>45</td>
<td>5.92</td>
<td>3.50</td>
<td>2.85</td>
<td>2.16</td>
</tr>
<tr>
<td>Baer (1970) college women, N=102</td>
<td>25</td>
<td>8.05</td>
<td>3.15</td>
<td>5.83</td>
<td>2.61</td>
</tr>
<tr>
<td>Fleming (1968) physically disabled women, N=20</td>
<td>25</td>
<td>5.75</td>
<td>2.79</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Kernaleguen (1968) college women, N=68</td>
<td>25</td>
<td>7.61</td>
<td>3.4</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Torretta (1968) college women, N=27</td>
<td>25</td>
<td>6.85</td>
<td>3.18</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

All protocols scored by Fisher except those in samples of Holtzman and Baer
Torreta (1968) are included. The subjects in the studies by Baer (1970), Kernaleguen (1968, 1970), and Torreta (1968) were all female college students, while Fleming's (1968) subjects were women with physical disabilities, not all college educated, but of a similar age. Barrier score is considerably lower for pregnant women (1971), and variance within that group appears small. Very little data involving Penetration scores are reported, although Penetration does appear to be lower for this sample of pregnant women than for other women.

The Inferred Values of Clothing Inventory is in the process of being validated as a research instrument. No norms are available for comparison.

**Pearsonian Product-Moment Correlation**

Association among variables was analyzed using the Pearsonian correlation coefficient (r). This measure imposes limits of +1.0 and -1.0 which represent a perfect direct relationship or inverse relationship, respectively, among variables. The correlation coefficients (r) were compared to the appropriate values in a table of critical values of the Pearson r, to determine significance.

Table 9 is an intercorrelation matrix showing the correlation coefficients for all variables. This table reports that the level of anxiety correlated negatively with six of the seven factors in attitudes and adjustment to pregnancy, four of the factors being significant at the .001 level. The level of anxiety showed no correlation with Factor 5, satisfaction with husband and life in general, Barrier, or Penetration. A value for social acceptance
Table 9. Intercorrelation matrix for anxiety, H.I.P. factors, body boundary, and values on 56 pregnant women

<table>
<thead>
<tr>
<th>Variables</th>
<th>PAT</th>
<th>H.I.P. Factors</th>
<th>Body Boundary</th>
<th>I. V. C. I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anx</td>
<td>1.000</td>
<td>-.733***</td>
<td>-.381***</td>
<td>- .496***</td>
</tr>
<tr>
<td>Neu</td>
<td>1.000</td>
<td>.332*</td>
<td>.294***</td>
<td>.405***</td>
</tr>
<tr>
<td>Lab</td>
<td>1.000</td>
<td>.376**</td>
<td>.411**</td>
<td>.414**</td>
</tr>
<tr>
<td>Des</td>
<td>1.000</td>
<td>-.247*</td>
<td>.336*</td>
<td>-.204</td>
</tr>
<tr>
<td>WoB</td>
<td>1.000</td>
<td>-.211</td>
<td>.319*</td>
<td>.316*</td>
</tr>
<tr>
<td>Sat</td>
<td>1.000</td>
<td>-.002</td>
<td>.215</td>
<td>-.091</td>
</tr>
<tr>
<td>D-I</td>
<td>1.000</td>
<td>.336*</td>
<td>.239*</td>
<td>.093</td>
</tr>
<tr>
<td>Som</td>
<td>1.000</td>
<td>.086</td>
<td>.041</td>
<td>.023</td>
</tr>
<tr>
<td>Bar</td>
<td>1.000</td>
<td>.313*</td>
<td>.089</td>
<td>-.053</td>
</tr>
<tr>
<td>Pen</td>
<td>1.000</td>
<td>-.204</td>
<td>-.189</td>
<td>-.132</td>
</tr>
<tr>
<td>Aes</td>
<td>1.000</td>
<td>.556***</td>
<td>.598***</td>
<td>.521***</td>
</tr>
<tr>
<td>Ec</td>
<td>1.000</td>
<td>.640***</td>
<td>.310*</td>
<td>.336*</td>
</tr>
<tr>
<td>Conf- Phy</td>
<td>1.000</td>
<td>.279*</td>
<td>.181</td>
<td>.057</td>
</tr>
<tr>
<td>Conf- Psy</td>
<td>1.000</td>
<td>.522***</td>
<td>.443***</td>
<td></td>
</tr>
<tr>
<td>Soc- Acc</td>
<td>1.000</td>
<td>.595***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soc- Rec</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .10
** p < .05
*** p < .01

r .90 (54df) = .219
r .975 (54df) = .259
r .995 (54df) = .337
r .9995 (54df) = .422
correlated positively with anxiety, at the .05 level, while the economic and social recognition values approached significance, with anxiety.

The factors in attitudes and adjustment to pregnancy showed many positive intercorrelations, although Factor 5, satisfaction, was more independent. Factor 3, desire, approached significance negatively with Barrier, while Factor 6, independent attitudes, approached significance positively with Barrier. Only one factor, satisfaction, showed an approaching significance with Penetration, this being positive. Worry about the baby showed a negative correlation with four of the values, social recognition at the .001 level, psychic comfort and aesthetic at the .05 level, and social acceptance at the .10 level. Attitudes to labor and delivery correlated negatively with social acceptance at the .001 level, and with psychic comfort at the .10 level. Desire was negatively related to psychic comfort at the .05 level and to social recognition at the .10 level. The extent of somatic symptoms showed a negative correlation at the .01 level with social recognition and a positive correlation at the .05 level with psychic comfort. Two correlations approached significance, neuroticism with aesthetic value positively, and independent attitudes with social acceptance, in a negative direction.

The two measures of body boundary, Barrier and Penetration, showed no significant relationship with level of anxiety, factors in attitudes and adjustment to pregnancy, or the inferred values, although they did correlate positively with each other at the .05 level. Table 9 reports that the inferred values of clothing tended
to correlate positively with each other. The use of clothing for social acceptance showed a negative correlation with Penetration which approached significance.

**Analyses of Variance**

The first analysis of variance was a one-way ANOV. This was conducted to determine whether there were significant differences among the subjects in each trimester of pregnancy on level of anxiety, the seven factors in attitudes and adjustment to pregnancy, body boundary measures of Barrier and Penetration, and the four inferred values of clothing. A similar analysis of variance was performed to determine if there was a significant difference between primigravidae and multigravidae on the same variables as listed above, anxiety level, attitudes and adjustment to pregnancy, body boundary, and inferred values of clothing.

Table 10 gives the results of the first analysis of variance. This indicates a significant difference among subjects in each trimester for Penetration score. Penetration score dropped in the second trimester, but rose sharply in women experiencing the third trimester. The difference was significant at the .01 level. The difference in desire for pregnancy among women in the three trimesters was approaching significance. Desire for pregnancy was greatest for women in the second trimester, and lowest for women in the third trimester.

The second analysis of variance is reported in Table 11. Differences between primigravidae and multigravidae, on all variables, were not significant. Difference in neuroticism approached significance, indicating that primigravidae were less neurotic than others.
Table 10. Analysis of Variance comparing means for anxiety, H.I.P. factors, body boundary, and values by trimester of pregnancy

<table>
<thead>
<tr>
<th>Variable</th>
<th>Trimester Means</th>
<th>Mean Squares</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment</td>
<td>Exp. Error</td>
<td>(2,53 df)</td>
</tr>
<tr>
<td></td>
<td>Trimester 1</td>
<td>Trimester 2</td>
<td>Trimester 3</td>
</tr>
<tr>
<td></td>
<td>(N=8)</td>
<td>(N=33)</td>
<td>(N=15)</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29.000</td>
<td>31.121</td>
<td>35.467</td>
</tr>
<tr>
<td><strong>H.I.P. Factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neu</td>
<td>34.000</td>
<td>36.242</td>
<td>33.933</td>
</tr>
<tr>
<td>Lab</td>
<td>17.500</td>
<td>19.091</td>
<td>18.067</td>
</tr>
<tr>
<td>Des</td>
<td>33.000</td>
<td>33.212</td>
<td>30.333</td>
</tr>
<tr>
<td>WoB</td>
<td>13.500</td>
<td>11.788</td>
<td>11.067</td>
</tr>
<tr>
<td>Sat</td>
<td>22.375</td>
<td>23.394</td>
<td>23.067</td>
</tr>
<tr>
<td>D-I</td>
<td>23.500</td>
<td>23.970</td>
<td>24.467</td>
</tr>
<tr>
<td>Som</td>
<td>16.500</td>
<td>16.819</td>
<td>17.267</td>
</tr>
<tr>
<td><strong>Body boundary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrier</td>
<td>4.125</td>
<td>4.455</td>
<td>5.467</td>
</tr>
<tr>
<td>Penetration</td>
<td>3.000</td>
<td>2.394</td>
<td>5.133</td>
</tr>
<tr>
<td><strong>Values</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aes</td>
<td>31.875</td>
<td>32.909</td>
<td>30.867</td>
</tr>
<tr>
<td>Ec</td>
<td>33.125</td>
<td>31.121</td>
<td>30.333</td>
</tr>
<tr>
<td>Comf-Phy</td>
<td>35.500</td>
<td>33.303</td>
<td>33.000</td>
</tr>
<tr>
<td>Comf-Psy</td>
<td>29.250</td>
<td>29.515</td>
<td>30.733</td>
</tr>
<tr>
<td>Soc-Acc</td>
<td>23.125</td>
<td>22.788</td>
<td>23.067</td>
</tr>
<tr>
<td>Soc-Rec</td>
<td>22.750</td>
<td>22.030</td>
<td>22.867</td>
</tr>
</tbody>
</table>

\*p < .10
\*p < .05
\*\*p < .01
\*\*\*p < .001

F .90 (2,53) = 2.42
F .95 (2,53) = 3.17
F .99 (2,53) = 5.01
F .999 (2,53) = 8.01
Table 11. Analysis of Variance comparing means for anxiety, H.I.P. factors, body boundary, and values by gravidity

<table>
<thead>
<tr>
<th>Variable</th>
<th>Treatment Means</th>
<th>Mean Squares</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primigravidae (N=42)</td>
<td>Multigravidae (N=14)</td>
<td>Treatment</td>
<td>Exp. Error</td>
<td>F-Ratio (1,54 df)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>30.976</td>
<td>35.000</td>
<td>170.006</td>
<td>106.426</td>
<td>1.597</td>
</tr>
<tr>
<td>H.I.P. Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neu</td>
<td>36.810</td>
<td>30.786</td>
<td>381.006</td>
<td>108.719</td>
<td>3.504&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>Lab</td>
<td>18.571</td>
<td>18.643</td>
<td>0.054</td>
<td>15.324</td>
<td>0.003</td>
</tr>
<tr>
<td>Des</td>
<td>32.786</td>
<td>31.286</td>
<td>23.625</td>
<td>16.739</td>
<td>1.411</td>
</tr>
<tr>
<td>WoB</td>
<td>12.262</td>
<td>10.571</td>
<td>30.006</td>
<td>26.399</td>
<td>1.137</td>
</tr>
<tr>
<td>Sat</td>
<td>23.405</td>
<td>22.429</td>
<td>10.006</td>
<td>13.288</td>
<td>0.753</td>
</tr>
<tr>
<td>D-I</td>
<td>23.833</td>
<td>24.643</td>
<td>6.881</td>
<td>22.760</td>
<td>0.302</td>
</tr>
<tr>
<td>Som</td>
<td>17.095</td>
<td>16.286</td>
<td>6.881</td>
<td>11.120</td>
<td>0.619</td>
</tr>
<tr>
<td>Body Boundary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrier</td>
<td>4.738</td>
<td>4.500</td>
<td>0.595</td>
<td>5.956</td>
<td>0.100</td>
</tr>
<tr>
<td>Penetration</td>
<td>3.548</td>
<td>2.214</td>
<td>18.667</td>
<td>6.459</td>
<td>2.890&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>Values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aes</td>
<td>32.000</td>
<td>32.857</td>
<td>7.714</td>
<td>21.772</td>
<td>0.354</td>
</tr>
<tr>
<td>Ec</td>
<td>31.048</td>
<td>31.643</td>
<td>3.720</td>
<td>24.317</td>
<td>0.153</td>
</tr>
<tr>
<td>Comf-Phy</td>
<td>33.262</td>
<td>34.357</td>
<td>12.595</td>
<td>15.802</td>
<td>0.797</td>
</tr>
<tr>
<td>Comf-Psy</td>
<td>29.667</td>
<td>30.214</td>
<td>3.149</td>
<td>20.883</td>
<td>0.151</td>
</tr>
<tr>
<td>Soc-Acc</td>
<td>22.905</td>
<td>22.929</td>
<td>0.006</td>
<td>30.158</td>
<td>0.000</td>
</tr>
<tr>
<td>Soc-Rec</td>
<td>22.500</td>
<td>21.929</td>
<td>3.429</td>
<td>27.545</td>
<td>0.124</td>
</tr>
</tbody>
</table>

<sup>*</sup>p < .10  
F .90 (1,54) = 2.83

<sup>*</sup>p < .05  
F .95 (1,54) = 4.02
Coefficient of Concordance

The coefficient of concordance (W) represents the degree of agreement among the order of preferences of ranked data. If W=1, perfect agreement exists, and if W=0 maximum disagreement exists. The null hypothesis is tested after W has been calculated, using chi-square. (See Table 1.) In this specific study, a highly significant coefficient of concordance indicates a considerable community of strength of values among subjects. (See Table 12.)

Table 12 reports the rank order of values for the total group of 56 pregnant women. The values of social acceptance and social recognition rank lowest on the scale, while the values for physical comfort and aesthetics are highest. Table 13 reports this ranked order of values among pregnant women to be highly significant at the .001 level.

The rank order of values for pregnant women in each trimester of pregnancy is reported in Table 14. The values remain similarly ordered, with physical comfort valued most, and social acceptance and social recognition valued least. However, a change in the order of values ranked second, third, and fourth, occurs among women in each trimester. Women in the first trimester rated economic and aesthetic values higher than psychic comfort. The women experiencing the second trimester rated aesthetic second, and economic third. For women in the third trimester of pregnancy, psychic comfort superceded the aesthetic and economic values. The economic value gradually dropped from second to fourth position. For each of the trimesters, the rank order of values is highly significant at the .001 level. Table 16 reports that the rank order of values is identical for primigravidae and multigravidae.
Table 12. Rank order of values on Inferred Values of Clothing Inventory for 56 pregnant women

<table>
<thead>
<tr>
<th>Sum of ranks</th>
<th>Rank order of values (N=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>111.5</td>
<td>Comfort-Physical</td>
</tr>
<tr>
<td>135.5</td>
<td>Aesthetic</td>
</tr>
<tr>
<td>154.5</td>
<td>Economic</td>
</tr>
<tr>
<td>182.5</td>
<td>Comfort-Psychic</td>
</tr>
<tr>
<td>293.5</td>
<td>Social-Acceptance</td>
</tr>
<tr>
<td>298.5</td>
<td>Social-Recognition</td>
</tr>
</tbody>
</table>

Table 13. Significant agreement in rank order of values on Inferred Values of Clothing Inventory for 56 pregnant women

<table>
<thead>
<tr>
<th>Analysis</th>
<th>(N=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient of Concordance (W)</td>
<td>.596</td>
</tr>
<tr>
<td>Chi-square (X^2)</td>
<td>166.9 ***</td>
</tr>
</tbody>
</table>

***p < .001                  
X^2 .999 (5 df) = 20.515
### Table 14. Rank order of values on Inferred Values of Clothing Inventory by trimester for 56 pregnant women

<table>
<thead>
<tr>
<th>Sum of ranks</th>
<th>Rank order of values</th>
<th>Trimester 1 (N=8)</th>
<th>Sum of ranks</th>
<th>Rank order of values</th>
<th>Trimester 2 (N=33)</th>
<th>Sum of ranks</th>
<th>Rank order of values</th>
<th>Trimester 3 (N=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.5</td>
<td>Comfort-Physical</td>
<td>68.0</td>
<td>Comfort-Physical</td>
<td>30.0</td>
<td>Comfort-Physical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.0</td>
<td>Economic</td>
<td>73.5</td>
<td>Aesthetic</td>
<td>40.5</td>
<td>Comfort-Psychic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.0</td>
<td>Aesthetic</td>
<td>89.0</td>
<td>Economic</td>
<td>44.0</td>
<td>Aesthetic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.5</td>
<td>Comfort-Psychic</td>
<td>111.5</td>
<td>Comfort-Psychic</td>
<td>46.5</td>
<td>Economic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.5</td>
<td>Social-Acceptance</td>
<td>174.0</td>
<td>Social-Acceptance</td>
<td>77.0</td>
<td>Social-Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44.5</td>
<td>Social-Recognition</td>
<td>177.0</td>
<td>Social-Recognition</td>
<td>80.0</td>
<td>Social-Acceptance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 15. Significant agreement in rank order of values on Inferred Values of Clothing Inventory by trimester for 56 pregnant women

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Trimester 1 (N=8)</th>
<th>Trimester 2 (N=33)</th>
<th>Trimester 3 (N=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coefficient of Concordance (W)</td>
<td>.671</td>
<td>.627</td>
<td>.552</td>
</tr>
<tr>
<td>Chi-square ($X^2$)</td>
<td>26.821***</td>
<td>103.402***</td>
<td>41.428***</td>
</tr>
</tbody>
</table>

***p < .001

$x^2 .999$ (5 df) = 20.515
Table 16. Rank order of values on Inferred Values of Clothing Inventory by gravidity for 56 pregnant women

<table>
<thead>
<tr>
<th></th>
<th>Primigravidae (N=42)</th>
<th>Multigravidae (N=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of ranks</td>
<td>Rank order of values</td>
<td>Sum of ranks</td>
</tr>
<tr>
<td>86.5</td>
<td>Comfort-Physical</td>
<td>25.0</td>
</tr>
<tr>
<td>103.0</td>
<td>Aesthetic</td>
<td>32.5</td>
</tr>
<tr>
<td>113.5</td>
<td>Economic</td>
<td>41.0</td>
</tr>
<tr>
<td>135.0</td>
<td>Comfort-Psychic</td>
<td>47.5</td>
</tr>
<tr>
<td>221.0</td>
<td>Social-Acceptance</td>
<td>72.5</td>
</tr>
<tr>
<td>223.0</td>
<td>Social-Recognition</td>
<td>75.5</td>
</tr>
</tbody>
</table>

Table 17. Significant agreement in rank order of values on Inferred Values of Clothing Inventory by gravidity for 56 pregnant women

<table>
<thead>
<tr>
<th></th>
<th>Primigravidae (N=42)</th>
<th>Multigravidae (N=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coefficient of Concordance (W)</td>
<td>.587</td>
<td>.633</td>
</tr>
<tr>
<td>Chi-square (x²)</td>
<td>123.228***</td>
<td>44.265***</td>
</tr>
</tbody>
</table>

***p < .001

\[ x^2 = .999 \text{ (5df)} = 20.515 \]
Hypotheses and Results

The following seven null hypotheses were formulated:

1. There will be no significant relationship between anxiety level and the following variables:
   a. seven factors in attitudes and adjustment to pregnancy.
   b. body boundary (Barrier and Penetration).
   c. four inferred values of clothing.

A significant negative relationship was discerned between anxiety level and lack of neuroticism, attitudes toward labor and delivery, desire for pregnancy, lack of worry, independent attitudes, and few somatic symptoms. No relationship was confirmed between anxiety level and Factor 5, satisfaction. There was no significant relationship between anxiety level and either Barrier or Penetration. One of the inferred values of clothing, social acceptance, was found to correlate positively with level of anxiety. Therefore, Hypothesis 1a is rejected for all factors except Factor 5, Hypothesis 1b is accepted, and Hypothesis 1c is accepted, except for the social acceptance value.

2. There will be no significant relationship between the seven factors in attitudes and adjustment to pregnancy and the following variables:
   a. body boundary (Barrier and Penetration).
   b. four inferred values of clothing.

No significant correlations were found among any of the seven factors in attitudes and adjustment to pregnancy and Barrier or Penetration. Factor 2, attitudes toward labor and delivery, correlated negatively with social recognition, while Factor 3, desire for pregnancy,
correlated negatively with psychic comfort. A significant negative correlation was found between Factor 4, worry about the baby and the aesthetic, psychic comfort, and social recognition values. Finally, Factor 7, extent of somatic symptoms, displayed a significant negative correlation with social recognition. Therefore, Hypothesis 2a was accepted and Hypothesis 2b was rejected for the aesthetic, psychic comfort and social recognition values and accepted for the economic, physical comfort, and social acceptance values.

3. There will be no significant relationship between body boundary (Barrier and Penetration) and the four inferred values of clothing. Barrier and Penetration did not correlate significantly with any of the four inferred values of clothing. Therefore, Hypothesis 3 was accepted.

4. There will be no significant relationship between the two aspects of body boundary, Barrier and Penetration. Barrier score correlated positively with Penetration score. Therefore, Hypothesis 4 was rejected.

5. There will be no significant difference among subjects in each trimester of pregnancy in the following variables:
   a. anxiety level.
   b. seven factors in attitudes and adjustment to pregnancy.
   c. body boundary (Barrier and Penetration).
   d. four inferred values of clothing.

There were significant differences among subjects in each trimester of pregnancy on Penetration scores. There were no significant
differences on anxiety level, the factors in attitudes and adjustment to pregnancy, Barrier, or the four inferred values of clothing. Therefore, Hypothesis 5a, 5b, and 5d were accepted while Hypothesis 5c was rejected for Penetration of Boundary and accepted for Barrier.

6. There will be no significant difference between primigravidae and multigravidae in the following variables:
   a. anxiety level.
   b. seven factors in attitudes and adjustment to pregnancy.
   c. body boundary (Barrier and Penetration).
   d. four inferred values of clothing.

There were no significant differences between primigravidae and multigravidae on any of the variables, anxiety level, seven factors in attitudes and adjustment to pregnancy, body boundary, or four inferred values of clothing. Therefore, Hypothesis 6 was accepted.

7. There will be no significant agreement in rank order of the four inferred values of clothing:
   a. among all subjects.
   b. among subjects in each trimester of pregnancy.
   c. between primigravidae and multigravidae.

A significant rank order of values was found for the subjects in the total group, for subjects in each trimester of pregnancy, and for primigravidae and multigravidae. Therefore, Hypothesis 7 was rejected.
CHAPTER V

INTERPRETATION

The interpretation of the results from this investigation will be discussed in the light of the theoretical framework and the objectives delineated for this study. The theoretical framework stated that adjustment during pregnancy is essential for mental health. Consequently, a knowledge of how the pregnant woman adjusts may be predictive of the course and outcome of pregnancy. A woman's level of anxiety, attitudes to pregnancy, and perception of her body boundaries are all diverse measures of adjustment. Clothing is viewed as an important factor in the maintenance of self, and as a communicative factor in social interaction. Clothing can thus function in the adjustment of the pregnant woman by reinforcing body boundaries. Because values are central to understanding and predicting behavior, inferred values of clothing will yield information about adjustive behavior, and the functions of clothing to that person.

The theoretical framework resulted in the formulation of three main objectives for the present research study. The first objective was the investigation of the pregnant woman's adjustment through an examination of a variety of indices of adjustment, and their interrelationship. These measures were level of anxiety, attitudes toward pregnancy, and body-image boundary (Barrier and Penetration). A second objective was to examine the values pregnant women have with respect to clothing and to determine if these
values are significantly ordered, and related to the measures of adjustment. Finally, the comparison of women in each trimester, and the comparison of primigravidae with multigravidae on the measures of adjustment and the inferred values of clothing, was a third objective.

It was assumed that a sample of pregnant women in attendance at prenatal classes would be typical of the general obstetric population, although a higher proportion of primigravidae was expected. Studies by Donny and Reid (1960), Yankauer et al. (1960), and Reeder and Reeder (1965), suggested that clinics attract families of particular educational and socioeconomic level. An investigation of a woman's motivation to attend childbearing classes might reveal characteristics that are typical of this person in contrast with characteristics of the pregnant woman who does not attend classes. Curiosity, a desire for knowledge, anxiety, or advice from family, friends, or doctor, could serve as motives for attendance. If clinics attract anxious women, it might be expected that the analysis of this group might not then be characteristic of the general maternity population.

The General Information Questionnaire attempted to further define the pregnant women who attend these prenatal clinics. As expected, the questionnaire revealed that the sample was composed largely of primigravidae. In 1971, the Canadian Dominion Bureau of Statistics reported that 34.2 percent of pregnant women were bearing their first child, 27.8 percent were bearing their second child, 16 percent were bearing a third child, and 21.9 percent were having a fourth or later child. The larger number of primigravidae would
seem to indicate that curiosity and desire for knowledge are primary motivations to participate in prenatal classes among women pregnant for the first time. The fact that 59 percent of the women in attendance were experiencing the second trimester of pregnancy is not surprising, as this is the period when the certainty of pregnancy has been established, and general well-being is characteristic. It would appear that the high percentage (79 percent) of women reporting this pregnancy as planned, might be indicative of correspondingly positive attitudes toward pregnancy. However, the fact that the pregnancy was planned is not necessarily synonymous with a desire for pregnancy.

The composition of the sample proved to be heterogeneous with respect to maternal age and residence. The Dominion Bureau of Statistics reported in 1971 that in Canada, 8.7 percent of children were born to mothers under 20 years of age, 34.8 percent were born to mothers aged 20 to 24, 29.5 percent born to mothers aged 25 to 29, 15.8 percent born to mothers aged 30 to 34, and 11.1 percent were born to mothers 35 years or older. The average age of a mother was 27.1 years. The women in this sample appear to be younger than the pregnant women of the national population, in 1968. The research design employed subjects at six locations to achieve heterogeneity. The 1966 Census (Dominion Bureau of Statistics, 1971) reported residence figures for Saskatchewan as follows: 49 percent of the population lived in urban areas, 21.7 percent lived in non-farm rural areas, and 29.3 percent lived on farms. This sample of pregnant women appears to follow a residence pattern typical of the entire provincial population.
The observation that 54 percent of the subjects had pursued education beyond the Grade Twelve level, and 77 percent had completed Grade Twelve is in accordance with findings from previous studies. (Yankauer et al., 1960; Reeder and Reeder, 1964) Women attending prenatal classes have been found to have a high educational level. The large percentage of women listing housewife as their occupation suggested that the clarity of the examining statement be questioned. It is possible that women perceived their occupation as temporary and applicable only while they were actually working. The large percentage of women unemployed during pregnancy could be interpreted in terms of Rosengren's theory (1961), to mean that pregnant women view themselves in a "sick" role. The data regarding work status also suggest the prevalence of traditional childbearing attitudes which encourage the pregnant woman to remain at home during pregnancy. (Goshen-Gottstein, 1966)

The first wearing of maternity clothing varied from the third to the seventh month of pregnancy, with 38 percent of women commencing to wear maternity clothing in the fourth month, 32 percent in the fifth month, and 20 percent in the sixth month. These findings are consistent with the suggestion that according to actual figure changes and consumer opinion, maternity outerwear is not needed until the fourth or fifth lunar month. (Tate and Glisson, 1961)

The first objective of this research was to investigate the adjustment of pregnant women through an examination of a variety of indices of adjustment with respect to different levels of physiological and psycho-physiological integration. The IPAT Anxiety Scale was employed as a general measure of anxiety. Considering
the total scores reported, the raw score mean of 32 for pregnant women is higher than the raw score mean of 28.6 reported by Cattell and Scheier (1963) for a general population of women. This is to be expected on the basis of pregnancy studies by Bibring (1959) and others, (Kroger and Freed, 1962), which suggest that pregnant women experience intense emotional disequilibrium without basic deterioration. The norms reported by McDonald, Gynther, and Christakos (1963) for a group of "normal" pregnant women on the same IPAT Anxiety Scale, are also slightly lower than the anxiety score reported for this sample. Perhaps this difference, can be explained in terms of the nine year time span. Doctors claim that, in general, we are becoming a more anxious population. (Chapman, 1972) A second interpretation is also possible. If women attending prenatal classes are motivated by anxiety, then the difference in anxiety levels might be due to the fact that the women in the 1963 sample were not drawn from prenatal classes.

The H.I.P. Pregnancy Questionnaire was designed as an index of adjustment specifically for pregnant women. In comparison with the women in Grimm's 1968 study, pregnant women in 1971 were slightly more neurotic, had more positive attitudes to labor and delivery, and had a greater desire for pregnancy. They worried less about the baby, were slightly more satisfied with husband and life in general, and were more independent. The extent of reported somatic symptoms for the current sample remained at a level similar to that of the 1968 study. Grimm's sample (1968) showed much greater variability in desire for pregnancy. The fact that means and standard deviations in this study (1971) were similar to those established by Grimm (1968)
lends reliability to this questionnaire as a measure of adjustment in pregnant women. Medical advances and education could be responsible for the increasingly positive attitudes toward labor and delivery and decreased worry about the baby. The wide use of contraceptives could have an effect in producing more positive attitudes, satisfaction, and desire for pregnancy by enabling women to become pregnant when they want to be. Greater independence could be a function of the increased emancipation of women, as evidenced by coverage given this topic by the mass media in the 70's. Increased neuroticism is consistent with the above average anxiety level, as anxiety, as defined by Cattell (1963) is one feature of neurosis. However, such gross variables as neuroticism or anxiety may not be as significant as a predictor of adjustment during pregnancy as more subtle, differentiated variables which may be components of anxiety and neuroticism. (Grimm and Venet, 1966)

The body-image is the woman's organization of subjective bodily experiences, and as such, can influence her behavior and total adjustment. This concept was an indication of adjustment in this sample of pregnant women. Lower Barrier and Penetration scores as measured by the Holtzman Inkblot Technique are reported for pregnant women (1971) as compared with other norms. Although Fisher and Cleveland (1968) state that Barrier score does not reflect the actual structural characteristics of the body, women may see their bodies as less clearly defined during pregnancy, perhaps due to constant change, hence the Barrier score is lower than the norms. An hypothesis could be formulated regarding any shift in Barrier score that might occur before, during, and after a woman's pregnancy.
On the other hand, the Penetration of Boundary score is thought to be more sensitive in immediate situational conditions, and a change in score during pregnancy could be expected. When conditions occur which have significant disturbing effects upon the bodily system, these effects seem to be reflected very quickly in how the body is experienced. (Fisher and Cleveland, 1968) The McConnell and Daston study of 1961 examined pregnant women during pregnancy and after parturition. Although they reported a Penetration score higher than the Barrier score, their interpretation of the Barrier and Penetration scores is consistent with the reasoning elaborated above. Fisher and Cleveland (1968) postulated that high but similar Barrier and Penetration scores might indicate empathic ability.

A second objective delineated for this study was to examine the values pregnant women rank order with respect to clothing, and to determine the relationship of these values with the measures of adjustment. At this time, no norms are available for comparison. A second step in the investigation of the measures of adjustment was an analysis of the association among these variables, using the Pearsonian correlation coefficient.

The level of anxiety, as measured by the IPAT Anxiety Scale correlated negatively with six of the seven factors in Grimm's (1966) conception of attitudes and adjustment to pregnancy. High anxiety was related to neuroticism at the .001 level, indicating that the two characteristics being measured are tapping the same sources. In the literature reviewed, the terms anxiety and neuroticism were often used interchangeably. High anxiety level was also shown to be related to the expression of many somatic symptoms,
dependent attitudes, and worry about the baby, at the .001 level. Negative attitudes toward labor and delivery and lack of desire for pregnancy showed a relationship with anxiety at the .01 and .05 levels respectively. It seems likely that anxiety during pregnancy may represent a larger syndrome of which the factors reported by Grimm are simply components. No relationship was established between anxiety level and satisfaction with the husband and life in general. This would support the findings of Bibring (1959), who suggested that the anxiety typical of pregnancy is something different from a permanent personality disorder.

Two positive correlations between anxiety and the inferred values of clothing were reported. A high level of anxiety was associated with the social acceptance value at the .05 level, and with social recognition at the .10 level. Social respectfulness and protection would seem to give the pregnant woman a more secure feeling. Perlman (1968) stated that when pregnancy is a socially expected and desirable condition, the woman feels affirmed. Approaching significance, a negative correlation was noted between anxiety and the economic value. Perhaps those who display high anxiety are anxious because they are attempting to maximize their resources in the form of money, time, and energy.

In 1968, Grimm reported only four intercorrelations at the .01 significance level among the seven factors of the H.I.P. Pregnancy Questionnaire. The present study disclosed 15 intercorrelations. Relative lack of neuroticism was associated with few reported somatic symptoms and independent attitudes at the .001 level, with lack of worry about the baby at the .01 level, and with positive
attitudes and desire for pregnancy at the .05 level. These findings seem to indicate that the woman who is better adjusted tends to be more enthusiastic about the pregnancy. Grimm and Venet (1966) reported similar relationships between lack of neuroticism and the desire for pregnancy, and few somatic symptoms. In view of the finding that neuroticism was not related to any of the remaining factors, Grimm and Venet (1966) concluded that women who are most concerned about labor and delivery, or about the health of the baby, are incorrectly labelled as neurotic. The present study, however, showed that neuroticism correlated with all but one of the seven factors. With increased medical technology, a decrease in worry about labor and delivery, and about the baby, would be expected. If these worries still persist, the underlying reason could be general anxiety and consequently a relationship between anxiety and these factors could be expected.

Relationship was identified between positive attitudes toward labor and delivery and few reported somatic symptoms at the .001 level, both desire for pregnancy and lack of worry about the baby at the .01 significance level, and independent attitudes at the .05 level. This would support Rosengren's hypothesis (1961) that those who think of themselves as "sick" during pregnancy would be concerned about labor and delivery. Grimm and Venet (1966) reported a positive correlation between positive attitudes to labor and delivery and independent attitudes.

Factor 3, the desire for pregnancy, correlated with all of the factors in attitudes and adjustment to pregnancy with the exception of independent attitudes. Few somatic symptoms related to desire at the .001 level, while satisfaction and lack of worry correlated
with desire at the .05 level and the .10 level respectively. Grimm and Venet (1966) interpreted this finding to mean that those with the strongest desire for pregnancy were the most satisfied. These results are also consistent with the recent study of marital satisfaction in primiparous couples by Meyerowitz (1970). Lack of worry about the baby correlated significantly at the .05 level with independent attitudes and few somatic symptoms, while independent attitudes and few somatic symptoms correlated with each other at the .05 level. These results point to the picture of a well-adjusted pregnant woman. Satisfaction with husband and life in general showed a relationship with only one factor, the desire for pregnancy. This result was explained by Grimm and Venet (1966) by suggesting that satisfaction seemed to be concerned with environmental comfort whereas the other factors like neuroticism were concerned with intrapsychic comfort. Perhaps a confounding effect of gravidity, maternal age, prior pregnancy experiences, education, and the prenatal class itself could tend to obscure some of the correlations which might be expected. The intercorrelation of Grimm's factors might indicate that the instrument is measuring an overall factor such as adjustment.

The two aspects of body-image boundary, Barrier and Penetration, showed few obvious relationships with any of the variables. However, Barrier and Penetration intercorrelated positively at the .05 level of significance. Although Fisher and Cleveland (1968) reported that this intercorrelation only occurred when the number of responses the subject gives to the inkblot plates is not restricted to one response, one other study reported a similar intercorrelation.
The U-500 research project reported a positive correlation significant at the .05 level between Barrier and Penetration for 30 college men, and for a second group of 30 college women. (Kernaleguen, 1970) These findings would definitely support Fisher and Cleveland's hypothesis (1968) that Barrier and Penetration are not opposite extremes of the body-image continuum. Perhaps pregnancy causes the woman to focus upon her body with such concern and preoccupation that ambivalent attitudes are expressed. During pregnancy the projection of one's own personality into an object such as the growing embryo, could result in simultaneous definition of one's body boundaries as firm and also easily penetrated. This concept of empathy needs to be examined further in its relationship to body-image.

The hypothesis that self-steering behavior is related to high Barrier was supported by a positive correlation between Barrier and independent attitudes at the .10 level, independent attitudes being a major characteristic of self-steering behavior. Low Barrier was associated with desire for pregnancy at the .10 level. If the low Barrier person is easily persuaded by attitudes of the group, pregnancy might be desired if it is held in esteem by that group. Persuasibility is thought to be characteristic of low Barrier people.

Penetration was related to two variables, the value for social acceptance, and satisfaction with the husband and life in general. These correlations were approaching significance. The individual who expresses great satisfaction with husband and life in general seems to experience her body boundaries as vulnerable. Perhaps satisfaction is a function of interdependence in a relationship. A corollary follows that competitive self-steering women with a
high Barrier may not require the feeling of satisfaction with a husband to have positive attitudes toward pregnancy. A high Penetration score was associated with a low value for social acceptance. If the person with high Penetration empathizes with others, she would be concerned more with understanding another rather than with being accepted by another. Boundary development is explained in terms of an interaction with significant social figures. (Fisher and Cleveland, 1968) It is possible that few significant correlations between the body-image boundary measures and the other indices of adjustment and values were uncovered because the body-image concept is an abstract one, operating at a subconscious level. Fisher and Cleveland (1968) suggested that the boundary could be conceptualized as playing an important role in maintaining homeostasis. In this role, the level of adjustment as measured by other indices and the expression of one's values, may be disguised.

An investigation of the inferred values of clothing revealed a number of intercorrelations among the values. The fact that the aesthetic value correlated significantly with four values, and showed a trend toward correlating with social acceptance, may be partially explained by examining the definition of aesthetic value. Self-expression or seeking individuality through clothing appears to be a factor inherent in other values, as well as aesthetic. The person valuing maximization of resources may choose to show self-expression and individuality in self-made clothing.

The correlation between economic and physical comfort values was highly significant at the .001 level. Perhaps maximization of time and energy is related to clothing that is comfortable and
suitable for many occasions. The economic value was positively re-
lated at the .05 level with psychic comfort and social acceptance,
and at the .10 level with social recognition. The person seeking
psychic comfort, social acceptance, and/or social recognition, per-
haps achieves these by stressing m i m i z a t i o n of one's resou r c e s.
The value for physical comfort displayed a positive relationship
with the value for psychic comfort, at the .05 level. The fact that
one is physically comfortable in clothing should lessen one's
awareness of clothing and free cognitive mechanisms for other problems.
Further use of the IVCI with different populations might reveal that
the emphasis on physical comfort is a cultural trend, rather than
a value specifically related to pregnancy.

Positive affiliation was shown between psychic comfort and
all other values. Well-being of mind seems to be related to maximi-
zation of resources, self-expression, physical comfort, and one's
relationships with people in social interaction. It is thus hypo-
thesi z e d that the person who values psychic comfort is aware of the
influences of clothing on herself, and uses clothing for the rein-
forcement of many values.

The high level of positive correlation between social accept-
ance and social recognition indicates that these two measures may be
tapping some of the same value components. The use of clothing in
a social context may be a significant value in itself, regardless
of the specific social motivation. The intercorrelations among
inferred values suggest that clothing-related behavior may be a func-
tion of all the inferred values. However, clothing may not function
with the same intensity and expression in all individuals. (Treece,
Also, the function of the inferred values may not be the same in all individuals.

Four of the inferred values of clothing exhibited a significant relationship with some of the seven factors in attitudes and adjustment to pregnancy. High aesthetic value correlated with worry about the baby at the .05 level. Perhaps the changing shape and proportion of the woman would serve as a constant reminder of the child, particularly if the changing shape was not viewed as pleasing. The relationship between aesthetic value and lack of neuroticism approached significance. Perhaps the anxious person is not free to express oneself and to reveal aesthetic concerns. The economic value showed no significant correlation with adjustment. Pregnancy may be a time when maximization of time and energy is not important to the woman, perhaps due to health restrictions.

The value for physical comfort did not correlate significantly with the adjustment factors. This would indicate that most of Grimm's factors tapped a psychological rather than a physical level. A high value for psychic comfort was related to lack of desire, worry, and the reporting of somatic symptoms at the .05 level, and to negative attitudes for labor and delivery at the .10 level. It is to be expected that well-being of mind would be associated with positive attitudes toward pregnancy and adjustment to pregnancy.

A relationship approaching significance was found between worry about the baby, dependent attitudes, and social acceptance. Social recognition was related to negative attitudes to labor and delivery and worry about the baby at the .001 level, to many somatic symptoms at the .01 level, and it approached significance with
the lack of desire for pregnancy. Choosing clothing for social values is associated with the anxious person who displays negative attitudes and poor adjustment to pregnancy. The pregnant woman appears to require social support.

The comparison of pregnant women by trimester and by gravidity, on the measures of adjustment and inferred values of clothing, was accomplished by two analyses of variance. In the first analysis a highly significant difference for the Penetration score, among subjects in each trimester was found. The Penetration scores dropped for women in the second trimester, and showed a sharp increase for women in the third trimester. This finding is consistent with the work of McConnell and Daston (1961) who postulated that fantasies of boundary disruption might arise as the mother anticipates the actual penetration of body boundaries during the birth process. The shift in Penetration scores might be a function of situational factors, whereas the Barrier score, reflecting more basic and stable characteristics, does not shift significantly. The difference among women in each trimester in desire for the pregnancy approached significance. Desire appeared to be lowest in the third trimester. The finality of the pregnancy, and the length of time could cause this attitude.

The second analysis of variance comparing primigravidae and multigravidae revealed no significant differences in any of the variables. The difference in neuroticism approached significance, with the primigravidous women being less neurotic. This finding would appear to lend support to a suggestion at the beginning of this chapter, that the women attending prenatal classes during their
second pregnancy could be motivated by anxiety. Grimm and Venet
(1966) also found that primiparae were no more anxious or concerned
about pregnancy or delivery than multiparae.

The coefficient of concordance indicated a significant agree-
ment in rank order of inferred values of clothing among members
of the total group. The stronger values were for physical comfort,
aesthetic and economic clothing, and psychic comfort, while the
least prepotent values were for social acceptance and social recog-
nition. Using Kernaleguen's (1971) definitions of these terms, the
pregnant women appear to seek: (1) physical well-being through their
clothing, for example, clothing that allows freedom of movement, is
non-irritating, possesses safety features, and is functional; (2)
beauty and self-expression through clothing, for example, clothing
that is suitable but is also pleasing to look at; (3) maximization
of resources through clothing, for example, clothing that is econom-
ical to buy or make, and that takes little time and energy in care
and upkeep; (4) psychological well-being through clothing, for
example, clothing that is consistent with ideas of modesty, that
builds self-confidence, and allows sensitivity to moods.

These women place a low value on seeking social interaction,
either leadership or membership through their clothing. Their
clothing would not need to conform to the dress of others, and
would not be chosen in order to gain acceptance, recognition, or
praise from other people. It would appear that childbearing receives
strong normative support from society. The pregnant woman may not
need to reinforce the values of social acceptance and recognition
through her clothing if she is socially self-assured. Whether this
is typical of the pregnant woman or simply a cultural trend could be investigated by the use of the IVCI on different populations. Clothing may not be as important a factor in role identification for the pregnant woman as for people in general, due to the obvious physiological changes that occur during pregnancy. These results are consistent with the findings of Lapitsky (1961) indicating that aesthetic and economic values were most important in her sample of adult women. Preliminary studies with the Inferred Values of Clothing Inventory indicate that the aesthetic value was ranked first in groups of college students at the University of Alberta and Utah State University. (Hiller and White, 1971; Kernaleguen, 1971)

The coefficient of concordance was also employed in analyzing the rank order of values among women in each trimester of pregnancy. A significant agreement in rank order of values among the members of each of the trimester groupings was indicated. The rank orders were similar in that physical comfort was valued most by women in all three trimesters, while social acceptance and social recognition were valued least. However, the middle three values changed in order in each trimester. Women experiencing the first trimester of pregnancy placed economic and aesthetic values above psychic comfort, while women in the second trimester interchanged the aesthetic and economic values. During the third trimester, the inferred value of psychic comfort was more important than the aesthetic or economic. The emphasis on economic value orientation, particularly at the beginning of pregnancy may be due to the realization and awareness of the increased cost of living ahead. As bodily changes become visible, it seems likely that aesthetics
would be more important to the pregnant woman during the second trimester. The third trimester seems to involve disequilibrium. The increasing value placed on psychic comfort, is understandable. Perhaps clothing is being chosen to suit the changing moods, or to make one feel better.

The rank order of values in primigravidae and multigravidae was highly significant. For both groups, the relative order of the values remained the same as the order expressed by the total group. All findings would seem to indicate that primigravidae and multigravidae who attend prenatal classes are very similar in their adjustment, and in their inferred values of clothing.
CHAPTER VI
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this research was to investigate the adjustive behavior of pregnant women, and to examine the values they seek to reinforce through clothing. Various indices of adjustment were employed: level of anxiety, attitudes and adjustment to pregnancy, and the body-image boundary index.

The theoretical framework underlying this study is based on Grimm's conception of pregnancy as a period of stress and her belief that knowledge of a woman's adjustment during pregnancy may be predictive of the course and outcome of pregnancy. Attitudes toward pregnancy and anxiety levels can be seen as measures of adjustment. Furthermore, the theory and empirical research of Fisher and Cleveland provide a third measure of adjustment, the body-image boundary concept. This subjective evaluation of one's body boundaries has potential for predicting a wide range of behaviors. Finally, the interdisciplinary approach to the study of clothing suggests that clothing serves as an extension of the self by reinforcing body boundaries, and plays a communicative role in human interaction. The values pregnant women seek to reinforce through clothing will provide information about their adjustive behavior.

The first objective was to assess a sample of pregnant women on the measures of adjustment and to identify relationships among
these indices. The adjustment measures were: anxiety level, as measured by Cattell's IPAT Anxiety Scale; attitudes and adjustment to pregnancy, as measured by Grimm's H.I.P. Pregnancy Questionnaire; body-image boundary, both Barrier and Penetration, as measured by the Holtzman Inkblot Technique. A second objective was to determine the values of pregnant women in regard to clothing and to determine if these values are related to any of the indices of adjustment.

Pregnant women attending prenatal classes at six locations in southwest Saskatchewan were approached. All clinics in the area operative at this time, and with an enrollment of at least three women, were attended. Fifty-six women completed the group administered instruments: the IPAT Anxiety Scale, H.I.P. Pregnancy Questionnaire, Inferred Values of Clothing Inventory, and a General Information Questionnaire. The Holtzman Inkblot Technique was administered individually at a later time. The protocols were sent to Fisher for scoring. The testing took place during the last two weeks of October and the first week of November, 1971.

The sample of pregnant women reported a higher mean anxiety level than the norms established by Cattell with a general population of women. A comparison of the mean scores for the pregnant women with those established by Grimm in 1968, on the H.I.P. Pregnancy Questionnaire, indicated that the sample members of the present study were slightly more neurotic, had more positive attitudes toward labor and delivery, had a greater desire for pregnancy, worried less about the baby, and were more satisfied and independent. The extent of somatic symptoms for both groups was almost identical. Mean score for Barrier of the pregnant women
was considerably lower than the norms established by Holtzman with average adults, and lower than any other norms investigated on a variety of populations. Penetration of Boundary score was slightly higher than that reported by Holtzman, although a direct comparison is impossible since the Holtzman norms are based on 45 inkblot plates, while the present study used 25 inkblot plates. Physical comfort, aesthetic, economic, and psychic comfort values were rated as more important than the values of social acceptance and social recognition for pregnant women.

The results from the General Information Questionnaire as to age, residence, gravidity, trimester, husband's occupation, and initial maternity clothing use, supported the assumption that this sample was typical of the Saskatchewan obstetric population. However, level of education was high, and only few women worked during their pregnancy. The sample was 75 percent primigravidous, with 59 percent of the women experiencing the second trimester of pregnancy. The average age range was 20 to 24 years.

All statistical analyses were done at the Utah State University Computer Center. The correlation analysis revealed that a high level of anxiety was associated with high value being placed on social acceptance, social recognition and economics, and was also associated with neuroticism. Negative attitudes to labor and delivery, little desire for pregnancy, worry about the baby, dependent attitudes, and the reporting of many somatic symptoms all correlated with a high level of anxiety. The factors in attitudes and adjustment to pregnancy intercorrelated positively. The inferred values of clothing also tended to correlate positively
with each other. A high value for aesthetics was correlated with worry about the baby, and neuroticism, while a high psychic comfort value was associated with negative attitudes toward labor and delivery, lack of desire, worry about the baby, and the reporting of many somatic symptoms. The social values of acceptance and recognition both showed a relationship with worry about the baby, while a relationship was identified between social acceptance and dependent attitudes and between social recognition and negative attitudes toward labor and delivery, lack of desire, and the reporting of many somatic symptoms. The Barrier and Penetration of Boundary scores showed few relationships with any of the variables, but they did relate positively to one another. The relationship between Barrier and independent attitudes, and lack of desire for pregnancy, approached significance. Penetration was positively related to satisfaction with husband and life in general and was negatively related to the value of social acceptance, approaching significance.

A third objective resulted in two analyses of variance being conducted to compare women by trimester and by gravidity on the various measures of adjustment and inferred values of clothing. The first analysis revealed that Penetration score was significantly different among women in each trimester, with the score at its highest in the third trimester. Desire for pregnancy in each trimester differed, with desire being lowest in the third trimester. This difference approached significance at the .10 level. A comparison of primigravidae and multigravidae revealed no significant differences on any variables. The difference in neuroticism approached significance with primigravidae being less neurotic than multigravidae.
The results of the coefficient of concordance indicated a significant rank order of values with the values for physical comfort, aesthetic, economic, and psychic comfort taking precedence over the values of social acceptance and social recognition. This rank order remained similar for primigravidae and multigravidae, but the order was found to change slightly in the placing of the middle values, with women in each trimester.

The hypothesis that there would be no significant relationship between anxiety and: (a) the seven factors in attitudes and adjustment to pregnancy, (b) body boundary (Barrier and Penetration), and (c) four inferred values of clothing, was rejected for six of the factors in attitudes and adjustment, and for the economic, social acceptance, and social recognition values. No relationship was found between anxiety and body boundary, nor with three of the inferred values of clothing, aesthetic, physical comfort, and psychic comfort.

The second hypothesis stating no significant relationship between the factors in attitudes and adjustment to pregnancy and: (a) body boundary (Barrier and Penetration) was rejected for Barrier with desire for pregnancy, and independent attitudes, and for Penetration with satisfaction with husband and life in general, and was accepted for the remaining factors; (b) four inferred values of clothing was rejected for neuroticism with aesthetic value; for worry with aesthetic, psychic comfort, and the social values; for attitudes to labor and delivery, desire and extent of somatic symptoms with psychic comfort and social recognition; and for dependent attitudes with social acceptance. Hypothesis 2(b) was accepted for the economic and physical comfort values.
The hypothesis that there would be no significant relationship between body boundary and the four inferred values of clothing was accepted except for Penetration with social acceptance. Barrier and Penetration of Boundary scores did not correlate significantly with any of the four inferred values of clothing.

The hypothesis stating that there would be no significant relationship between the two aspects of body boundary was rejected. Barrier and Penetration of Boundary scores correlated positively with each other.

The hypothesis that there would be no significant difference among subjects in each trimester in: (a) anxiety level, (b) seven factors in attitudes and adjustment to pregnancy, (c) body boundary (Barrier and Penetration), (d) four inferred values of clothing, was accepted. Hypothesis 5 (b) was rejected for desire for pregnancy and Hypothesis 5 (c) was rejected for Penetration of Boundary scores.

The hypothesis which stated no significant difference between primigravidae and multigravidae in: (a) anxiety level, (b) seven factors in attitudes and adjustment to pregnancy, (c) body boundary (Barrier and Penetration), and (d) four inferred values of clothing, was accepted, although certain trends toward differentiation were noticed in neuroticism and Penetration.

The last hypothesis that there would be no significant agreement in rank order of values: (a) among subjects, (b) among subjects in each trimester of pregnancy, and (c) between primigravidae and multigravidae was strongly rejected. There was a very significant rank order of values for all pregnant women, either primigravidae or multigravidae, and for women within each trimester.
The theoretical framework received some support. Comparison with established norms showed pregnant women to have a slightly higher level of anxiety than the normal female population, and this measure of adjustment was related to the index of attitudes and adjustment to pregnancy. The relationship of these adjustment measures with the more subconscious concept of body-image boundary, however, was not clearly established. The inferred values of clothing did yield information about the adjustive behavior of the pregnant woman, as a highly significant rank order of values was revealed.

The objectives delineated for this study were fulfilled. Several recommendations for further research were developed from the findings.

Conclusions

1. Pregnant women in this sample expressed a distinct value orientation with regard to their clothing. This should have marketing implications for the ready-to-wear industry.

2. Body-image appears to change with the stage of pregnancy. Penetration of Boundary may be suggestive of the emotional disequilibrium associated with the third trimester.

3. Comparison with norms indicated that the general level of anxiety was greater for this sample of pregnant women than for the normal population. Perhaps anxiety could be considered a characteristic of most pregnancies. Positive attitudes toward pregnancy were associated with a lower level of anxiety.

4. Some attitudes toward pregnancy were associated with a value orientation for social acceptance and recognition. Social
interaction may be a significant factor during childbearing.

5. The strong intercorrelation among inferred values would seem to indicate that the instrument may be measuring some larger concept, such as the value one puts on clothing.

6. Primigravidae and multigravidae who attend prenatal clinics appear to be similar in their level and type of adjustment, and the values inferred through their clothing choices.

7. The adjustment process of pregnancy is a complex one. There seems to be a danger of generalizing about characteristics in general. It is highly possible that a combination of variables, rather than a single variable, contributes to the type of adjustment during pregnancy.

Recommendations

On the basis of this study the following recommendations are made for further research.

1. The role of the prenatal class in ameliorating the problems of adjustment for the pregnant woman through education could be investigated by a comparison of pregnant women who attend clinics with those who do not attend. This comparison might yield the needed information regarding motivation for attendance. This in turn might suggest different modes of adjustment for the pregnant woman who does not attend prenatal classes.

2. The definition of the obstetric population who attend prenatal classes should be investigated so that the educational program will meet the needs of those attending. The
need to examine the socioeconomic and educational levels of women attending prenatal clinics seems to be evident.

3. This study indicated significant differences in each trimester on some variables. An in-depth longitudinal study of the same women as they progress through each stage of pregnancy to parturition could disclose further differences.

4. The adjustment of the unmarried pregnant woman needs to be investigated with relationship to the variables examined in this study. Social interaction appears to be important to some pregnant women, and if illegitimate pregnancy is censured by society, this social approval might be denied the woman.

5. Much of the available data are based on studies with groups of pregnant women exhibiting certain characteristics, or behaviors. More research investigating the normal emotional reactions during pregnancy and employing established instruments to gain greater rigor in the design and methodology of the study, appears necessary.

6. Further studies, on other populations, need to be undertaken to establish greater reliability and validity in the Inferred Values of Clothing Inventory. This study suggested that self-expression should not be defined as part of the aesthetic value, as all values could be reinforced through clothing choices which also maximize self-expression.

7. Coherence between values held and behavioral manifestation of these values could be confirmed by actual experimentation
using various styles, fabrics, and types of maternity
clothing with individuals exhibiting particular personality characteristics. This could suggest why there is
a particular rank order of values for pregnant women,
with regard to clothing.

8. The prevalence within this sample, of the social values
being ranked low, perhaps supports recent studies in consumer behavior that indicate a change in why we consume
the way we do. The motivation for consumer choices could
be investigated to confirm or refute the notion that
with increased emphasis on the individual rather than on
others, motivation in buying is related to aesthetic, eco-
nomic, and comfort values rather than social values.

9. If the person who values psychic comfort uses clothing for
the reinforcement of many values, an examination of indi-
viduals ranking psychic comfort as high, may contribute to
a knowledge and understanding of the part clothing plays
in the development and maintenance of the self.

10. If Barrier serves to maintain homeostasis during periods
of stress, one's true expression of values, and one's
level of adjustment as measured by other indices, may be
disguised. Other measures of body-image, perhaps less
subconscious, might reveal more information about the way
in which the pregnant woman perceives her body. Measures
of body awareness or body cathexis might show more cor-
relation with clothing measures, particularly if pregnancy
is regarded as a temporary event. Concurrent studies
investigating body-image and clothing-related behavior suggest that orientations to clothing other than values might relate significantly to measures of body-image in pregnant women.

11. Penetration appears to be an important personality variable in pregnant women. Increased understanding of Penetration is necessary, particularly with respect to its role in personality projection and empathy.
LITERATURE CITED


Chapman, J. A. 1972. (Director of Munro Wing of Regina General Hospital). Talk concerning anxiety presented at February 28, 1972 meeting of Regina University Women's Club. Regina, Saskatchewan.


Appendix A

General Information Questionnaire

Name __________________________ Telephone Number ______

Present Address ________________________________________________

Place of Residence ___farm ___town ___city

Please circle the number which indicates the highest educational level you have completed:

Grade  8  9  10  11  12
College or technical training  1  2  3  4  5

Husband's occupation ________________________________

Your occupation ________________________________

If working now, till what month will you continue to work? _____

Check the appropriate category: ___under 20 ___20-24 years
___25-29 years ___30-34 years
___35 or older

Will this be your first pregnancy? ____yes ____no

Have you ever lost a child before? ____yes ____no

Did you plan to have the baby at this particular time? ____yes
____no

In what month do you expect to have your baby?
___Nov., ___Dec., ___Jan., ___Feb., ___Mar., ___Apr.,

During what month did you or will you begin to wear maternity clothes?
___May, ___June, ___July, ___Aug., ___Sept., ___Oct.,
Instructions to Members of Sample

We are studying the experiences of women during pregnancy, what they think, how they feel, and what their problems may be. By learning more about these feelings and concerns we hope that maternity care can be improved. We are therefore asking you and other expectant mothers to take about 30 minutes of your time to answer some questions. What you tell us is important and we hope you will be as honest and as accurate as you can. Your papers will be identified only by number - absolutely no one you know, not even the doctors and nurses, will have any idea of how you answer. The only page with your name on it is the last one, and the purpose of this page is to contact you if necessary to complete the testing.

Part of the questions will be completed here in this group. Most of the statements require only a checkmark. Please answer every question or statement. There are no right or wrong answers, and none that are better than others. If you are not sure, or if no answer seems to fit exactly what you want to say, check the one that comes closest to what you have in mind. As you finish and hand in these questions, we can arrange a convenient time for you to meet with me for an additional 20 minutes, for the individual testing. After the testing has been completed, I will be happy to talk with any of you about the research. If you do not wish to participate, you may simply leave. I would like to emphasize that we are only interested in group scores. Thank you for your help and cooperation.
Appendix C

Location of Sample

PROVINCE OF SASKATCHEWAN

- Kindersley
- Eatonia
- Cabri
- Swift Current
- Moose Jaw
- Gull Lake

100m.
VITA

Violet Elizabeth Dowdeswell

Candidate for the Degree of

Master of Science

Thesis: Inferred Values of Clothing Related to Adjustment Among Pregnant Women

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