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Perceived Body Image of Pregnant Women Experiencing Lamaze Childbirth Preparation

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PERCEIVED BODY IMAGE OF PREGNANT WOMEN EXPERIENCING LAMAZE CHILDBIRTH PREPARATION

by

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VITA

The author, Virginia Branin Schelbert, is the daughter of John W. Branin and Dorothy (Diehl) Branin. She was born April 28, 1942, in Philadelphia, Pennsylvania.

She received her primary and secondary education at Friends School in Moorestown, New Jersey, where she graduated in 1960.

In September 1960 she entered the College of Nursing of Rutgers, The State University, in Newark, New Jersey, and was awarded the Bachelor of Science in Nursing degree *cum laude* in 1964. While attending Rutgers University, she received the New Jersey State Scholarship, in 1962 the Allstate Honor Scholarship, in 1963 the Hoffmann-LaRoche Scholarship for Excellence. In 1965 she was accepted in the Child Psychiatric Program of the Graduate School of New York University, but relinquished that opportunity in order to devote herself to raising her children.

Her professional experience includes the following positions: Charge Nurse in Pediatrics at Burlington County Memorial Hospital, Mount Holly, New Jersey, 1964 to 1965; Expectant Parent Class Educator at Elizabeth General Hospital in Elizabeth, New Jersey, and at the Florence Crittenden League Home for Unwed Mothers in Newark, New Jersey, 1966 to 1969; Staff Nurse at Evanston Hospital and

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Her paper "Experiences in Breastfeeding as Seen in 26 Nursing Mothers," given at the ANA convention in Atlantic City, New Jersey, was published in AJN Clinical Symposia in 1964.

Virginia Schelbert is married to Leo Schelbert, Professor of History at the University of Illinois at Chicago Circle, and is the mother of three sons and one daughter.

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CHAPTER I

INTRODUCTION

Puberty, pregnancy, and menopause are events in the feminine developmental process, each involving significant physiological and psychological changes (Bibring 1961). Tanner (1969, p. 292) claims that pregnancy is a period of disequilibrium with profound endocrine, somatic, and psychological involvement which, once experienced, means the woman can never again be the same. After the birth of a child a woman will always be someone's mother (Iffrig 1972, p. 633). Iffrig notes that pregnancy is a period of observable change in the pattern and organization of a woman's total life situation. She must cope with progressive changes in her body such as nausea, vomiting, increased pigmentation, enlarging breasts, disappearing waistline, altered gait, various minor physical discomforts and new patterns of sleep, rest, and activity. There may also be manifestations of body image disturbances including depersonalization, estrangement, distorted perceptions of the size and shape of body parts as well as disturbed thoughts and emotions regarding the changing body (Fisher and Cleveland 1963).

Body image, the picture of our own body which we form in our own mind, is the way the body appears to ourselves (Schilder 1950). It develops through continuing interaction between the body and its environment and is especially affected by weight gain and the effects of aging (Fisher 1968). Body image provides the individual with specific information about the position and structure of his/her body as well as of the space it occupies. Body image is a dynamic phenomenon, changing as physiological, psychological, and social changes occur throughout life (Schilder 1950). Since pregnancy creates bodily changes and since body image changes as one's body changes, one can expect recognition and articulation of these changes as pregnancy progresses. In later pregnancy women were found to focus on their enlarged abdomens which made them feel awkward and unattractive (Tanner 1969, p. 296). Their negative response indicated "a trend toward disenchantment with the pregnant state" (ibid). Moore (1978) found that the perceived body image became progressively negative as pregnancy advanced when compared against the woman's ideal body image.

Jarrahi and his associates (1969, p. 801) noted that emotional and cognitive processes during pregnancy are different from those of the non-pregnant state. Rubin (1968, p. 21) suggests that the ability to function with control for time and place is held in personal, social, and cultural esteem. Therefore, to achieve what one has

intended gives an individual a high sense of accomplishment. When a person anticipates an experience with a sense of well-being and a feeling of confidence, and if there is adequate time before that experience occurs, she "plans" for it (Rubin 1968, p. 23). Pregnancy culminating in childbirth provides such an experience. Iffrig (1972, p. 638) states that labor is not something that happens to a prepared woman but that the labor and delivery of her baby is something that she actually does. Hoh (1980, p. 21) suggests that the Lamaze method of childbirth appeals to women who consider childbirth one of life's most significant experiences and want to participate actively in the births of their children.

The Lamaze or psychoprophylactic method of childbirth offers women a set of neuromuscular techniques designed to provide the possibility of optimal control during labor and delivery. Physical exercises are practiced by the woman and her support person, or birth coach, to prepare her body specifically for the birth process. Relaxation techniques are learned to eliminate tension, permitting her body to function at maximum efficiency. Breathing techniques and a sensory focus increase concentration on her perception of the activity and intensity of her labor contractions. Expulsion techniques are acquired for a more efficient delivery.

This approach to childbirth was developed by the French obstetrician Ferdinand Lamaze, who had visited Russia in 1951. He observed women in labor who, utilizing the stimulus response theories of Ivan Pavlov, had been trained and conditioned to participate actively in labor and in the delivery of their babies (Karmel 1965). He adapted these methods in the care of his patients in Paris. In 1959 Marjorie Karmel introduced the psychoprophylactic method of childbirth in the United States, after she had earlier delivered her first child in Paris attended by Dr. Lamaze. She founded the American Society for Prophylaxis in Obstetrics (ASPO) with Elizabeth Bing, a registered physical therapist. Lamaze childbirth preparation classes have become increasingly popular throughout the United States.

Hoh (1980, p. 25) reports that preparation has a statistically significant effect on perception of pain and enjoyment. Therefore, how a woman perceives herself influences how she perceives childbearing. It was demonstrated that a woman with a positive self-concept who felt prepared and exercising some control had a significantly more positive childbearing experience. It seems conceivable, then, that Lamaze preparation would improve a woman's perception of her body image during pregnancy.

In her study "The Body Image in Pregnancy," Moore (1978) found that personal body image, as expressed on a

semantic differential tool, became progressively negative as pregnancy advanced when compared against a subject's ideal body image. She questioned whether the findings of perceived negative body image during pregnancy were limited to her sample population of women attending a northwestern urban obstetrical clinic. She recommended that a parallel study be undertaken in a different geographical region with a different socio-economic group. Her study did not take into account variables such as childbirth education or preparation. This study was designed to replicate her study with a different population. It examined the way women in their third trimester of pregnancy perceived their body image. These women were all preparing for the experience of childbirth by attending private Lamaze classes. The concept of body image was operationalized using Moore's tool which is based on the semantic differential technique developed by Osgood et al. (1957).

Statement of the Problem

The purpose of this study was to determine if there is a significant difference in perceived body image before and after completion of Lamaze childbirth preparation classes among a population of women in the final trimester of pregnancy.

Statement of Hypotheses

The following three null hypotheses were formulated and then tested:

(1) There will be no significant correlation between a woman's ideal body image and her perceived body image during advanced pregnancy as measured by 18 pairs of bipolar adjectives on a semantic differential scale.

(2) There will be no significant correlation between the pregnant body image measured by the semantic differential and the variables of pregnant weight gain and age.

(3) There will be no significant difference between perceived body image of women before and after completion of Lamaze childbirth classes.

Definition of Terms

From the review of the literature the following meaning of terms has been derived for use in this study:

Pregnancy: The condition of having a child developing *in utero* from conception until birth.

Body Image: A personal focus of evaluative identity derived from a person's physical appearance, past experiences, and external social influences (Murray 1978).

Lamaze: A psychoprophylactic method of prepared

childbirth to condition the participant to respond actively to uterine contractions with a combination of controlled relaxation and specified respiratory activity (Karmel 1965).

Attitude: A learned implicit process which is potentially bi-polar, varies in intensity, mediates evaluative behavior and can be identified with the evaluative dimension of the semantic spaces (Osgood 1957).

Assumptions

The following seven assumptions that underlie this study have been derived from the review of previous investigations of body image (Schilder 1950, Fisher 1968, Moore 1978):

(1) Body image is an integral part of one's self-concept.

(2) Body image is a developmental phenomenon, influenced by environmental, social, and cultural factors.

(3) Body image incorporates feelings with internal and external characteristics.

(4) Body image, including body awareness, body boundaries, and body consciousness, is dependent on situational factors.

(5) Pregnancy is such a situational experience.

(6) Body image is not static, but dynamic and constantly changing.

(7) The semantic differential is a valid instrument

for measuring personal attitudes towards ideal, actual, and pregnant body image and towards pregnancy.

Limitations

As there was no opportunity for random assignment to the control or experimental groups or for any experimental manipulation of the independent variable, the results of the sampled population may be atypical for the target population. Since all subjects were actively pursuing a specific goal, it is possible that subjects of this somewhat homogeneous sample may present with unknown or uncontrolled variables as pre-existing medical, psychosocial or emotional conditions. The research design does not allow for any indication of excessive pleasure or displeasure with pregnancy itself.

CHAPTER II

THEORETICAL FRAMEWORK AND REVIEW OF RELATED LITERATURE

Introduction

The theoretical framework of this research was developed through a discussion of the evolution of the concept "Body Image." The review of the literature includes such additional related areas as Body Image and nursing intervention, Body Image and pregnancy, Lamaze and the childbirth experience, and the Semantic Differential technique developed by Osgood.

Evolution of the Body Image Concept

Disturbances of body image have been observed long before the concept itself was developed. The sixteenth century surgeon Ambroise Pare wrote the first known account of body image disturbance, the phantom limb sensation following amputation. The neurologist Head is credited with the description and development of the basic concepts of body schema and body image. He understood the latter concept not merely as the integrated result of sensory experiences but rather as a unity of past experiences and of current sensations organized in the sensory cortex (Kolb 1975, p. 811).

The broader concept of body image was developed by Schilder (1951) who defined it as the mental picture of the body's appearance which we form in our minds as a tridimensional unity involving interpersonal, environmental, and temporal factors. He stated (1951, p. 301) that a body is always the expression of an ego and of a personality and is enmeshed with the surrounding world. Thus his concept of body image included not only personal, but also sociological factors. Anna Freud (1952, p. 641) refined the concept by defining it as a "three-dimensional view of self which a person acquires in the course of his motor and sensory development." In her view, the image is clearly acquired and rooted not only in the external appearance of the body, but also in the growth and development of the sensory and motor system. Fujita (1972, p. 648) found in his work that the body image of the hospitalized child is influenced (1) by the attitude of others around him, (2) by the stage of his development, and (3) by the illness event itself. He further observed that the quality of a child's relationship with significant others is crucial in the reintegration of his body image. Belfer (1979, p. 534) discovered that the body image of a child or an adult experiencing reconstructive surgery is a stable psychological entity with an associated defensive system and can only slowly be modified.

Horowitz (1966, p. 456) stressed in his definition of body image that it operates dynamically as a specialized internal analogue data center for information about the body and its environment. He perceived body image as being composed of layers which are stored from earlier developmental experiences. Traub and Orbach (1964) agree with this view but add that these layers may be reinstated or re-emphasized at later stages of life. Their research which made use of mirrors validated Head's contention that each individual does gradually construct a picture or model of himself which becomes a standard against which body movements are judged. Changes in body movements or positions cause, therefore, changes in a person's body schema or postural body image. Orbach (1965) explored the effect of altered body function on perceived body image brought about by a colostomy. Horowitz (1966, p. 460) further noted that such aspects of body image as posture, position, and spatial behavior usually operate outside of one's awareness.

The research efforts of Craft (1972), Stunkard et al. (1967), and Cappon et al. (1972) revealed that characteristics of a distorted body image are connected with obesity. The age of onset of obesity, the presence of emotional disturbances, and a negative evaluation of the self by others during the formative years are contributing factors and predispose to the development of a negative

body image (Craft 1972, p. 684). Plutchik et al. (1971, p. 347) established in their study a high correlation between body discomforts and body worries indicating that these two aspects are highly related measures of body image. They also found that although no discomforts or worries were specific to any age group, females differed significantly when compared to males. The body image of females seemed more prone to becoming disturbed than that of males.

The second edition of a Glossary of Psychoanalytic Terms and Concepts (1968) offers a more complex, if naturalistic-mechanistic definition of the concept. Body image is seen as the "mental representation of one's body at any moment." This representation is clearly constructed by the ego from three sources: (1) visual perception, (2) tactile exploration of the body, and (3) sensations derived from inner organs, the skeletal-muscular system, or the skin. Fink (1967) and Witkin (Wapner 1965) see body image as representing an individual's systemic impression of his body which forms over the course of his development. The impression is both cognitive and affective and may be realistic or imagined. Lichtenberg (1978, p. 360) established that development of the body self at each stage of growth involves criteria by which some aspect of reality is tested. Body image refers therefore to dynamic changes of the body in action and in constantly altered states of need (ibid.,

p. 377). Brown et al. (1964) developed a body image test for an assay of personality and personality tendencies.

Berscheid et al. (1973) found that of their subjects almost one-half of the women and one-third of the men were unhappy about their weight and that twice as many women (21%) as men were dissatisfied. Jourard et al. (1955) observed further that women are more critical and concerned about the appearance of their bodies than men. Johnson's study cross-validated their discovery that attitude toward the body is a significant factor in the attitude toward the self. Fisher (1973) comments that in American culture fatness is especially viewed negatively as disfiguring and is equated with greediness and self-indulgence, whereas thinness is equated with self-discipline and virtue.

Body Image and Nursing Intervention

The concept of body image can also be found in the nursing literature. Blaesing et al. (1972, p. 606) discussed the evolvement of body image during childhood as indicator of the degree of personality organization and ego-strength. Dempsey (1972, p. 615) examined the implications of body image for the adolescent who at a time when many bodily changes take place, revises his ideals and fantasies about his body when it is in discord with reality. Murray (1972, p. 629) surveyed the development of body image from young adulthood through senescence when body image has become

a part of the self-concept resulting from relevant experience and other reactions to the self. She maintains that the body strives for consistency and that a person has an inherent tendency to resist change. The impact of illness and pathological situations was considered by Smith (1972, p. 663), who discussed body image changes after a myocardial infarction, by Gallagher (1972, p. 669), who explored the changes following a colostomy, by Craft (1972, p. 677), who reported on obesity, and by Leonard (1972, p. 687), who described changes resulting from chronic illness.

Murray (1972) discussed nursing implications of the concept of body image from a humanistic and holistic viewpoint. She attributed five functions to the human body:

(1) a focus of identity,

(2) a nucleus of value synthesis,

(3) a boundary vis-à-vis the environment,

(4) a space-time frame of personal existence, and

(5) a source of uniquely personal experience.

She defined the resulting body image as "a psychologic entity deriving from past experiences, social interaction, and current sensations" (p. 594). Nurses must be aware that it is created on the one hand by the actual physical appearance of the body, on the other hand by "thoughts, images, attitudes, and emotions regarding the body" (ibid.,

pp. 594-5) which are nurtured not only by actual experience of the body but also by an ideal image advocated by society via the mass media. Moore (1978) adopted Murray's views for her own inquiry.

Catherine Norris (1970) focused on change and offered a framework within which nursing intervention was to occur. In her view a person's adaptation to body change depended on five factors (p. 42):

(1) the nature of the threat,

(2) the meaning of the threat to the person,

(3) the person's coping abilities,

(4) the response from significant others,

(5) the help available to him and to his family.

Body Image and Pregnancy

Fisher et al. (1968, p. 165) studied body feelings and attitudes of pregnant women who had experienced great body size change in a relatively short time. He found that these women adapted quickly to their size transformation and did not differ noticeably in any dimension from non-pregnant women. Iffrig (1972, p. 633), however, contended that pregnant women often complain of looking and feeling cow-like. Colman et al. (1971) found that in the last trimester of pregnancy, even though a woman may have felt fulfilled and the epitome of femininity, her body image became discontinuous with her former or usual physical state.

Feelings emerged of being ugly, sloppy, and hopelessly removed from the arena of attractive women. Clark (1976, p. 38) pointed out that nurses need to understand the individual ways in which women experience changes in their bodies during and after pregnancy and that this area required further research.

Lamaze and the Childbirth Experience

On the basis of continued popularity of the Lamaze or psychoprophylactic method of childbirth preparation, proponents claim that there are physical as well as psychosocial benefits for participants.

The psychologists Tanzer and Block (1976) reported that the Lamaze method of childbirth enhanced both the mother's and the father's feelings of self-esteem. The actively participating prepared couples had more positive attitudes toward their birth experience and identified a subsequent heightened sense of family unity. Nurse researchers Dooher (1980) and Hott (1980), in their studies that investigated various psychosocial aspects of the Lamaze method of childbirth, also found that Lamaze provides definite physical, intellectual, and psychological preparation for childbirth.

In medical literature, Scott and Rose (1976), in reporting the effects of psychoprophylaxis on labors and deliveries of primiparas, stated that their findings did not

indicate significant differences as to the length of labor, number of type of maternal complications, frequency of fetal distress, mean Apgar scores, or neonatal problems. They did note, however, that Lamaze prepared primiparas compared with an equal number of matched control subjects were given fewer narcotics less frequently during labor, received conduction anesthesia less often, and had a statistically significant higher incidence of spontaneous vaginal deliveries.

In contrast, Hughey et al. (1978) investigated the maternal and fetal outcomes of 500 Lamaze prepared patients. They reported that Lamaze patients had:

(1) one-fourth the number of caesarean sections,

(2) one-fifth the amount of fetal distress,

(3) one-third the incidence of postpartum infection,

(4) one-third the occurrence of toxemia,

(5) one-half the cases of prematurity,

(6) significantly fewer and less severe perineal lacerations

than those of the control group.

Since Lamaze childbirth preparation has warranted research into its effects on self-concept, pain perception, and maternal/fetal outcomes, it seems appropriate to investigate its effects on body image of a group that has been identified as having a very negative body; women in their third trimester of pregnancy.

The Semantic Differential

The Semantic Differential is an instrument used in attitudinal research conducted in such areas as nursing, education, sociology, and psychology. Dow et al. (1975, p. 386) confirm that the semantic differential has long been considered a useful psychological tool in the evaluation of attitudes in a wide range of clinical and research studies. Its flexibility, face validity, ease of administration, and scoring are cited as reasons for its wide usage. Gagne, R.M. (1959, p. 150) commented that the semantic differential technique devised by Osgood et al. (1957) provided "a systematic account of a method of measuring mediational processes and its application to the use of concepts, the assessment of attitudes and communications research."

Meaning is measured by a method of semantic differentiation. Subjects are asked to rate concepts on seven point scales of polar adjectives, i.e., good - bad, strong - weak, active - passive, etc. The meaning of a concept to an individual is measured as the set of scores on each of these adjective scales. The major implication of this technique lies in its providing a method for sensitive detection of the direction and strength of mediating processes which may not be explicitly verbalized.

On this basis, the semantic differential as developed by Osgood seems to be an appropriate methodology to examine body image in the third trimester of pregnancy.

CHAPTER III

METHODOLOGY

The design of this study is descriptive and correlational. Correlational studies are an effective method for data collection within a definite time span and provide relevant data that may be generalized and be used for further research (Polit et al., 1978).

The relationship between the independent variable, the "Lamaze class experience," and the dependent variable, "Body Image" as influenced by the ideal, the personal ideal, and the third trimester of pregnancy was examined. Data were collected by a questionnaire consisting of 14 items and a Semantic Differential tool composed of a set of four concepts.

Sample

The voluntary, non-probability sample consisted of 70 women in their third trimester of pregnancy. Each subject spoke and understood English without difficulty so that no language difficulty existed. Each subject was registered to attend a series of six Lamaze childbirth education classes taught by a certified Lamaze instructor in a suburb of a large midwestern metropolitan area. The sample population was obtained by this researcher approaching the classes of individual instructors.

A research proposal had been presented to and approved by the Institutional Review Board for the Protection of Human Subjects at Loyola University Medical Center.

The seventy participants were divided into four groups, as evidenced by the following schema:

Subjects	Group	Treatment
10	Pilot	Test-Retest
15	Pretest Control	0
30	Experimental	0 x 0
15	Post-test Control	0

A test-retest pilot group tested the feasibility of the instrument and demonstrated that the instrument obtained the data sought. Pre-test and post-test control groups were designed to test for the possible effect of participation in the experimental group on the data obtained.

Procedure

After the researcher explained the purpose of the study to twelve Lamaze classes, an oral invitation was extended to those individuals who wished to participate. Class members were also given the opportunity not to participate in the study. Those indicating interest were then

asked to read the informed consent form (see Appendix I) which stated that consent could be withdrawn and participation discontinued at any time during the project. Anonymity was guaranteed and subjects were asked if they had any additional questions regarding the study before signing. Either the companion or the Lamaze instructor acted as witness to the signature. Those who chose to sign the consent were given a pre-coded five part test packet consisting of the following:

(1) a letter from the researcher stating the nature and purpose of the study (Appendix I);

(2) a consent form in duplicate, one for the researcher, the other for the participant to retain (Appendix I);

(3) a questionnaire containing fourteen demographic items (Appendix II);

(4) a sheet of instructions explaining how to use the seven point scale in judging the eighteen item semantic differentials (Appendix III);

(5) four semantic differentials to judge four aspects of body image (Appendix IV);

After completing the test packet, each participant placed it in a manila folder and was thanked by the researcher for her cooperation. The completed test packet was seen only by the researcher. If a prospective mother delivered her baby, developed a complication or did not complete the five

part test packet, she was eliminated from the study.

Instruments

The data collected for this research were obtained from two instruments compiled in a test packet. One instrument consisted of a demographic questionnaire (Appendix II) and the other of four concepts of the semantic differential (Appendix IV).

Demographic Questionnaire

The fourteen item questionnaire, formulated by the researcher, obtained the demographic characteristics of the sample population. In addition to age, education, occupation, salary range, race, and ethnicity information about the subject's usual weight, history of previous pregnancies and plan for feeding her newborn were also sought. This part of the instrument was economical to administer, easy to distribute, and required little time to complete. The large amount of data was confidential, anonymous, and easily tabulated. All of these are advantages of self-administered questionnaires cited by Polit and Hungler (1978). A disadvantage of this questionnaire was that none of the items could be examined in depth or followed up. Others cited by Polit and Hungler (1978) included inadequate understanding of the questions or possible bias if a respondent chose a misrepresentative alternative.

Semantic Differential

The Semantic Differential was used to measure four concepts used by Moore (1978):

"The Body of the Ideal Woman is ..."

"My Ideal Body is ..."

"Today My Body is ..."

"Pregnancy is ..."

Subjects rated each concept on a total of 18 bipolar adjective pairs which Moore found most relevant to pregnancy and body image based on observations or reports from pregnant women in her practice as a midwife and clinical specialist (Moore, telephone conversation 6/]1/80).

Osgood et al. (1957, p. 318) developed, tested, then published the semantic differential method, describing it as a technique for measuring the psychological meaning of concepts or objects to an individual. It is a flexible and easily constructed tool. The object may be a person, place, a situation, an abstract idea, a picture, a word, a phrase, a sentence, or a controversial issue. The one requirement is that adjective pairs chosen must be relevant to the concept being rated as well as to the information being elicited. Since the same seven scales of the 18 paired bipolar adjectives (6 from each of the evaluative, potency, and activity dimensions involved in differentiating semantics) ranging from positive--with a numerical value of 1--to

negative--with a numerical value of 7--were used, comparisons may be made of the four concepts examined in this study. Other advantages include inexpensive analysis of the data and little time expended by the subjects who should be able to judge 10 to 20 adjective pairs per minute, increasing their speed while they progress.

Possible disadvantages to the semantic differential are confusion, bias, or boredom which may result in checking the same value on the seven point scale. Confusion was avoided by detailed, yet simple instructions (Appendix III), bias reduced by randomly mixing the eighteen adjective pairs, and boredom minimized by making it possible to judge them within ten minutes.

Osgood et al. (1957, pp. 194-9) demonstrated the validity of the semantic differential through extensive testing and reported their findings in comparison to the Thurston attitude scale (.74 - .82), the Guttman attitude scale (.78) and the Bogardus social scale (.72 - .80). The authors stress that as a measure of meaning the semantic differential is limited to face validity. Nunally (1967) claims that it is probably the most valid measure of connotative meaning available. Suter (1973, p. 248) states that research has demonstrated that the meanings of most words can be summarized using only three dimensions: activity (active - passive), potency (weak - strong), and evaluative (good - bad). These three basic dimensions

provide useful ways of comparing connotative meanings between individual persons and words. Changes of ratings on the semantic differential can, therefore, be used to measure the effects of some kinds of experimental manipulations as dependent variables.

The adequacy of the semantic differential as a measure of body image concepts is addressed by Pluchik et al. (1971, p. 347) who are convinced that it relates to the basic problem of construct validity. They suggest that in order to obtain more evidence of the validity of this measure, it should be related to other measures of body image.

Test-retest reliability was also utilized by Moore (1978) in her pilot study using a semantic differential made up of 18 pairs of bipolar adjectives chosen from Osgood's published list of factor-analyzed adjectives. Used widely as a research tool in publications during the past twenty years, the reliability of Osgood's semantic differential has been reported to be in the .80's and .90's in the literature (Moore, telephone conversation 6/21/80).

The test-retest reliability of the semantic differential tool used was evaluated by means of a pilot study, using a sample of ten mothers who had signed up for Lamaze classes. Ten completed the test packet in September 1980 and returned in a week to retake the semantic differentials.

Pilot Study. There were no problems encountered with the administration of the pilot test-retest. The Pearson product moment correlation coefficient values for the pilot study were determined for each of the four concepts tested and retested (see Table I). Low reliability for some individual coefficients can be explained by the phenomenon of outliers which McCall (1981) addresses as a problem of exaggerated sensitivity with a small sample number. Since the N of the pilot group was 10, one or two respondents could have this effect. However, scores for each of the dimensions of each of the concepts were correlated, which demonstrated that the instrument was reliable.

Nature of the Data and Statistics

The fourteen items on the demographic questionnaire which provided in part a socio-economic profile of the participants were analyzed by the means of frequency distribution and other descriptive statistical procedures. The data from the four concepts measured by the semantic differential technique were analyzed by inferential statistics with a level of significance at .05.

TABLE I

PEARSON CORRELATION COEFFICIENTS FOR THE CONCEPTS 1. "THE BODY OF THE IDEAL WOMAN IS...", 2. "MY IDEAL BODY IS...", 3. "TODAY MY BODY IS...", AND 4. "PREGNANCY IS...", FOR PILOT TEST-RETEST.

18 Bipolar Adjective Pairs	Pearson Correlation Coefficient			
	Concept 1	Concept 2	Concept 3	Concept 4
Dimension of Evaluation				
1. beautiful - ugly	0.672[a]	-0.117	0.763[a]	0.462
2. fragrant - foul	0.604[a]	0.860[a]	0.785[a]	0.551[a]
3. nice - awful	0.895[b]	0.546[c]	0.250	0.813[a]
4. pleasing - annoying	0.591[a]	0.107	0.928[b]	0.311
5. healthy - sick	0.547[c]	0.908[b]	0.663[a]	0.535[c]
6. clean - dirty	0.667[a]	0.815[a]	0.447	0.831[a]
Evaluative Score	0.765[a]	0.560[a]	0.643[a]	0.642[a]
Dimension of Potency				
7. strong - weak	0.361	0.344	0.818[a]	0.759[a]
8. light- heavy	0.634[a]	0.080	0.649[a]	0.499[c]
9. delicate - rugged	0.886[b]	0.769[a]	0.215	0.010
10. soft - hard	0.869[a]	0.763[a]	0.135	0.376
11. small - large	0.854[a]	0.901[b]	0.771[a]	0.155
12. thin - fat	1.000[b]	0.375	0.872[b]	0.870[b]
Potency Score	0.906[b]	0.758[a]	0.920[b]	0.675[a]

TABLE I (cont.)

18 Bipolar Adjective Pairs	Pearson Correlation Coefficient			
	Concept 1	Concept 2	Concept 3	Concept 4
Dimension of Activity				
13. relaxed - tense	0.027	0.745[a]	0.875[b]	0.818[a]
14. busy - resting	0.827[a]	0.430	0.636[a]	0.819[a]
15. active - passive	0.504	0.531[c]	0.726[a]	0.633[a]
16. exciting - calming	0.396	0.953[b]	0.487	0.912[b]
17. young - old	0.910[b]	0.934[b]	0.767[a]	0.834[a]
18. fast - slow	0.563[a]	0.904[b]	0.755[a]	0.633[a]
Activity Score	0.695[a]	0.836[a]	0.850[a]	0.824[a]
Totals	0.901[b]	0.676[a]	0.936[b]	0.865[a]

Note: Number of subjects = 10.

[a] $P < .05$

[b] $P < .001$

[c] Approaching significance

CHAPTER IV

DATA ANALYSIS

Introduction

Data from the control and experimental groups were collected in ten Lamaze classes over an eight-week period during September and October 1980.

The descriptive data obtained from the demographic questionnaire were summarized in frequency distributions. Age, weeks pregnant, previous pregnancies, weight gain, education, income, occupation, ethnicity, race and method of feeding were tallied for each group.

The data from the semantic differentials for each of the four concepts were divided into the three dimensions, evaluative, potency and activity. Each of the seven bipolar adjectives was given a score from one, the most positive, to seven, the most negative. A score was obtained for each of the dimensions and then added for a total score. The data were analyzed by computer. A t-test set at the .05 level of significance was run to determine the difference between the semantic differential scores of three dimensions for each of the four concepts in the pre-test and post-test control and experimental groups. The Pearson product-moment correlation was computed for the data obtained in the

semantic differentials so that comparisons would be made between the concepts of personal ideal body image and present pregnant body image for each control and experimental group.

Demographic Data

Age

Ages ranged from 19 years to 38 years across each of the test groups (Table II). The average age was 29.1 years in the Pretest Control, 28.4 in the Experimental and 30.9 years in the Post-test Control group. Since only five of the 60 women reported having had children, women in this sample population were older and expecting their first baby.

Pregnant Weight Gain

The average woman in the Pretest Control group was in her 33rd week of pregnancy and reported a weight gain of 23.3 pounds (Table III). In the Experimental group, she was in her 32nd week and had gained 31.5 pounds. In the Post-test Control group, she was 37.6 weeks pregnant and had a weight gain of 33.4 pounds. If by the time of delivery one gains the recommended .4 kilogram per week during the last trimester (Olds, 1980 p. 292), these women will have gained considerably more than the usual 20 to 30 pounds. Three quarters or 75% of the sample population tested had had prepregnant weights within the normal range.

TABLE II

AGE RANGE OF WOMEN IN THE EXPERIMENTAL AND CONTROL GROUPS

Age in Years	Pretest Control Group N=15	Experimental Group N=30	Post-test Control Group N=15
19		1	
21		1	
22	2		
23		2	1
24		1	1
25		2	
26	1	3	
27	2	2	1
28	2	3	1
29	2	1	1
30	2	4	2
31		4	2
32		1	
33	1	3	2
34	2	1	
35			1
36			2
38	1	1	1
Mean Age	29.1	28.4	30.9

TABLE III

WEIGHT GAIN IN THE EXPERIMENTAL AND CONTROL GROUPS

Weight Gain in Pounds	Pretest Control Group N=15	Experimental Group N=30	Post-test Control Group N=15
0-10	2	0	0
11-15	0	1	0
16-20	4	4	2
21-25	2	6	2
26-30	5	7	3
31-35	1	5	2
36-40	1	5	3
↑40	0	1	3
Mean Weight	23.3	31.5	33.4
Normal Range	10	22	12
Underweight	4	4	2
Overweight	1	3	1

Formal Education, Income Level and Status

One hundred per cent or all of the participants had a high school diploma or a minimum of 12 years of formal education (see Table IV). The means for the individual test groups were 15.8 years for the Pretest Control, 15.0 years for the Experimental and 17.0 for the Post-test Control group. More than 50% had a college degree, nearly 25% had advanced degrees, and the remaining had technical diplomas or were graduate students. Five-sixths of these women planned to breastfeed their babies.

Over two-thirds of the sample population reported incomes from $10,000 to over $25,000 (Table V). The remaining one-third were employed part-time or were homemakers. The occupations cited were numerous, varied, and included such positions as nurses, teachers, lawyers, psychologists, managers, editors and photographers. The average participant had education beyond high school and was independently employed.

Race and Ethnicity

Ninety-three percent of the sample population were caucasian. Two individuals were oriental, one was hispanic and one was black. Only eleven respondents reported ethnicity, three of whom were Jewish. The remaining five-sixths claimed no ethnic identity.

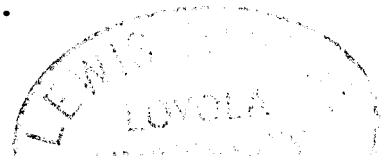

TABLE IV

LEVEL OF FORMAL EDUCATION OF EXPERIMENTAL AND CONTROL GROUPS

Minimum Level of Education	Pretest Control Group N=15	Experimental Group N=30	Post-test Control Group N=15
High School Diploma	1	11	3
Technical Certificate	3	0	2
Baccalaureate Degree	8	15	3
Advanced Degrees	2	3	7
Student Status	1	1	0
Mean for Years of Education	15.8	15.0	17.0

TABLE V

INCOME LEVELS IN THE EXPERIMENTAL AND CONTROL GROUPS

Income	Pretest Control Group N=15	Experimental Group N=30	Post-test Control Group N=15
Under $9,999	13.3%	30.0%	33.3%
$10,000-14,999	26.7%	26.7%	33.3%
$15,000-19,999	26.7%	23.3%	13.3%
$20,000-24,999	13.3%	13.3%	0.0%
Over $25,000	0.0%	0.7%	20.0%

Discussion

The data from the fourteen-item demographic questionnaire revealed a socio-economic profile of participants typical of a predominantly white, middle-class suburb. Everyone had completed a high school education, most had baccalaureate degrees and worked in white collar-type occupations having an independent income, and others were students or homemakers. Most women planned to breastfeed their babies. On the basis of demographic data, the groups were seen to be similar.

Semantic Differential Data

Correlation Between Ideal Body Image and Perceived Body Image

The first null hypothesis states there will be no significant correlation between a woman's ideal body image and her perceived body image during advanced pregnancy as measured by eighteen pairs of bi-polar adjectives on a semantic differential scale. After the data for the Semantic Differential from the Experimental Group at the first test period prior to taking the Lamaze course were tabulated, the Pearson product moment correlations were computed for each of the 18 bipolar adjective pairs; the evaluative, potency and activity dimensions and the total scores for ideal body image and perceived body image during the third trimester of pregnancy (see Table VI).

TABLE VI

PEARSON CORRELATION COEFFICIENTS FOR PERSONAL IDEAL BODY IMAGE AND PERCEIVED BODY IMAGE DURING THE THIRD TRIMESTER OF PREGNANCY AS MEASURED BY A SEMANTIC DIFFERENTIAL SCALE

18 Bipolar Adjective Pairs	Pearson Correlation Coefficient N=30
1. beautiful - ugly	0.313[c]
2. fragrant - foul	0.551[a]
3. nice - awful	0.096
4. pleasing - annoying	0.019
5. healthy - sick	0.241
6. clean - dirty	0.458[a]
7. strong - weak	0.335[c]
8. light - heavy	0.133
9. delicate - rugged	0.349[c]
10. soft - hard	0.190
11. mall-large	0.114
12. thin - fat	0.295[c]
13. relaxed - tense	0.199
14. busy - resting	0.246
15. active - passive	0.285
16. exciting - calming	0.199
17. young - old	0.414
18. fast - slow	0.481[a]

(continued)

TABLE VI

(continued)

18 Bipolar Adjective Pairs	Pearson Correlation Coefficient N=30
Dimensions	
Evaluative 1-6	0.229
Potency 7-12	-0.136
Activity 13-18	0.329[c]
Totals	0.059

Note: [a] $P < .05$

[b] $P < .001$

[c] approaching significance

In the Experimental group, none of the dimensional or total scores showed significant correlations. Only three adjective pairs, fragrant-foul, clean-dirty, and fast-slow were significant at the .05 level. On the basis of the data presented, the first null hypothesis cannot be rejected.

Correlation Between Pregnant Body Image and the Variables of Pregnant Weight Gain and Age

The second null hypothesis states that there is no correlation between pregnant body image measured by semantic differential and the variables of age and pregnant weight gain. Pearson product moment correlations were computed for the total score, 18 bipolar adjective pairs and each of the dimensions from the Semantic Differential data collected in the Experimental group before taking the Lamaze course. One adjective pair, exciting-calming, showed any significance which was high at the .001 level (see Table VII). Two adjective pairs, pleasing-annoying and delicate-rugged, approached significance. Outside of these adjective pairs, there was no correlation between the variables of age and pregnant body image.

There were also no significant correlations in any of the adjective pairs in any of the test groups for the variable of pregnant weight gain and pregnant body image (see Table VII). Only two adjective pairs, nice-awful and soft-hard, approached marginal significance in the Experimental Group. Therefore the

TABLE VII

PEARSON CORRELATION COEFFICIENT BETWEEN PREGNANT BODY IMAGE AND THE VARIABLES AGE AND PREGNANT WEIGHT GAIN IN THE EXPERIMENTAL GROUP

18 Bipolar Adjective Pairs	Pearson Correlation Coefficient	
	Age	Weight Gain
1. beautiful-ugly	0.057	0.274
2. fragrant-foul	0.071	0.010
3. nice-awful	0.242	0.408[c]
4. pleasing-annoying	-0.429[c]	0.058
5. healthy-sick	0.160	-0.005
6. clean-dirty	-0.019	-0.173
7. strong-weak	-0.223	0.199
8. light-heavy	-0.042	0.010
9. delicate-rugged	-0.360[c]	0.028
10. soft-hard	-0.221	0.386[c]
11. small-large	0.213	0.250
12. thin-fat	0.123	0.263
13. relaxed-tense	-0.221	0.111
14. busy-resting	-0.247	0.289
15. active-passive	-0.161	-0.027
16. exciting-calming	0.889[b]	0.000
17. young-old	0.124	0.170
18. fast-slow	-0.007	0.014

(continued)

TABLE VII (cont'd)

18 Bipolar Adjective Pairs	Pearson Correlation Coefficient	
	Age	Weight Gain
Dimensions		
Evaluative	0.006	0.107
Potency	-0.150	0.341[c]
Activity	-0.133	0.174
Totals	-0.119	0.272

Note: [a] $P < .05$

[b] $P < .001$

[c] approaching significance

null hypothesis cannot be rejected.

Perceived Body Image Before and After Pregnancy

The third null hypothesis stated that there will be no significant difference between perceived body image of women before and after completion of Lamaze childbirth classes.

"The Body of the Ideal Woman Is...". The data for the concept "The Body of the Ideal Woman Is..." were collected in each of the test groups; the Pretest Control, Pretest and Post-test Experimental, and Post-test Control (see Table VIII). The mean scores were computed for the evaluative dimension, and the total for each test group. t tests were administered to detect differences between the Pretest Control and the Pretest Experimental groups, between the Pretest and Post-test Experimental groups, and between the Post-test control and Post-test Experimental groups. Only one adjective pair showed significance at the .05 level in each of the t-test groupings. Fast - slow was significant in the Pretest Control and Pretest Experimental, busy - resting in the Pre- and Post Experimental, and fragrant - foul in the Post-test Control and Post-test Experimental groups (see Appendices V1, V5, and V9). Each of the dimensions and total scores indicated no significant differences between the Pretest Control and Experimental groups and the Post-test Control and

TABLE VIII

SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "THE BODY OF THE IDEAL WOMAN IS..."

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Evaluative Scores						
1. Pretest Control Group	15	9.467	2.825	0.03	43	0.975
Pretest Experimental Group	30	9.433	3.491			
2. Pretest Experimental Group	30	9.433	3.491	-0.21	29	0.838
Post-Test Experimental Group	30	9.567	3.875			
3. Post-Test Control Group	15	9.800	2.624	-0.21	43	0.835
Post-Test Experimental Group	30	9.567	3.875			
Potency Scores						
1. Pretest Control Group	15	17.000	2.952	0.28	43	0.779
Pretest Experimental Group	30	16.667	4.063			
2. Pretest Experimental Group	30	16.667	4.063	-1.06	29	0.297
Post-Test Experimental Group	30	17.533	4.083			
3. Post-Test Control Group	15	17.933	3.494	-0.32	43	0.747
Post-Test Experimental Group	30	17.533	4.083			

(continued)

TABLE VIII (cont'd)

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Activity Scores						
1. Pretest Control Group	15	18.000	3.047	1.46	43	0.153
Pretest Experimental Group	30	16.267	4.068			
2. Pretest Experimental Group	30	16.267	4.068	2.72	29	0.011
Post-Test Experimental Group	30	18.367	3.690			
3. Post-Test Control Group	15	18.267	2.434	0.09	43	0.925
Post-Test Experimental Group	30	18.367	3.690			
Total Scores						
1. Pretest Control Group	15	44.467	6.523	0.84	43	0.405
Pretest Experimental Group	30	42.367	8.479			
2. Pretest Experimental Group	30	42.367	8.479	-1.89	29	0.069
Post-Test Experimental Group	30	45.467	8.877			
3. Post-Test Control Group	15	46.000	6.302	-0.21	43	0.837
Post-Test Experimental Group	30	45.467	8.877			

Experimental groups (see Table VIII). In the Pre- and Post-test Experimental groups, however, the activity dimension showed significant differences and the total score was higher. This indicates a more negative view of body image. According to Lamaze philosophy, one would expect activity to become incorporated into one's body image. Except for the dimension of activity, these groups were not statistically significant.

"My Ideal Body Is...". The data collected for this concept were gathered and tested using the same methods utilized in the previous concept (see Table IX). There was no statistical difference noticed between the dimensions or totals of any of the groups t-tested. Only one adjective pair, pleasing - annoying, approached significance between the Pre- and Post-test Experimental groups (see Appendices V2, V6, and V10).

"Today My Body Is...". Using the same methods as the foregoing concepts, there was statistical significance found in the evaluative and potency dimensions as well as the totals in the Pretest Control and Pretest Experimental groups (see Table X). There was no significance in the dimensions or totals of the other groupings. The two bi-polar adjective pairs showing significance were pleasing - annoying and thin - fat, while nice - awful, small - large

TABLE IX

SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "MY IDEAL BODY IS..."

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Evaluative Scores						
1. Pretest Control Group	15	10.667	4.065	-0.32	43	0.753
Pretest Experimental Group	30	11.100	4.444			
2. Pretest Experimental Group	30	11.100	4.444	1.54	29	0.134
Post-Test Experimental Group	30	9.733	3.172			
3. Post-Test Control Group	15	9.867	3.833	-0.12	43	0.902
Post-Test Experimental Group	30	9.733	3.172			
Potency Scores						
1. Pretest Control Group	15	16.733	4.832	-0.88	43	0.382
Pretest Experimental Group	30	18.200	5.448			
2. Pretest Experimental Group	30	18.200	5.448	0.73	29	0.473
Post-Test Experimental Group	30	17.433	3.692			
3. Post-Test Control Group	15	16.533	5.012	0.68	43	0.498
Post-Test Experimental Group	30	17.433	3.692			

(continued)

TABLE IX (cont'd)

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Activity Scores						
1. Pretest Control Group	15	18.133	3.441	0.46	43	0.649
Pretest Experimental Group	30	17.500	4.762			
2. Pretest Experimental Group	30	17.500	4.762	0.51	29	0.615
Post-Test Experimental Group	30	16.933	4.683			
3. Post-Test Control Group	15	17.933	3.936	-0.71	43	0.481
Post-Test Experimental Group	30	16.933	4.683			
Total Scores						
1. Pretest Control Group	15	45.533	9.357	-0.37	43	0.710
Pretest Experimental Group	30	46.800	11.309			
2. Pretest Experimental Group	30	46.800	11.309	1.15	29	0.258
Post-Test Experimental Group	30	44.100	8.121			
3. Post-Test Control Group	15	44.333	10.266	-0.08	43	0.934
Post-Test Experimental Group	30	44.100	8.121			

TABLE X

SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "TODAY MY BODY IS..."

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Evaluative Scores						
1. Pretest Control Group	15	13.400	5.040	-2.51	43	0.016
Pretest Experimental Group	30	17.367	4.986			
2. Pretest Experimental Group	30	17.367	4.986	0.61	29	0.544
Post-Test Experimental Group	30	16.700	7.498			
3. Post-Test Control Group	15	17.400	7.059	-0.30	43	0.934
Post-Test Experimental Group	30	16.700	7.498			
Potency Scores						
1. Pretest Control Group	15	23.867	5.370	-2.35	43	0.023
Pretest Experimental Group	30	27.367	4.343			
2. Pretest Experimental Group	30	27.367	4.343	-0.15	29	0.879
Post-Test Control Group	30	27.467	4.725			
3. Post-Test Control Group	15	28.733	5.496	-0.80	43	0.426
Post-Test Experimental Group	30	27.467	4.725			

(continued)

TABLE X (cont'd)

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Activity Scores						
1. Pretest Control Group	15	21.600	4.388	-0.98	43	0.334
Pretest Experimental Group	30	23.367	6.261			
2. Pretest Experimental Group	30	23.367	6.261	-1.19	29	0.243
Post-Test Experimental Group	30	24.433	4.216			
3. Post-Test Experimental Group	15	24.600	7.614	-0.09	43	0.925
Post-Test Experimental Group	30	24.433	4.216			
Total Scores						
1. Pretest Control Group	15	58.867	10.669	-2.54	43	0.015
Pretest Experimental Group	30	68.100	11.842			
2. Pretest Experimental Group	30	68.100	11.842	-0.25	29	0.805
Post-Test Experimental Group	30	68.600	13.392			
3. Post-Test Control Group	15	66.800	12.248	-0.76	43	0.453
Post-Test Experimental Group	30	68.600	13.392			

and relaxed - tense approached significance in the Pretest Control and Experimental groups (see Appendices V3, V7, and V11).

"Pregnancy Is...". The same methods were employed to gather data and test for differences in this concept (see Table XI). Although no significance in any area was noted between the Post-Test Control and Experimental groups, significance was demonstrated with much lower mean scores in the dimension of potency between the Pre- and Post-Test Experimental groups, a decrease in potency scores indicated a more positive attitude towards pregnancy after taking Lamaze classes.

Adjective pairs (see Appendices V4, V8, and V12) were found to be significant in each of the groups. In the Pretest Control and Experimental groups, light - heavy was significant while thin - fat approached significance. Two adjective pairs, nice - awful and strong - weak were significant in the Pre- and Post-test Experimental groups while light - heavy approached significance. In the Post-test Control and Experimental groups small - large was significant and exciting - calm approached significance.

Although there was significant difference among some of the adjective pairs, there were no consistent statistically significant differences between perceived body image of women before and after completion of Lamaze childbirth classes. Therefore, the third null hypothesis cannot be

TABLE XI

SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "PREGNANCY IS..."

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Evaluative Scores						
1. Pretest Control Group	15	13.200	4.601	-0.81	43	0.424
Pretest Experimental Group	30	14.567	5.679			
2. Pretest Experimental Group	30	14.567	5.679	-1.63	29	0.115
Post-Test Experimental Group	30	16.200	6.789			
3. Post-Test Control Group	15	13.267	7.411	1.33	43	0.192
Post-Test Experimental Group	30	16.200	6.789			
Potency Scores						
1. Pretest Control Group	15	25.200	6.109	-2.30	43	0.026
Pretest Experimental Group	30	29.033	4.810			
2. Pretest Experimental Group	30	29.033	4.810	2.18	29	0.038
Post-Test Experimental Group	30	27.000	3.648			
3. Post-Test Control Group	15	28.933	5.147	-1.46	43	0.152
Post-Test Experimental Group	30	27.000	3.648			

(continued)

TABLE XI (cont'd)

Scores	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Activity Stores						
1. Pretest Control Group	15	18.333	3.478	-1.26	43	0.216
Pretest Experimental Group	30	20.100	4.845			
2. Pretest Experimental Group	30	20.100	4.845	-0.53	29	0.603
Post-Test Experimental Group	30	20.600	3.410			
3. Post-Test Control Group	15	20.867	5.276	-0.21	43	0.838
Post-Test Experimental Group	30	20.600	3.410			
Total Scores						
1. Pretest Control Group	15	56.733	10.905	-1.96	43	0.056
Pretest Experimental Group	30	63.700	11.369			
2. Pretest Experimental Group	30	63.700	11.369	-0.05	29	0.963
Post-Test Experimental Group	30	63.800	10.604			
3. Post-Test Control Group	15	63.067	14.523	0.19	43	0.848
Post-Test Experimental Group	30	63.800	10.604			

rejected.

Discussion

The mean scores relating to the evaluative dimension of the semantic differential changed minimally for each of the groups tested but did change between the four concepts (see Table XII). The higher mean scores for the concepts of pregnancy and pregnant body image indicate a lower evaluation than for the concepts of personal and ideal body image. These findings correspond with those of McConnell et al. (1961, p. 453), which state that pregnancy is viewed as an unnatural condition that leads to a misshapen, ugly and devalued body.

The results for the dimension of potency also showed little variance among the test groups but negative assessments for the concepts of pregnancy and pregnant body image. The adjectives cited were heavy, fat, large and hard which relate to the actual physical changes incurred by advancing pregnancy. These characteristics received consistently the numerically highest negative scores from each of the groups tested.

The dimension of activity was also negatively affected by the experience of pregnancy. The words passive, old, and slow were most negatively scored, thus indicating the physically incapacitating effects of pregnancy.

It is interesting to note that the two concepts of

TABLE XII

SEMANTIC DIFFERENTIAL MEAN SCORES FROM PRETEST CONTROL GROUP, PRE- AND POST-EXPERIMENTAL GROUPS AND POST-TEST CONTROL GROUP FOR CONCEPTS 1, 2, 3 AND 4

	Concepts			
	1	2	3	4
Pretest Control Group N = 15				
Evaluative	9.467	10.667	13.400	13.200
Potency	17.000	16.733	23.867	25.200
Activity	18.000	18.133	21.600	18.333
Total	44.467	45.533	58.867	56.733
Pretest (a) and Post-Test (b) Experimental Group N = 30				
Evaluative (a)	9.433	11.100	17.367	14.567
(b)	9.567	9.733	16.700	16.200
Potency (a)	16.667	18.200	27.367	29.033
(b)	17.533	17.433	27.467	27.000
Activity (a)	16.267	17.500	23.367	20.100
(b)	18.367	16.933	24.433	20.600
Total (a)	42.367	46.800	68.100	63.700
(b)	45.467	44.100	68.600	63.800
Post-Test Control Group N = 15				
Evaluative	9.800	9.867	17.400	13.267
Potency	17.933	16.533	28.733	28.933
Activity	18.267	17.933	24.600	20.867
Total	46.000	44.333	66.800	63.067

ideal body image were much more positive across all test groups than the concepts dealing with pregnancy and pregnant body image. This data indicates that even after taking the childbirth preparation classes, Lamaze does not make a positive impact on women's perceived pregnant body image.

Citing Jourard's findings, Moore (1978, p. 18) described the "ideal" female body as being about 5'2", weighing 122 pounds, having a 34 to 38-inch bust, soft, narrow shoulders, rounded, flared hips and soft, smooth muscles. The greater the distance of a real body from this largely media-made prototype, the easier dissatisfaction and feelings of insecurity or even guilt may emerge. The implications for women in advanced pregnancy are serious and are reflected in semantic differential mean score differences between the ideal and real body image concepts.

Lack of mathematical or statistical significance does not imply lack of social significance. The investigations of Bibring (1961) suggest that many aspects of pregnancy that are experienced as negative in today's culture are intensified by the coldly scientific approach to pregnancy. Emotional needs and receptive, retentive and dependent tendencies are largely ignored. The experience of the pregnant body, therefore, has discordant effects on the body image which may create a disequilibrium between the abstract and personal perceived ideal body and the perception

of pregnancy and the pregnant body (Bibring 1961, Tanner 1969, and Benedek 1970).

CHAPTER V

CONCLUSIONS

Summary

This study has attempted to link body image, the experience of pregnancy and the effects of Lamaze childbirth education. It was based on the view that "The body image is not a body organ, a psychological picture, or a little-person-in-the head," but "is best described in terms of the functions it serves and the levels at which it is experienced" (Shontz 1974, p. 461).

An intensive review of the literature showed that body image, as distinct from the actual body, is a value-laden force of significance in medical as well as in nursing practice. It specifically affects the experience of pregnancy as the use of the semantic differential measuring concepts of body image in an experimental group of thirty and two control groups of fifteen demonstrated. As the demographic data obtained by questionnaire indicated, this was true for suburban, mostly white women with a minimum of a baccalaureate degree, who were economically and professionally secure.

None of the null hypotheses could be rejected since the correlation coefficients did not indicate significance between a woman's ideal body image and her advanced

pregnant body image or between her pregnant body image and the variables of age and weight gain, or between her perceived body before and after Lamaze childbirth education. The semantic differentials did show that the scores for pregnant body image and the condition of pregnancy were far more negative than those for ideal and personal ideal body image. There were significant findings as a result of this study. First, the high activity dimension mean score for the "Body of the Ideal Woman" in the Pre- and Post-test Experimental group shows a more negative view of the activity dimension after taking Lamaze classes. This unanticipated finding, one would expect the opposite, may indicate unknown underlying feelings about active participation in childbirth. Secondly, the lower potency mean score for "Pregnancy is..." in the Pre- and Post-test Experimental group shows a more positive view of pregnancy after Lamaze, which supports the value of Lamaze in feelings about pregnancy. The more positive views of pregnancy post-Lamaze are evident in the low mean scores of the adjective pairs nice - awful and strong - weak. Thirdly, the higher mean scores for all dimensions and totals for concepts "Today My Body Is..." and "Pregnancy Is..." over "The Body of the Ideal Woman..." and "My Ideal Body is..." show the negative evaluation of pregnancy in comparison to an ideal body image. Although the t-test scores failed to demonstrate that Lamaze childbirth

education had a positive impact on pregnant body image, the course seems to have been related to at least the preventing of a significant deterioration of pregnant body image after five weeks of continued weight gain and fundal growth.

Implications

The results of this study have important implications for those who directly or indirectly provide care to women as they progress through pregnancy. Pregnancy and childbearing are complex, stressful life-changing experiences. Health care interventions need to be designed to enhance rather than strain adjustments which will consequently humanize medical care. The nurse is in a unique position to alleviate concerns and anxiety about body image changes by giving anticipatory information and explanations of how specific body changes may affect attitude (Fawcett, 1978). The literature shows that attitudes toward body image also affect self-esteem, self-concept, feelings about the impending birth experience as well as maternal feelings. The nurse can promote understanding and genuine appreciation for the numerous physical and emotional changes of pregnancy so that there is an affirmative acceptance of the body as a creative and nurturing way station for a new human being.

The results of this investigation clarify in what areas the nurse can positively intervene to prevent an increasingly negative evaluation of the body during advanced

pregnancy. She should emphasize that pregnancy with its manifold physical and emotional changes means adapting to a growing and maturing organism; that the pregnant body is not fat or unduly large or heavy, but indeed a body with child. She needs to stress the protective and nurturing role assumed by the pregnant body, its creative function of an accommodating vessel, awaiting the proper level of maturity of a new human being to be enabled to enter this world successfully. The nurse should strive to minimize the feeling that the pregnant body had become the residence of a foreign, unknown, and parasitic intruder who disfigures her body by making it "fat," "heavy," and "large." By focusing on the likely negative perception of the pregnant body, especially during the third trimester, the nurse may assist a mother-to-be in adapting her body image positively to the significant changes which she experiences physically and emotionally. She can thus minimize the anxieties connected with the experience of pregnancy by anticipatory teaching, universalizing it, but without impairing its uniquely individual dimensions. Referral to peer groups such as the Lamaze childbirth education classes may achieve those goals.

Benedek (1970, p. 150) suggests that a mother's ambivalence toward her procreative function influences her motherliness by inhibiting or even blocking the natural flow of mothering behavior. The author observes further that a

father's attitude toward the child may be shaped by the experience of pregnancy communicated by his wife. Thus, the emotional course of pregnancy becomes in part responsible for the initial psychological environment experienced by the newborn and may lead the family toward stabilization or disruption. By promoting an appropriate, positive pregnant body image, nursing intervention may enhance genuine gratification inherent in childbearing, thereby facilitating a viable postpartum symbiosis and influencing a creative interaction between mother, family members, and the newborn child.

Recommendations

There are several recommendations concerning the sample, type of study, and the instrument for future study of pregnancy and its effects on body image. Sample size could be increased to whether differences remain similar or become statistically significant. The sample should be randomly chosen, questioned about preparation and then assigned to groups pursuing Lamaze childbirth education, other childbirth education or no childbirth preparation. Then the findings from a sample representative of the larger communities would allow for generalization beyond the sample.

A second consideration would be to conduct a longitudinal study and correlate such variables as measures of

self-esteem or self-concept with the measure of pregnant body image during middle and late trimesters of pregnancy, after delivery and at six weeks or three month postpartum. The researcher could determine how score values change for the dimensions of evaluation, potency and activity on the Semantic Differential. Body image of women with weight above or below normal could also be correlated with that of women at normal weight. Another consideration would be to avoid the possible confounding variable of teaching effectiveness by separating data from individual participating teachers.

A third recommendation would be consideration of the research instrument. A Likert or Likert-type scale may be a better tool than the Semantic Differential to measure before and after effect on body image. For example, the adjective "large" is negatively scored but may not have connotative negative meaning to the individual pregnant woman. She <u>is</u> indeed large but she may perceive her largeness as positive, tangible proof of her baby's growth.

Finally, future research could investigate the following questions:

> How do body boundaries affect body image in pregnancy?
>
> How do uniquely personal dimensions as planned or unplanned pregnancy and financially feasible or economically burdensome pregnancy influence perceived body image?

In conclusion, the results of this study indicate the importance of quality nursing care in the physiologically based but largely emotional area of concern for the pregnant woman--her perceived body image. In his research demonstrating the relationship of psychological factors in pregnancy to progress in labor, Lederman et al. (1979, p. 94) showed how emotional factors can influence such reproductive events as dysfunctional, prolonged labor and other obstetrical complications. Therefore, the active promotion of a positive body image during pregnancy may not only be helpful to the future mother but also may positively affect the health and development of the newborn and consequently the family unit incorporating the new arrival (Bibring 1961, Tanner 1969, and Benedek, 1970).

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APPENDICES

APPENDIX I

INFORMED CONSENT FORM

IRB Number:_____

LOYOLA UNIVERSITY MEDICAL CENTER
MAYWOOD, ILLINOIS

School of Nursing

INFORMED CONSENT

Participant's name:_____Date:_____

Project Title: PERCEIVED BODY IMAGE OF PREGNANT WOMEN EXPERIENCING LAMAZE CHILDBIRTH EDUCATION

For the Participant's Information

The purpose of this study is to find out how pregnant women see the ideal woman's body image and how she sees her own. You will be asked to fill out a three-part questionnaire. The first part consists of 14 personal data questions. The second and third parts present 18-item scales to measure the meaning of the ideal woman to yourself.

The time needed to fill out the questionnaire should take no more than ten minutes. You will not benefit directly from this study. It will lead, however, to further knowledge about body image in pregnancy, thus enabling nurses to be more helpful to pregnant women. If you are willing to participate in this study, please read and then sign the last paragraph below.

It is understood that biomedical or behavioral research such as that in which you have agreed to participate, by its nature, involves risk of injury. In the event of physical injury resulting from these research procedures, emergency medical treatment will be provided at no cost, in accordance with the policy of Loyola University Medical Center. No additional free medical treatment or compensation will be provided except as required by Illinois law.

In the event you believe that you have suffered any physical injury as the result of participation in the research program, please contact Dr. S. Aladjem, Chairman, Institutional

Review Board for Protection of Human Subjects at the Medical Center, telephone (312) 531-3380.

Confidentiality:

I agree to allow my name and data to be available to other authorized researchers for the purpose of evaluating the results of this study. I consent to the publication of any data which may result from these investig ations for the purpose of advancing medical knowledge, providing that my name or any other identifying information (initials, social security number, etc.) is not used in conjunction with such publication.

All precautions to maintain confidentiality of results will be taken.

CONSENT

I have fully explained to _____ the motive and purpose of the above-described procedure and the risks that are involved in its performance. I have answered and will answer all questions to the best of my ability.

_____
Principal Investigator

I have been fully informed of the above-described procedure with its possible benefits and risks. I give permission for my participation in this study. I know that Virginia Schelbert or her associates will be available to answer any questions I might have. If at any time I feel that my questions have not been adequately answered, I may request to speak with a member of the Medical Center Review Board. I understand that I am free to withdraw this consent and to discontinue participation in this project at any time without prejudice to my medical care. I have received a copy of this informed consent document.

_____
Signature

_____
Signature of Witness to Signature

APPENDIX II

DEMOGRAPHIC QUESTIONNAIRE

(1) My birthdate is: _____month _____ day _____ year

(2) My height is: _____ft _____in

(3) My usual, non-pregnant weight is: _____ pds

My present weight is: _____ pds

(4) My expected due date is: _____month _____day

(5) I have had _____ pregnancies (including this one)
_____ living children
_____ still births
_____ miscarriages
_____ abortions
_____ multiple births (twins, triplets, etc.)

(6) This pregnancy has been complicated by:_____
has not been complicated:_____

(7) I anticipate the following problems with this pregnancy:

_____

(8) I have finished _____ years of school

(9) I have received _____ a high school diploma
_____ a college degree
_____ a master's degree
_____ a doctoral degree
_____ other (please specify)

(10) My occupation/profession is:_____

(11) My annual income is: _____ under $9,999
_____ $10,000 to $14,999
_____ $15,000 to 19,999
_____ $20,000 to $24,999
_____ above 25,000

(12) I am _____white
_____black
_____hispanic
_____other (please specify)

(13) I am a member of _____ ethnic group

(14) I plan to: _____ breast feed my baby
_____ bottle feed my baby

APPENDIX III

INSTRUCTIONS FOR USE OF SCALES

If you think that the phrase at the top of the scales is very closely related to one end of the scale, place your X as follows:

Example: The Mayor is

fair : X : : : : : : unfair

or:

fair : : : : : : : X : unfair

If you think the phrase is closely related to one or the other end of the scale, place your X as follows:

strong: : X : : : : : : weak

or:

strong: : : : : : X : : weak

If you think the phrase is only slightly related to one side or the other, place your X as follows:

active: : : X : : : : : passive

or:

active: : : : : X : : : passive

If you think the phrase is neutral or irrelevant, place your X on the middle of the scale:

safe: : : : X : : : : dangerous

Be sure to respond to each pair of adjectives, placing only one X for each set squarely on the line, not the space between the solid lines. Proceed quickly without looking back as we are interested in your first impression or feeling, and respond to each pair as a separate and independent judgment.

THANK YOU

APPENDIX IV

SEMANTIC DIFFERENTIAL

1. The Body of the Ideal Woman Is:

Exciting	:___:___:___:___:___:___:___:	Calming
Hard	:___:___:___:___:___:___:___:	Soft
Pleasing	:___:___:___:___:___:___:___:	Annoying
Foul	:___:___:___:___:___:___:___:	Fragrant
Light	:___:___:___:___:___:___:___:	Heavy
Busy	:___:___:___:___:___:___:___:	Resting
Slow	:___:___:___:___:___:___:___:	Fast
Fat	:___:___:___:___:___:___:___:	Thin
Dirty	:___:___:___:___:___:___:___:	Clean
Awful	:___:___:___:___:___:___:___:	Nice
Delicate	:___:___:___:___:___:___:___:	Rugged
Passive	:___:___:___:___:___:___:___:	Active
Old	:___:___:___:___:___:___:___:	Young
Small	:___:___:___:___:___:___:___:	Large
Sick	:___:___:___:___:___:___:___:	Healthy
Ugly	:___:___:___:___:___:___:___:	Beautiful
Weak	:___:___:___:___:___:___:___:	Strong
Relaxed	:___:___:___:___:___:___:___:	Tense

2. My Ideal Body Is:

Beautiful	:___:___:___:___:___:___:___:	Ugly
Fragrant	:___:___:___:___:___:___:___:	Foul
Awful	:___:___:___:___:___:___:___:	Nice
Annoying	:___:___:___:___:___:___:___:	Pleasing
Healthy	:___:___:___:___:___:___:___:	Sick
Dirty	:___:___:___:___:___:___:___:	Clean
Strong	:___:___:___:___:___:___:___:	Weak
Heavy	:___:___:___:___:___:___:___:	Light
Delicate	:___:___:___:___:___:___:___:	Rugged
Soft	:___:___:___:___:___:___:___:	Hard
Large	:___:___:___:___:___:___:___:	Small
Fat	:___:___:___:___:___:___:___:	Thin
Tense	:___:___:___:___:___:___:___:	Relaxed
Resting	:___:___:___:___:___:___:___:	Busy
Active	:___:___:___:___:___:___:___:	Passive
Calming	:___:___:___:___:___:___:___:	Exciting
Young	:___:___:___:___:___:___:___:	Old

3. Today My Body Is:

Nice	:___:___:___:___:___:___:___:	Awful
Clean	:___:___:___:___:___:___:___:	Dirty
Rugged	:___:___:___:___:___:___:___:	Delicate
Thin	:___:___:___:___:___:___:___:	Fat
Active	:___:___:___:___:___:___:___:	Passive
Fast	:___:___:___:___:___:___:___:	Slow
Young	:___:___:___:___:___:___:___:	Old
Resting	:___:___:___:___:___:___:___:	Busy
Large	:___:___:___:___:___:___:___:	Small
Heavy	:___:___:___:___:___:___:___:	Light
Healthy	:___:___:___:___:___:___:___:	Sick
Fragrant	:___:___:___:___:___:___:___:	Foul
Beautiful	:___:___:___:___:___:___:___:	Ugly
Annoying	:___:___:___:___:___:___:___:	Pleasing
Strong	:___:___:___:___:___:___:___:	Weak
Soft	:___:___:___:___:___:___:___:	Hard
Tense	:___:___:___:___:___:___:___:	Relaxed
Calming	:___:___:___:___:___:___:___:	Exciting

4. Pregnancy Is:

Slow	:___:___:___:___:___:___:___:	Fast
Exciting	:___:___:___:___:___:___:___:	Calming
Busy	:___:___:___:___:___:___:___:	Resting
Fat	:___:___:___:___:___:___:___:	Thin
Hard	:___:___:___:___:___:___:___:	Soft
Light	:___:___:___:___:___:___:___:	Heavy
Dirty	:___:___:___:___:___:___:___:	Clean
Pleasing	:___:___:___:___:___:___:___:	Annoying
Foul	:___:___:___:___:___:___:___:	Fragrant
Old	:___:___:___:___:___:___:___:	Young
Passive	:___:___:___:___:___:___:___:	Active
Relaxed	:___:___:___:___:___:___:___:	Tense
Small	:___:___:___:___:___:___:___:	Large
Hard	:___:___:___:___:___:___:___:	Soft
Weak	:___:___:___:___:___:___:___:	Strong
Sick	:___:___:___:___:___:___:___:	Healthy
Awful	:___:___:___:___:___:___:___:	Nice
Ugly	:___:___:___:___:___:___:___:	Beautiful

APPENDIX V-1

PRETEST CONTROL AND PRETEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "THE BODY OF THE IDEAL WOMAN IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest Con.	15	1.733	1.033	0.22	43	0.827
	Pretest Exp.	30	1.667	0.922			
Fragrant - Foul	Pretest Con.	15	2.200	0.941	0.21	43	0.832
	Pretest Exp.	30	2.133	1.008			
Nice - Awful	Pretest Con.	15	1.467	0.915	-0.12	43	0.905
	Pretest Exp.	30	1.500	0.861			
Pleasing - Annoying	Pretest Con.	15	1.667	0.724	0.23	43	0.820
	Pretest Exp.	30	1.600	1.003			
Healthy - Sick	Pretest Con.	15	1.133	0.352	-0.57	43	0.570
	Pretest Exp.	30	1.233	0.626			
Clean - Dirty	Pretest Con.	15	1.267	0.458	-0.15	43	0.881
	Pretest Exp.	30	1.300	0.794			
Strong - Weak	Pretest Con.	15	2.067	1.280	0.09	43	0.930
	Pretest Exp.	30	2.033	1.159			

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest Con.	15	2.600	1.506	0.49	43	0.624
	Pretest Exp.	30	2.800	1.375			
Delicate - Rugged	Pretest Con.	15	3.867	1.407	1.27	43	0.211
	Pretest Exp.	30	3.200	1.769			
Soft - Hard	Pretest Con.	15	2.533	1.302	-0.77	43	0.443
	Pretest Exp.	30	2.900	1.583			
Small - Large	Pretest Con.	15	3.600	1.056	1.16	43	0.252
	Pretest Exp.	30	3.233	0.177			
Thin - Fat	Pretest Con.	15	2.333	1.113	-0.48	43	0.637
	Pretest Exp.	30	2.500	1.106			
Relaxed - Tense	Pretest Con.	15	1.134	0.293	-1.17	43	0.250
	Pretest Exp.	30	1.194	0.218			

APPENDIX V-1 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Busy - Resting	Pretest Con.	15	3.600	1.352	1.94	43	0.058
	Pretest Exp.	30	2.733	1.437			
Active - Passive	Pretest Con.	15	2.333	1.113	0.47	43	0.639
	Pretest Exp.	30	2.167	1.117			
Exciting - Calming	Pretest Con.	15	3.200	1.612	1.30	43	0.200
	Pretest Exp.	30	2.633	1.245			
Young - Old	Pretest Con.	15	2.933	1.163	-0.80	43	0.428
	Pretest Exp.	30	3.200	0.997			
Fast - Slow	Pretest Con.	15	3.933	1.033	2.28	43	0.028
	Pretest Exp.	30	3.100	1.213			

APPENDIX V-2

PRETEST CONTROL AND PRETEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "MY IDEAL BODY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest Con.	15	2.133	0.915	-0.56	43	0.577
	Pretest Exp.	30	2.333	1.213			
Fragrant - Foul	Pretest Con.	15	2.333	1.047	1.29	43	0.203
	Pretest Exp.	30	1.933	0.944			
Nice - Awful	Pretest Con.	15	1.733	1.033	-0.51	43	0.612
	Pretest Exp.	30	1.900	1.029			
Pleasing - Annoying	Pretest Con.	15	1.933	1.100	-0.37	43	0.716
	Pretest Exp.	30	2.067	1.172			
Healthy - Sick	Pretest Con.	15	1.333	0.617	-0.94	43	0.354
	Pretest Exp.	30	1.567	0.858			
Clean - Dirty	Pretest Con.	15	1.200	0.414	-0.58	43	0.564
	Pretest Exp.	30	1.300	0.596			
Strong - Weak	Pretest Con.	15	1.800	0.941	-1.55	43	0.128
	Pretest Exp.	30	2.367	1.245			

APPENDIX V-2 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest Con.	15	2.667	1.589	-0.75	43	0.459
	Pretest Exp.	30	3.067	1.741			
Delicate - Rugged	Pretest Con.	15	3.600	1.502	0.00	43	1.000
	Pretest Exp.	30	3.600	1.831			
Soft - Hard	Pretest Con.	15	2.800	1.146	-0.73	43	0.470
	Pretest Exp.	30	3.133	1.570			
Small - Large	Pretest Con.	15	3.067	1.624	-0.25	43	0.800
	Pretest Exp.	30	3.200	1.669			
Thin - Fat	Pretest Con.	15	2.800	1.474	-0.07	43	0.945
	Pretest Exp.	30	2.833	1.555			
Relaxed - Tense	Pretest Con.	15	2.200	1.265	-1.24	43	0.222
	Pretest Exp.	30	2.833	1.763			
Busy - Resting	Pretest Con.	15	3.267	1.792	-0.06	43	0.950
	Pretest Exp.	30	3.300	1.622			

APPENDIX V-2 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degree of Freedom	Two-Tailed Probability
Active - Passive	Pretest Con.	15	2.467	1.187	0.65	43	0.518
	Pretest Exp.	30	2.233	1.104			
Exciting - Calming	Pretest Con.	15	3.667	1.589	1.10	43	0.277
	Pretest Exp.	30	3.133	1.502			
Young - Old	Pretest Con.	15	3.200	0.862	0.82	43	0.415
	Pretest Exp.	30	2.900	1.269			
Fast - Slow	Pretest Con.	15	3.333	1.047	0.58	43	0.566
	Pretest Exp.	30	3.100	1.373			

APPENDIX V-3

PRETEST CONTROL AND PRETEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "TODAY MY BODY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest Con.	15	3.000	1.604	-0.71	43	0.481
	Pretest Exp.	30	3.333	1.422			
Fragrant - Foul	Pretest Con.	15	2.067	1.033	-1.43	43	0.159
	Pretest Exp.	30	2.567	1.135			
Nice - Awful	Pretest Con.	15	2.467	1.642	-1.95	43	0.058
	Pretest Exp.	30	3.467	1.613			
Pleasing - Annoying	Pretest Con.	15	2.867	1.125	-2.98	43	0.005
	Pretest Exp.	30	4.067	1.337			
Healthy - Sick	Pretest Con.	15	1.667	0.900	-1.50	43	0.142
	Pretest Exp.	30	2.267	1.413			
Clean - Dirty	Pretest Con.	15	1.333	0.617	-1.31	43	0.198
	Pretest Exp.	30	1.667	0.884			
Strong - Weak	Pretest Con.	15	3.133	1.506	-1.06	43	0.294
	Pretest Exp.	30	3.667	1.626			

APPENDIX V-3 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest Con.	15	5.000	1.363	-1.63	43	0.111
	Pretest Exp.	30	5.633	1.159			
Delicate - Rugged	Pretest Con.	15	3.267	1.100	-0.97	43	0.336
	Pretest Exp.	30	3.700	1.535			
Soft - Hard	Pretest Con.	15	2.933	1.438	-0.57	43	0.574
	Pretest Exp.	30	3.167	1.234			
Small - Large	Pretest Con.	15	4.867	1.302	-1.92	43	0.062
	Pretest Exp.	30	5.600	1.163			
Thin - Fat	Pretest Con.	15	4.667	1.589	-2.13	43	0.039
	Pretest Exp.	30	5.600	1.276			
Relaxed - Tense	Pretest Con.	15	3.600	1.724	-2.00	43	0.052
	Pretest Exp.	30	4.633	1.586			
Busy - Resting	Pretest Con.	15	3.067	1.223	-0.63	43	0.532
	Pretest Exp.	30	3.400	1.850			

APPENDIX V-3 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Pretest Con.	15	3.667	1.496	-0.06	43	0.956
	Pretest Exp.	30	3.700	2.087			
Exciting - Calming	Pretest Con.	15	4.000	1.254	1.25	43	0.217
	Pretest Exp.	30	3.567	1.000			
Young - Old	Pretest Con.	15	2.600	1.298	-1.69	43	0.099
	Pretest Exp.	30	3.400	1.589			
Fast - Slow	Pretest Con.	15	4.667	1.589	0.00	43	1.006
	Pretest Exp.	30	4.667	1.826			

APPENDIX V-4

PRETEST CONTROL AND PRETEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "PREGNANCY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest Con.	15	2.267	1.163	-0.54	43	0.592
	Pretest Exp.	30	2.500	1.456			
Fragrant - Foul	Pretest Con.	15	2.600	1.352	-0.72	43	0.474
	Pretest Exp.	31	2.900	1.296			
Nice - Awful	Pretest Con.	15	1.733	1.033	-1.27	43	0.210
	Pretest Exp.	30	2.200	1.215			
Pleasing - Annoying	Pretest Con.	15	2.733	1.280	0.08	43	0.938
	Pretest Exp.	30	2.700	1.368			
Healthy - Sick	Pretest Con.	15	2.067	1.163	-0.68	43	0.498
	Pretest Exp.	30	2.400	1.694			
Clean - Dirty	Pretest Con.	15	1.800	1.802	-0.18	43	0.861
	Pretest Exp.	30	1.867	1.252			
Strong - Weak	Pretest Con.	15	3.067	1.233	-1.52	43	0.136
	Pretest Exp.	30	3.733	1.461			

APPENDIX V-4 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest Con.	15	5.133	1.246	-2.05	43	0.046
	Pretest Exp.	30	5.833	0.986			
Delicate - Rugged	Pretest Con.	15	3.267	1.792	-1.22	43	0.229
	Pretest Exp.	30	3.900	1.561			
Soft - Hard	Pretest Con.	15	3.467	1.767	-1.19	43	0.242
	Pretest Exp.	30	4.100	1.647			
Small - Large	Pretest Con.	15	5.200	1.320	-1.13	43	0.266
	Pretest Exp.	30	5.700	1.442			
Thin - Fat	Pretest Con.	15	5.067	1.486	-1.87	43	0.068
	Pretest Exp.	30	5.767	1.006			
Relaxed - Tense	Pretest Con.	15	3.933	1.580	-0.41	43	0.687
	Pretest Exp.	30	4.133	1.548			
Busy - Resting	Pretest Con.	15	3.000	1.254	0.07	43	0.946
	Pretest Exp.	30	2.967	1.671			

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Pretest Con.	15	2.467	0.915	-1.07	43	0.293
	Pretest Exp.	30	3.000	1.819			
Exciting - Calming	Pretest Con.	15	2.067	1.100	-0.27	43	0.792
	Pretest Exp.	30	2.167	1.234			
Young - Old	Pretest Con.	15	3.000	1.000	-0.50	43	0.620
	Pretest Exp.	30	3.200	1.375			
Fast - Slow	Pretest Con.	15	3.867	2.066	-1.20	43	0.238
	Pretest Exp.	30	4.633	2.008			

APPENDIX V-5

PRETEST AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "THE BODY OF THE IDEAL WOMAN IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest	30	1.667	0.922	-0.35	29	0.730
	Post-Test		1.733	0.980			
Fragrant - Foul	Pretest	30	2.133	1.008	1.67	29	0.106
	Post-Test		1.800	0.925			
Nice - Awful	Pretest	30	1.500	0.861	-0.17	29	0.865
	Post-Test		1.533	0.776			
Pleasing - Annoying	Pretest	30	1.600	1.003	-0.84	29	0.407
	Post-Test		1.767	1.135			
Healthy - Sick	Pretest	30	1.233	0.626	-0.90	29	0.375
	Post-Test		1.333	0.606			
Clean - Dirty	Pretest	30	1.300	0.794	-0.77	29	0.448
	Post-Test		1.400	0.621			
Strong - Weak	Pretest	30	2.033	1.159	-1.33	29	0.194
	Post-Test		2.333	0.994			

APPENDIX V-5 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest	30	2.033	1.159	-0.20	29	0.844
	Post-Test		2.333	0.994			
Delicate - Rugged	Pretest	30	3.200	1.769	0.21	29	0.839
	Post-Test		3.133	1.570			
Soft - Hard	Pretest	30	2.900	1.583	-0.20	29	0.842
	Post-Test		2.967	1.326			
Small - Large	Pretest	30	3.233	0.971	-1.84	29	0.076
	Post-Test		3.633	0.999			
Thin - Far	Pretest	30	2.500	1.106	0.44	29	0.662
	Post-Test		2.600	1.102			
Relaxed - Tense	Pretest	30	2.433	1.194	0.00	29	1.000
	Post-Test		2.433	1.104			
Busy - Testing	Pretest	30	2.733	1.437	-2.36	29	0.025
	Post-Test		3.567	1.547			

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Pretest	30	2.167	1.117	-1.72	29	0.097
	Post-Test		2.567	1.165			
Exciting - Calming	Pretest	30	2.633	1.245	-0.65	29	0.523
	Post-Test		2.867	1.548			
Young - Old	Pretest	30	3.200	0.997	0.55	29	0.586
	Post-Test		3.300	0.988			
Fast - Slow	Pretest	30	3.100	1.213	-1.97	29	0.058
	Post-Test		3.633	1.159			

APPENDIX V-6

PRETEST AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES
FOR THE CONCEPT "MY IDEAL BODY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest	30	2.333	1.213	1.41	29	0.169
	Post-Test		2.000	0.947			
Fragrant - Foul	Pretest	30	1.933	0.944	0.17	29	0.869
	Post-Test		1.900	0.923			
Nice - Awful	Pretest	30	1.900	1.029	1.23	29	0.229
	Post-Test		1.667	0.711			
Pleasing - Annoying	Pretest	30	2.067	1.172	1.99	29	0.056
	Post-Test		1.633	0.669			
Healthy - Sick	Pretest	30	1.567	0.858	1.68	29	0.103
	Post-Test		1.300	0.596			
Clean - Dirty	Pretest	30	1.300	0.596	0.63	29	0.536
	Post-Test		1.233	0.504			
Strong - Weak	Pretest	30	2.367	1.245	0.13	29	0.899
	Post-Test		2.333	1.269			

APPENDIX V-6 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest	30	3.067	1.741	0.92	29	0.365
	Post-Test		2.767	1.278			
Delicate - Rugged	Pretest	30	3.600	1.831	1.37	29	0.182
	Post-Test		3.133	1.525			
Soft - Hard	Pretest	30	3.133	1.570	0.00	29	1.000
	Post-Test		3.133	1.525			
Small - Large	Pretest	30	3.200	1.669	-0.44	29	0.666
	Post-Test		3.333	1.061			
Thin - Fat	Pretest	30	2.833	1.555	0.36	29	0.725
	Post-Test		2.733	1.048			
Relaxed - Tense	Pretest	30	2.833	1.763	1.11	29	0.276
	Post-Test		2.467	1.074			
Busy - Resting	Pretest	30	3.300	1.622	0.88	29	0.386
	Post-Test		3.033	1.586			

APPENDIX V-6 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Pretest	30	2.333	1.104	-0.54	29	0.595
	Post-Test		2.367	1.098			
Exciting - Calming	Pretest	30	3.133	1.502	0.46	29	0.649
	Post-Test		2.933	1.596			
Young - Old	Pretest	30	2.900	1.269	-0.48	29	0.636
	Post-Test		3.033	1.189			
Fast - Slow	Pretest	30	3.100	1.373	0.00	29	1.000
	Post-Test		3.600	1.213			

APPENDIX V-7

PRETEST AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES
FOR THE CONCEPT "TODAY MY BODY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest	30	3.333	1.422	0.64	29	0.526
	Post-Test		3.200	1.769			
Fragrant - Foul	Pretest	30	2.567	1.135	0.52	29	0.608
	Post-Test		2.433	1.406			
Nice - Awful	Pretest	30	3.467	1.613	0.39	29	0.696
	Post-Test		3.333	1.826			
Pleasing - Annoying	Pretest	30	4.067	1.337	1.24	29	0.227
	Post-Test		3.667	1.788			
Healthy - Sick	Pretest	30	2.267	1.413	0.00	29	1.000
	Post-Test		2.267	1.311			
Clean - Dirty	Pretest	30	1.667	0.884	-0.54	29	0.595
	Post-Test		1.800	1.186			
Strong - Weak	Pretest	30	3.667	1.626	0.17	29	0.865
	Post-Test		3.600	1.653			

APPENDIX V-7 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest	30	5.633	1.159	-0.52	29	0.610
	Post-Test		5.733	1.202			
Delicate - Rugged	Pretest	30	3.700	1.535	1.35	29	0.186
	Post-Test		3.367	1.450			
Soft - Hard	Pretest	30	3.167	1.234	0.00	29	1.000
	Post-Test		3.167	1.555			
Small - Large	Pretest	30	5.600	1.163	-0.82	29	0.420
	Post-Test		5.767	1.251			
Thin - Fat	Pretest	30	5.600	1.276	-1.19	29	0.243
	Post-Test		5.833	1.262			
Relaxed - Tense	Pretest	30	4.633	1.586	1.41	29	0.169
	Post-Test		4.300	1.291			
Busy - Resting	Pretest	30	3.400	1.850	-1.67	29	0.105
	Post-Test		4.033	1.712			

APPENDIX V-7 (cont.)

Bipolar Adjective Pairs	Group	Number of	Mean	Standard Deviation	t value	Degree Freedom	Two-Tailed Probability
Active - Passive	Pretest	30	3.700	2.087	-0.68	29	0.500
	Post-Test		3.933	1.596			
Exciting - Calming	Pretest	30	3.567	1.006	-0.60	29	0.555
	Post-Test		3.700	1.179			
Young - Old	Pretest	30	3.400	1.589	-0.13	29	0.895
	Post-Test		3.433	1.382			
Fast - Slow	Pretest	30	4.667	1.826	-1.08	29	0.291
	Post-Test		5.033	1.326			

APPENDIX V-8

PRETEST AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES
FOR THE CONCEPT "PREGNANCY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Pretest	30	2.500	1.456	-1.00	29	0.326
	Post-Test		2.733	1.574			
Fragrant - Foul	Pretest	30	2.900	1.296	1.20	29	0.240
	Post-Test		2.600	1.192			
Nice - Awful	Pretest	30	2.200	1.215	-2.91	29	0.007
	Post-Test		2.900	1.494			
Pleasing - Annoying	Pretest	30	2.700	1.368	-1.66	29	0.108
	Post-Test		3.267	1.596			
Healthy - Sick	Pretest	30	2.400	1.694	0.47	29	0.645
	Post-Test		2.533	1.502			
Clean - Dirty	Pretest	30	1.867	1.252	-1.22	29	0.231
	Post-Test		2.167	1.206			
Strong - Weak	Pretest	30	3.733	1.461	2.54	29	0.017
	Post-Test		3.033	1.299			

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Pretest	30	5.833	0.986	1.92	29	0.065
	Post-Test		5.300	1.264			
Delicate - Rugged	Pretest	30	3.900	1.561	0.70	29	0.487
	Post-Test		3.667	1.348			
Soft - Hard	Pretest	30	4.100	1.647	-0.94	29	0.354
	Post-Test		4.367	1.497			
Small - Large	Pretest	30	5.700	1.442	1.17	29	0.250
	Post-Test		5.333	1.322			
Thin - Fat	Pretest	30	5.767	1.006	1.47	29	0.152
	Post-Test		5.300	1.393			
Relaxed - Tense	Pretest	30	4.133	1.548	-1.29	29	0.206
	Post-Test		4.533	1.383			
Busy - Resting	Pretest	30	2.967	1.671	0.80	29	0.428
	Post-Test		2.700	1.579			

APPENDIX V-8 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Pretest	30	3.000	1.819	0.40	29	0.690
	Post-Test		2.867	1.224			
Exciting - Calming	Pretest	30	2.167	1.234	-0.26	29	0.794
	Post-Test		2.233	1.251			
Young - Old	Pretest	30	3.200	1.375	-0.30	29	0.766
	Post-Test		3.300	1.264			
Fast - Slow	Pretest	30	4.633	2.008	-.96	29	0.344
	Post-Test		4.967	1.629			

APPENDIX V-9

POST-TEST CONTROL AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "THE BODY OF THE IDEAL WOMAN IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Control	15	1.733	0.961	0.00	43	1.000
	Experimental	30	1.733	0.980			
Fragrant - Foul	Control	15	2.533	0.925	-2.23	43	0.031
	Experimental	30	1.800	1.246			
Nice - Awful	Control	15	1.333	0.617	0.87	43	0.390
	Experimental	30	1.533	0.776			
Pleasing - Annoying	Control	15	1.533	1.125	0.65	43	0.578
	Experimental	30	1.767	1.135			
Healthy - Sick	Control	15	1.267	0.606	0.35	43	0.728
	Experimental	30	1.333	0.594			
Clean - Dirty	Control	15	1.400	0.621	0.00	43	1.000
	Experimental	30	1.400	0.632			
Strong - Weak	Control	15	2.000	0.845	1.11	43	0.272
	Experimental	30	2.333	0.994			

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Control	15	3.000	1.309	0.34	43	0.734
	Experimental	30	2.867	1.196			
Delicate - Rugged	Control	15	3.467	1.125	-0.73	43	0.468
	Experimental	30	3.133	1.570			
Soft - Hard	Control	15	2.933	1.223	0.08	43	0.935
	Experimental	30	2.967	1.326			
Small - Large	Control	15	3.733	1.100	-0.31	43	0.761
	Experimental	30	3.633	0.999			
Thin - Fat	Control	15	2.800	1.082	-0.58	43	0.567
	Experimental	30	2.600	1.102			
Relaxed - Tense	Control	15	2.333	1.543	0.22	43	0.825
	Experimental	30	2.433	1.104			
Busy - Resting	Control	15	3.667	1.113	-0.25	43	0.805
	Experimental	30	3.567	1.547			

APPENDIX V-9 (cont.)

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Control	15	2.200	1.165	1.04	43	0.306
	Experimental	30	2.567	1.014			
Exciting - Calming	Control	15	3.267	0.884	-0.93	43	0.360
	Experimental	30	2.867	1.548			
Young - Old	Control	15	3.133	1.060	0.52	43	0.605
	Experimental	30	3.300	0.988			
Fast - Slow	Control	15	3.667	0.976	-0.10	43	0.924
	Experimental	30	3.633	1.159			

APPENDIX V-10

POST-TEST CONTROL AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "MY IDEAL BODY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Control	15	2.067	1.003	-0.22	43	0.830
	Experimental	30	2.000	0.947			
Fragrant - Foul	Control	15	2.000	1.254	-0.30	43	0.763
	Experimental	30	1.900	0.923			
Nice - Awful	Control	15	1.667	1.047	0.000	43	1.000
	Experimental	30	1.667	0.711			
Pleasing - Annoying	Control	15	1.600	0.828	0.15	43	0.885
	Experimental	30	1.633	0.669			
Healthy - Sick	Control	15	1.267	0.594	0.18	43	0.860
	Experimental	30	1.300	0.596			
Clean - Dirty	Control	15	1.267	0.594	-0.20	43	0.845
	Experimental	30	1.233	0.504			
Strong - Weak	Control	15	1.667	1.113	1.73	43	0.091
	Experimental	30	2.333	1.269			

APPENDIX V-10 (cont.)

Bi-Polar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Control	15	2.533	1.187	0.59	43	0.558
	Experimental	30	2.767	1.278			
Delicate - Rugged	Control	15	3.733	1.534	-1.24	43	0.221
	Experimental	30	3.133	1.525			
Soft - Hard	Control	15	2.600	1.056	1.21	43	0.232
	Experimental	30	3.133	1.525			
Small - Large	Control	15	3.400	1.682	-0.16	43	0.872
	Experimental	30	3.333	1.061			
Thin - Fat	Control	15	2.600	1.056	0.40	43	0.690
	Experimental	30	2.733	1.048			
Relaxed - Tense	Control	15	2.400	1.242	0.19	43	0.853
	Experimental	30	2.467	1.074			
Busy - Resting	Control	15	3.267	1.280	-0.49	43	0.624
	Experimental	30	3.033	1.586			

APPENDIX V-10 (cont.)

Bi-Polar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Control	15	2.467	1.302	0.27	43	0.788
	Experimental	30	2.367	1.098			
Exciting - Calming	Control	15	3.333	0.976	-0.89	43	0.379
	Experimental	30	2.933	1.596			
Young - Old	Control	15	2.933	1.335	0.26	43	0.800
	Experimental	30	3.033	1.189			
Fast - Slow	Control	15	3.533	0.743	-1.27	43	0.213
	Experimental	30	3.100	1.213			

APPENDIX V-11

POST-TEST CONTROL AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "TODAY MY BODY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Control	15	3.467	1.995	-0.46	43	0.650
	Experimental	30	3.200	1.769			
Fragrant - Foul	Control	15	2.400	1.183	0.08	43	0.938
	Experimental	30	2.433	1.406			
Nice - Awful	Control	15	3.933	1.907	-1.02	43	0.312
	Experimental	30	3.333	1.826			
Pleasing - Annoying	Control	15	3.667	2.178	-0.88	43	0.385
	Experimental	30	4.200	1.788			
Healthy - Sick	Control	15	1.733	1.100	1.35	43	0.183
	Experimental	30	2.667	1.311			
Clean - Dirty	Control	15	1.667	0.976	0.38	43	0.709
	Experimental	30	1.800	1.186			
Strong - Weak	Control	15	3.533	1.685	0.13	43	0.900
	Experimental	30	3.600	1.653			

Bi-Polar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Control	15	6.133	1.187	-1.06	43	0.296
	Experimental	30	5.733	1.202			
Delicate - Rugged	Control	15	3.533	1.060	-0.39	43	0.695
	Experimental	30	3.667	1.450			
Soft - Hard	Control	15	3.400	1.454	-0.48	43	0.631
	Experimental	30	3.167	1.555			
Small - Large	Control	15	5.933	1.624	-0.38	43	0.705
	Experimental	30	5.767	1.251			
Thin - Fat	Control	15	6.200	1.082	-0.96	43	0.342
	Experimental	30	5.833	1.262			
Relaxed - Tense	Control	15	3.733	1.438	1.34	43	0.188
	Experimental	30	4.300	1.291			
Busy - Resting	Control	15	4.000	2.000	-0.06	43	0.954
	Experimental	30	4.033	1.712			

APPENDIX V-11 (cont.)

Bi-Polar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Control	15	4.133	2.100	-0.36	43	0.723
	Experimental	30	3.933	1.596			
Exciting - Calming	Control	15	3.600	1.242	0.26	43	0.793
	Experimental	30	3.700	1.179			
Young - Old	Control	15	3.667	2.024	-0.46	43	0.651
	Experimental	30	3.433	1.382			
Fast - Slow	Control	15	5.467	1.326	-0.92	43	0.361
	Experimental	30	5.033	1.767			

APPENDIX V-12

POST-TEST CONTROL AND POST-TEST EXPERIMENTAL SEMANTIC DIFFERENTIAL SCORES FOR THE CONCEPT "PREGNANCY IS..."

Bipolar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Beautiful - Ugly	Control	15	2.067	1.668	1.31	43	0.196
	Experimental	30	2.733	1.574			
Fragrant - Foul	Control	15	2.533	1.187	0.18	43	0.860
	Experimental	30	2.600	1.192			
Nice - Awful	Control	15	2.133	1.642	1.57	43	0.124
	Experimental	30	2.900	1.494			
Pleasing - Annoying	Control	15	2.467	1.727	1.54	43	0.130
	Experimental	30	3.267	1.596			
Healthy - Sick	Control	15	2.133	1.506	0.84	43	0.45
	Experimental	30	2.533	1.502			
Clean - Dirty	Control	15	1.933	1.163	0.62	43	0.539
	Experimental	30	2.167	1.206			
Strong - Weak	Control	15	2.933	1.280	0.24	43	0.808
	Experimental	30	3.033	1.299			

APPENDIX V-12 (cont.)

Bi-Polar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Light - Heavy	Control	15	5.933	1.100	-1.65	43	0.106
	Experimental	30	5.300	1.264			
Delicate - Rugged	Control	15	4.000	1.254	-0.80	43	0.428
	Experimental	30	3.667	1.348			
Soft - Hard	Control	15	4.267	1.335	0.22	43	0.828
	Experimental	30	4.367	1.497			
Small - Large	Control	15	6.133	1.322	-2.04	43	0.048
	Experimental	30	5.333	1.060			
Thin - Fat	Control	15	5.667	1.447	-0.82	43	0.416
	Experimental	30	5.300	1.393			
Relaxed - Tense	Control	15	3.933	1.624	1.29	43	0.202
	Experimental	30	4.533	1.383			
Busy - Resting	Control	15	2.933	1.580	-0.47	43	0.643
	Experimental	30	2.700	1.579			

APPENDIX V-12 (cont.)

Bi-Polar Adjective Pairs	Group	Number of Subjects	Mean	Standard Deviation	t value	Degrees of Freedom	Two-Tailed Probability
Active - Passive	Control	15	2.733	1.624	0.31	43	0.759
	Experimental	30	2.867	1.224			
Exciting - Calming	Control	15	3.200	1.251	-1.93	43	0.060
	Experimental	30	2.233	2.111			
Young - Old	Control	15	3.200	1.265	0.25	43	0.804
	Experimental	30	3.300	1.264			
Fast - Slow	Control	15	4.867	1.995	0.18	43	0.858
	Experimental	30	4.967	1.629			

APPROVAL SHEET

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The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Science in Nursing.

April 14, 1982
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